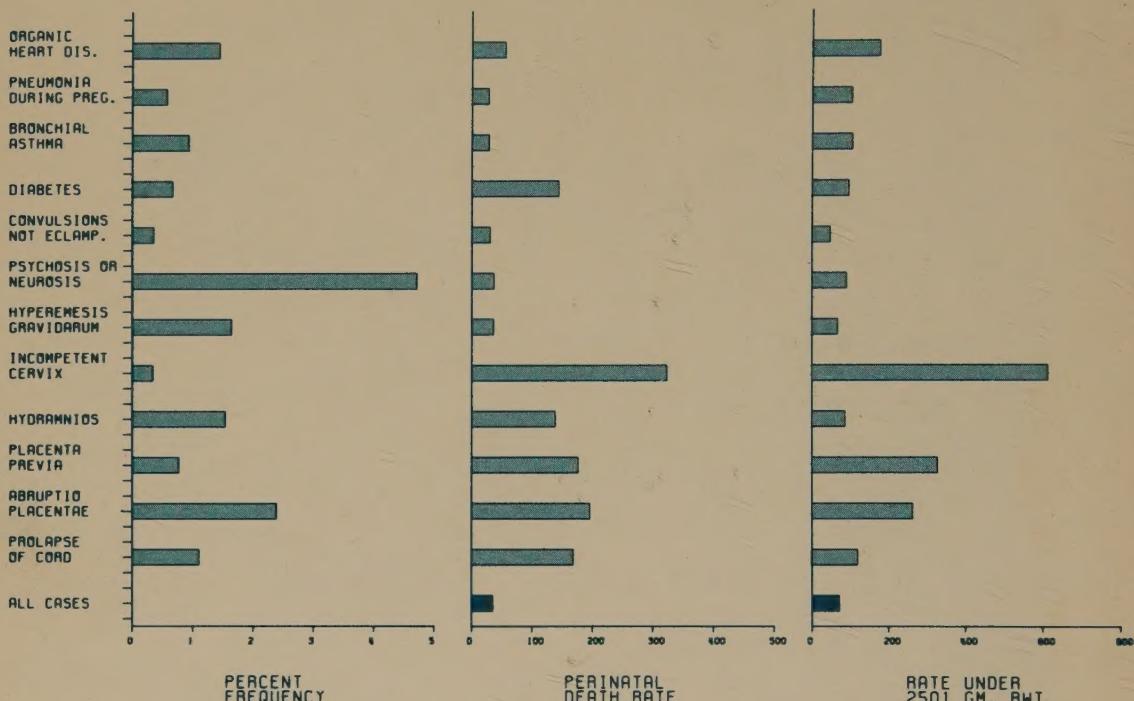


BIRTHWEIGHT AND PERINATAL MORTALITY ASSOCIATED

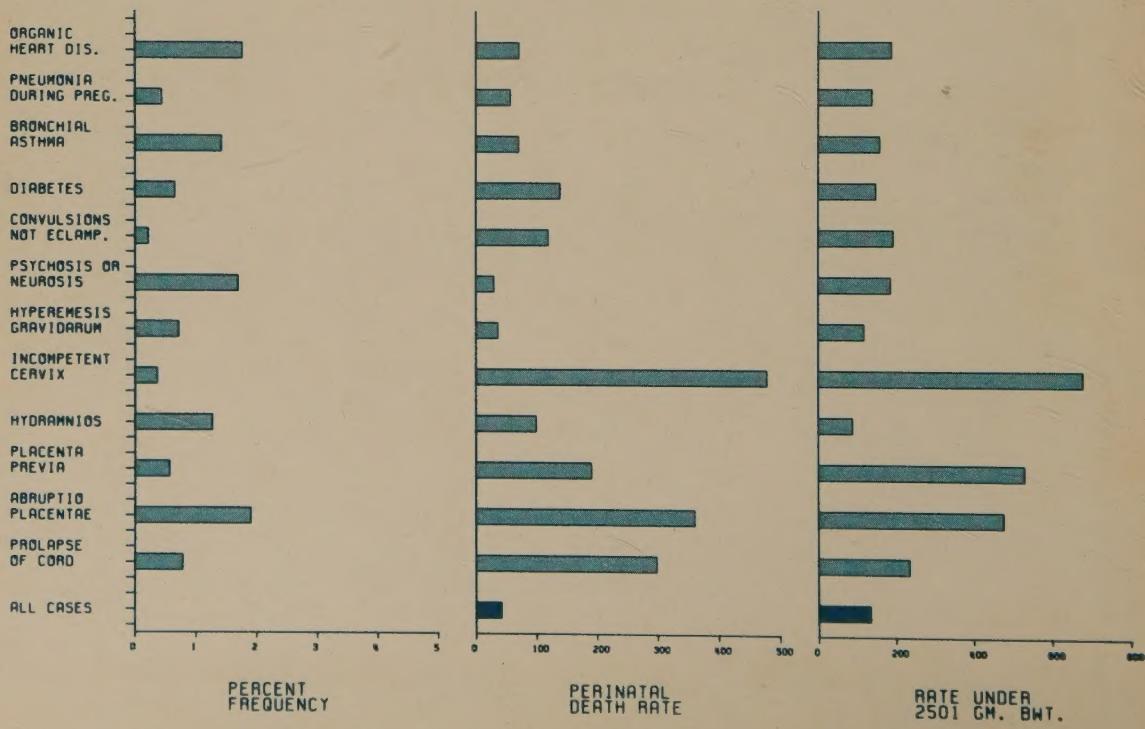
CHARACTERISTICS AND CONDITIONS OF PREGNANCY

WHITE



CHARACTERISTICS AND CONDITIONS OF PREGNANCY

NEGRO



WITH CONDITIONS AND COMPLICATIONS OF PREGNANCY

OUTCOMES BY RACE

OUTCOMES	WHITE			NEGRO		
	ALL CASES	NUMBER	RATE	ALL CASES	NUMBER	RATE
BIRTHS	19048			20167		
PERINATAL DEATHS		668	35.07		845	41.90
STILLBIRTHS		415	21.79		457	22.66
FRESH STILLBIRTHS		200	10.50		246	12.20
LIVEBIRTHS	18633			19710		
NEONATAL DEATHS		253	13.58		388	19.69
LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	18481			19504		
BIRTHWEIGHT UNDER 2501 GM.		1319	71.37		2617	134.18
MEAN BIRTHWEIGHT		3272				3039
ONE YEAR EXAMS	14662			17123		
NEUROLOGICALLY ABNORMAL AT 1 YEAR		253	17.26		274	16.00

CHARACTERISTICS AND CONDITIONS OF PREGNANCY

CONDITION	WHITE WITH CONDITION			NEGRO WITH CONDITION		
	PERCENT	PERINATAL DEATH RATE	BIRTHWEIGHT RATE BELOW 2501 GMS.	PERCENT	PERINATAL DEATH RATE	BIRTHWEIGHT RATE BELOW 2501 GMS.
ORGANIC HEART DISEASE	1.44	55.2	176.5	1.76	71.4	189.0
PNEUMONIA DURING PREGNANCY	.57	27.8	103.8	.44	56.8	139.5
BRONCHIAL ASTHMA	.93	28.4	105.3	1.42	70.4	159.3
DIABETES	.66	144.0	95.7	.65	139.5	149.1
CONVULSIONS, NOT ECLAMPTIC	.35	30.3	46.9	.21	119.1	194.4
PSYCHOSIS OR NEUROSIS	4.71	36.0	89.7	1.69	29.6	186.8
HYPERTENSION GRAVIDARUM	1.64	35.7	66.7	.71	35.5	117.7
INCOMPETENT CERVIX	.34	323.1	614.0	.36	478.9	679.3
HYDRAMNIOS	1.54	137.9	86.5	1.26	99.2	87.9
PLACENTA PREVIA	.77	176.1	328.2	.56	190.9	529.4
ABRUPTIO PLACENTRE	2.39	195.5	263.0	1.90	360.7	476.9
PROLAPSE OF CORD	1.10	168.3	118.6	.78	298.0	235.3
ALL CASES	-	35.1	71.4	-	41.9	134.2

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THE COLLABORATIVE PERINATAL STUDY OF
THE NATIONAL INSTITUTE OF NEUROLOGICAL
DISEASES AND STROKE

THE WOMEN AND
THEIR PREGNANCIES

THE U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
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FOREWORD

Prenatally determined injury or abnormality of the nervous system surpasses all other conditions as a cause of long-term disability in the United States. An analysis of individuals in whom long-term disabilities originated prior to the age of 18 and who were receiving Social Security revealed that in 75 per cent the defect had its origin before birth and in 94 per cent the disability was neurological.*

It has been a peculiarly difficult task to determine the causes of "perinatal" injury of the nervous system. Methods for neurological evaluation of the newborn and infant have been notoriously imprecise. As a result, the existence of neurological deficit is not often recognized until the child's failure to walk or talk at the ages of 1 to 3 years makes it readily apparent. By that time the possible causative events are difficult to reconstruct. The details of pregnancy and labor are incomplete and unreliable. Hospital records are very often lacking in essential facts. Thus, efforts to establish relationships between events of pregnancy and consequent neurological defects have had limited success.

With the occurrence of a single dramatic event, an epidemic such as the one which led Gregg to the discovery of the role of rubella virus in the etiology of congenital malformations, or a bizarre outcome such as the one produced by the use of thalidomide, associations between cause and effect have been established. However, one cannot rely on chance associations for understanding of more common and mundane defects. A series of cases and, most important, a base line derived from comparable individuals without the defect are required. Another complication of study in this area has been the frequent associations among possible causative factors. Studies focusing on a single presumed etiological factor are suspect because of the inability to disassociate the presumed factor from other possible etiological variables which have not been assessed.

The initial intent of the planners of the Collabora-

* Hearings, Subcommittee on Appropriations of House of Representatives, Departments of Labor and Health, Education, and Welfare Appropriations for 1962, p. 756.

tive Perinatal Study was to provide precise prospective clinical data for studies of individuals with neurological defects. It quickly became apparent to the planners that the data would be equally valuable for other investigations. The study was therefore designed as a prospective investigation with extended follow-up of the child, in order to allow the recognition of a wide variety of neurological defects, ranging from minor retardation to gross cerebral deficit. Its primary focus has remained the establishment of associations between perinatal events and organic neurological defects of the offspring.

It is an ambitious undertaking, primarily because of the large number of items recorded for each patient, as well as the large number of patients studied. There was little prior experience to provide guidance in such an undertaking, and methodologies had to be developed at each stage in its evolution. More than 500 publications have already appeared, which report special studies in the Perinatal Research Branch, NINDS, or within the collaborating institutions; additional analyses are underway or planned. The object of this report is to provide a broad review of the nature and scope of the associations to be found among the data. The tables present intriguing information relating to the interrelationships of factors which operate to influence the outcome of pregnancy, but the tables by themselves do not provide definitive answers. The existence of an association does not prove a cause and effect relationship. Additional evaluation is required for the meaningful interpretation of the data presented here. While this report represents an important milestone in the progress of data analysis within the Collaborative Perinatal Study, it is only part of the process of the interpretation of the data.

RICHARD L. MASLAND

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PREFACE

A comprehensive analysis of the data of the Collaborative Perinatal Study, under the direction of the Perinatal Research Committee, a group of specialist consultants, is currently underway. This Committee appointed a number of Task Forces, each of which was charged with the design and analysis of pertinent studies in the areas of their assignment, such as Labor and Delivery, Growth and Development of the Infant, and others. This comprehensive plan for data analysis provides studies in depth on a large variety of topics.

There is, however, a need for a concomitant approach to the data—one that makes available a broad picture of the basic information of the Collaborative Perinatal Study, which is provided, in part, in this publication. The data in the Collaborative Perinatal Study are unique. They were collected prospectively and on a large number of patients. They were comprehensive with regard to the number and variety of items of information collected, and they were reported in a uniform manner on structured protocols.

The Editorial Committee has a three-fold objective. The first is to describe in broad terms the characteristics of the Study population, the relative frequency with which conditions and complications of pregnancy were observed, the practice among Collaborating Centers in the use of standard medical procedures, the mortality and morbidity characteristics of the infants born of these pregnancies, and the simple associations of prenatal events with postnatal findings. It is hoped that their publication will be useful to professionals in the field of health.

The second objective is to provide a research source for the development of hypotheses.

An additional objective is to provide a frame of

reference for the development of further studies in greater depth. The relative frequency with which events of pregnancy and pregnancy outcome characteristics are reported should be useful in determining the feasibility of specific studies and in making studies more effective. Significant associations among pregnancy characteristics and outcomes should create interest and incentive in the scientific community for more detailed and intensive studies.

Publication of a monograph of this type is not without hazard. There is a problem, on the one hand, of publishing superficial summaries. On the other hand, very detailed tabulations would have led to the development of such large quantities of data that their publication would be a practical impossibility. More sophisticated approaches would not satisfy the objectives of this book.

The authors reviewed the data with care. Certain characteristics were found to be poorly reported and are not included. Certain associations among characteristics differed so among the Collaborating Centers that their usefulness was questioned, and they were deleted.

The authors have, within the limits of their judgment, pinpointed the spurious nature of some of the associations.

Other volumes of data are in preparation. The second, soon to be completed, will describe the data collected during the first year of life of the infant.

WILLIAM WEISS, CHAIRMAN

Editorial Committee

ACKNOWLEDGMENTS

The authors wish to recognize the contribution of the many dedicated people who participated in the Collaborative Perinatal Study in the decade since its inception.

Without the willing and wholehearted cooperation of the 55,908 Study mothers and their children, this research could not have been carried out.

Members of the Perinatal Research Branch and the Office of Biometry, National Institute of Neurological Diseases and Stroke (NINDS), of the 14 Collaborating Centers, and of the Perinatal Research Committee, deserve major credit for making this Study possible. In Appendix A, contributors are listed for each Collaborating Center, the Perinatal Research Branch, NINDS, and the Office of Biometry, NINDS.

The authors also wish to acknowledge the special contribution of:

Pearce Bailey, M.D., Director, National Institute of Neurological Diseases and Blindness from 1951 to 1959, for conceiving, planning, and organizing the Collaborative Perinatal Study.

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Eldon L. Eagles, M.D., C.M., Dr.P.H., Deputy Director, National Institute of Neurological Diseases and Stroke, whose support and encouragement in the preparation of this book has been of inestimable help to the authors.

Schuyler G. Kohl, M.D., Dr.P.H., present Chairman of the Perinatal Research Committee, who was instrumental in the organization and implementation of the data analysis program of the Collaborative Perinatal Study.

The United Cerebral Palsy Association, Inc., which gave early and strong support for the creation of the Study.

The authors gratefully acknowledge the interest and excellent advice of:

Abraham M. Lilienfeld, M.D., M.P.H., Chairman, NINDS Perinatal Statistical Ad Hoc Committee, 1966-1968, and Professor and Chairman, Department of Epidemiology, The Johns Hopkins University School of Hygiene and Public Health, and present member of the Perinatal Research Committee.

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PART 1

THE COLLABORATIVE PERINATAL STUDY

Chapter 1

INTRODUCTION

SECTION 1. BACKGROUND OF THE STUDY

There is increasing emphasis today in the United States on improving the health of American citizens. One aspect of this endeavor is to improve reproductive efficiency in order to increase the likelihood of the birth of healthy babies free from disease and impairment, and capable of optimal physical and intellectual development. The achievement of this goal depends upon the enlightened and widespread application of measures to prevent perinatal mortality and the continuum of reproductive wastage,^{*} which includes mental retardation, congenital malformation, cerebral palsy, and handicapping neurosensory defect.

During the past half century, in many countries^{**} including the United States, maternal mortality has declined dramatically; the risk of death associated with pregnancy has, to a large extent, been eliminated. A sharp reduction in infant deaths from 28 days to the end of the first year of life has also occurred during the same period. However, the number of deaths occurring during the perinatal period has declined more slowly. In this Study, perinatal deaths include those fetal deaths occurring between the 20th week of gestation and the time of delivery, and deaths of liveborn infants during the neonatal period (to 28 days). It is the custom to report fetal and neonatal deaths separately, but frequently it is useful in some circumstances to combine them and to consider perinatal deaths as a unit.

The magnitude of the problem of perinatal death comes sharply into focus with the realization that until old age the risk of dying is highest during the perinatal period. While the general mortality rate for the country approximates 9 per 1000 individuals in the population during the period 1955-65, the perinatal death rate is almost four times as great, approximately 35 per 1000 livebirths. The age specific risk of dying does not again approach a rate of 35 per 1000 until the

64th year is reached. Moreover, even at this age the risks are not comparable because the age specific risk extends over a one-year time span, while the risk of dying during the perinatal period is limited to about one-half, from 20 weeks gestation until 28 days after birth.

The heavy losses in productivity and the extent of human suffering associated with the high rates of perinatal mortality are not the only cause for concern. Of far more importance to the individual, the family, and the community is the "continuum of fetal insult" manifested by congenital malformation, cerebral palsy, mental retardation, deafness, blindness, and other neurosensory defects. In the table below the estimates of numbers of people with conditions considered to be included in this "continuum" are very large.

Disability from Various Neurologic Entities Which May Represent in Part a Continuum of Reproductive Wastage*

Disability Category	Total Estimated Number of Disabled Persons in U.S.
Cerebral Palsy	555,000
Mental Retardation	5,000,000 ^{**}
Epilepsy	~1,500,000
Visual handicap (legally blind)	345,000
Auditory handicap (legally deaf)	760,000
Disorder of speech	...

*From material prepared by the National Institute of Neurological Diseases and Blindness from morbidity estimates, received from the relevant voluntary agencies, Feb. 5, 1960.

**Three per cent of population; 126,000 mentally retarded born annually.

***Two to five per cent of all children.

Estimates are that approximately 20 million individuals in the United States have handicaps or defects which fall within this general category.^{*} Quite apart from their loss of productivity, their special care, reha-

^{*}Lilienfeld, A. M., and Passamanick, B., and Rodgers, M., "Relationship between pregnancy experience and development of certain neuropsychiatric disorders in childhood," *Am. J. Pub. Health*, 45:637, 1955.

^{**}"United States Maternal Mortality," editorial in *Clin. Pediat.*, 8:312, 1969.

^{*}National Advisory Neurological Diseases and Stroke Council, *Human Communication and Its Disorders: An Overview*, U.S. Department of Health, Education, and Welfare, N.I.H., Bethesda, Maryland, 1970.

bilitation, and education paid for by family, community, and government costs billions of dollars each year. Effective means of preventing these defects are urgently needed.

During the past twenty years, in this country and others, the perinatal period has come under increasing scrutiny. Several major factors have been responsible for this development:

1. The apparent inability to reduce substantially the mortality in the perinatal period.

2. The increasing evidence that injury sustained during the perinatal period may have a profound effect on the child's subsequent physical and intellectual growth and development.

3. The increased sophistication, technology, and "hardware" available for the solution of complex problems at various levels of medical science. Included here is the multidisciplinary research team which in addition to the traditional representatives from the various medical specialties has, as an integral part, specialists in biostatistics and epidemiology. The availability of computer programs capable of manipulating large volumes of data in complex ways so that the interrelationships and the relative importance of a number of factors may be assessed simultaneously is part of this technology.

4. An important factor has been the support of research in perinatal problems by the legislative and executive branches of government, in the expectation that knowledge would lead to prevention.

SECTION 2. HISTORY OF THE STUDY

Increasingly concerned with the prevention of neurologically handicapping conditions, Dr. Pearce Bailey, director of the newly created Institute of Neurological Diseases and Blindness,[°] took up the challenge. To identify etiologic factors responsible for these conditions, which are in effect the results of fetal wastage in the broadest sense, Dr. Bailey obtained funds in 1954 to explore the organization of a research study: "The Collaborative Investigation on the Clinico-Pathologic Correlation in Cerebral Palsy, Mental Retardation, and other Neurological Disorders having their Origin in the Perinatal Period." The Study, after several years of discussion and planning, was approved. Members of the scientific community, members of Congress, and members of informed lay groups such as United Cerebral Palsy Association, Inc. all contributed ideas and support to the project.

To quote directly from Barden,^{**} "An overall attack on cerebral palsy, mental retardation, and other neurosensory disorders having their origin in the

perinatal period was planned. The broad objectives of the Study were: By means of prospective and retrospective approaches, with suitable controls, to:

1. Determine the relationship between factors in the perinatal environment and the continuum of human reproductive failure, with particular reference to the central nervous system for:
 - a. early manifestations of deficits (infancy and early childhood)
 - b. later manifestations of deficits (5 to 15 years).
2. Study the effect of the extra-uterine environment on fetal development (e.g., family situation, socio-economic factors).
3. Determine the relationship of prematurity to factors in the perinatal environment and to the continuum of human reproductive failure, with particular reference to the central nervous system.
4. Determine the relationship between factors in the postnatal environment, up to 15 years, and the development of neurological and sensory disorders.
5. Determine the relationship between genetic factors and the continuum of human reproductive failure, with particular reference to the central nervous system.
6. Study clinico-pathological correlations in the continuum of human reproductive failure, with particular reference to the central nervous system.
7. Improve the classification, treatment and prevention of cerebral palsy."

As the name of the Study changed to reflect increasing interest in the more encompassing problem of perinatal loss, the goals became clearer, more sharply defined, and focused. The objectives, as restated in the Report of the NINDB Perinatal Statistical Ad Hoc Committee (December, 1968), read as follows:

"Briefly, the data collected in this study are expected to provide additional knowledge on the relationships between perinatal factors and the subsequent development and course of abnormalities in the off-spring. The investigation is directed toward: 1) examination in depth of the effect of factors already suspect; 2) the identification of factors not presently suspect; 3) the elucidation of mechanisms by which these factors operate.

"Prenatal factors and conditions to be investigated include: 1) the abnormal conditions of pregnancy itself, such as infection, trauma, drug reactions, or abnormal progress of labor; 2) the environmental factors—social and economic conditions; 3) the biological factors in parents—age, medical and reproductive history, and immunologic characteristics.

"Other objectives include: 1) the evaluation of the relation of prenatal factors to early and late fetal loss, prematurity, infant and early childhood mortality, as well as other aspects of the reproductive process and

[°]National Institutes of Health, Bethesda, Maryland.

^{**}Barden, Frank O. *History—Perinatal Research Project, Chronological Statement of Volume XVI, Planning-Organization-Direction-Administration*. National Institute of Neurological Diseases and Stroke, N. I. H., Bethesda, Maryland, 1969.

its outcome; 2) the dynamics of physical and mental development in early childhood, and the relationship of this development to genetic, biological, and environmental factors; 3) the evaluation of the significance of events in the postnatal environment in relation to the later development of disturbances of structure and function of the nervous system and other systems."

Reproductive casualty may result from one or more of many possible etiologic factors. It may involve one or another of many possible outcomes. Furthermore, the etiologic factor may be one which is suspected of having an association with an adverse outcome, or it may represent an unknown factor which is recognized to have been harmful only in retrospect. Study of the etiologic factors is facilitated by data collected prospectively and in a uniform manner.

Only a prospective study including women as they registered for prenatal care before the course of their pregnancy and its outcome were known, could: 1) provide the information required to establish some measurement of the risk to the fetus of certain events and characteristics of the pregnancy, and 2) throw light on unknown or unexpected etiologic factors. Gregg,[°] for example, was able to establish retrospectively that maternal rubella during the early weeks of gestation was frequently associated with cataracts, heart disease, and deafness in the infant. The prospective design of the Collaborative Perinatal Study made possible the collection of serum specimens during pregnancy to identify gravidas with rubella. The findings confirmed Gregg's observation,^{**} and, in addition, showed conclusively that rubella, prior to conception and after the first trimester, also may produce fetal death or serious handicaps in survivors.^{***}

Many of the specific pathologic conditions of concern here are relatively rare; adequate investigation of the problem required a study of very large dimensions. To permit the evaluation, not only of the immediate pregnancy outcomes of perinatal death or survival, but also of outcomes identifiable only in childhood by means of abnormal patterns of physical and mental growth of the survivors, the study must be continued over a period of years. The participation of a number of medical institutions was necessary to meet the objective of enrolling 50,000 to 60,000 pregnant women in less than a decade.

In 1956, Dr. Bailey established within the National Institute of Neurological Diseases and Blindness (NINDB), later changed to NINDS), the first of a

number of ad hoc committees to review the Collaborative Field Investigation Projects. The members of the committees, over the years, advised the directors of the NINDB with respect to the protocols, plans for data analysis, and budgetary requirements.

After four years of planning and many meetings of expert subcommittees to develop the protocols, the first Study patient was admitted in January, 1958, on a pretest basis. A central staff, the Perinatal Research Branch, was established in the NINDB to provide coordination and direction for the collaborative effort, and to serve as a repository and processing facility for the basic Study data collected at each of the Medical Centers.

The year 1958 was a pretest period during which considerable time and effort were spent in the recruiting and training of staff for both the Collaborating Centers and the NINDB. Much time was spent writing procedures for the selection of patients, the development of forms and manuals for the recording of data, and for workshops, meetings, and pretests to assure the uniform collection of data. Prior to this time, forms suitable for systematic prospective collection of detailed information in obstetrics, pediatrics, pathology, neurology, and other areas were simply not available. Their creation, printing, and pretests took time. The revision of forms continued through 1959 so that, for some Centers, this too became a year of pretests. The development of forms and manuals for the later examinations continued for several additional years.

In 1959 it became apparent that the success of the Study would depend in large measure on the ability of the Centers to follow their Study children. Each institution had its own unique set of problems in this area. Some institutions, by virtue of the type of population studied, had more success than others.

Registration of pregnant women ceased in December, 1965, seven years after it began on January 1, 1959, after a total of 55,908 women had been included.

SECTION 3. PURPOSE OF THIS REPORT

The Collaborative Perinatal Project was designed to define parameters of the broad problem of fetal wastage, to identify possible etiologic factors, and to pinpoint possible areas for intervention or for further specific research.

This first major report from the Study has three basic purposes: (1) to provide a description of the modus operandi of the Study: its design, population, procedures, protocol, and data processing procedures; (2) to display the characteristics and conditions of the pregnancies studied, and to show their possible relationships to favorable and unfavorable pregnancy outcomes; and (3) to provide the basic, descriptive framework necessary for understanding the further detailed development of specific areas of information.

[°]Gregg, N. M. "Congenital Cataract Following German Measles in the Mother." *Trans. Ophthal. Soc. Aust.*, 3:35, 1941.

^{**}Sever, J. L., Nelson, K. B., and Gilkeson, M. R. "Rubella Epidemic, 1964: Effect on 6000 Pregnancies." *Am. J. Dis. Child.*, 110:395, 1965.

^{***}Monif, G. R. G., Hardy, J. B., and Sever, J. L. "Studies in Congenital Rubella, Baltimore 1964-65. Part I, Epidemiologic and Virologic." *Bull. Johns Hopkins Hosp.*, 118:2, 1966.

Hardy, J. B., McCracken, G. H., Gilkeson, M. R., and Sever, J. L. "Adverse Fetal Outcome Following Maternal Rubella after the First Trimester of Pregnancy." *J.A.M.A.*, 207:2414, 1969.

The pregnancy outcomes that were examined represent a measure of reproductive efficiency in terms of (1), the immediate outcome of perinatal death (stillbirths and neonatal deaths), or survival; (2) birth-weight (mean, and rate of low birthweight below 2501 grams, or 5½ pounds); and (3) the presence of definite neurologic abnormalities at 12 months of age.

The report concerns that portion of the Study

women who registered on or after January 1, 1959 for a first Study pregnancy. Specifically excluded were women who delivered prior to twenty weeks gestation or who delivered multiple births. It should be noted that the first Study pregnancy was not necessarily the gravida's first pregnancy. It may, in fact, have been her sixth child, but it was the first pregnancy registered in the Study.

Chapter 2

THE STUDY POPULATION

SECTION 1. SELECTION OF THE COLLABORATING CENTERS AND THE GRAVIDAS

Fifteen university-affiliated medical centers became participants in the Study. There were sufficient obstetric patients seeking care in the clinics of these hospitals (in one instance sufficient private patients), to permit the collective registration in the Perinatal Study of tens of thousands of pregnancies over a period of seven years.

In 1961 the final goal of 60,000 registered pregnancies was selected because it would provide a number of children sufficient for effective study of relatively infrequently observed morbidity characteristics. One of the hospitals ended its participation after registering 913 pregnancies. These cases were dropped from the Study because of the lack of follow-up.

The remaining 14 hospitals were affiliated with 12 universities. At two universities, separate obstetric and pediatric hospitals participated. The hospitals, and the abbreviations which will be used to designate them in the tables and charts, are listed in the following table.

The Collaborating Institutions

<i>Abbreviations</i>	<i>Collaborating Institutions</i>	<i>Abbreviations</i>	<i>Collaborating Institutions</i>
BO	Boston Hospital for Women (Lying-In Division) and Children's Hospital Medical Center Harvard Medical School Boston, Massachusetts	MN	University of Minnesota Hospitals Health Sciences Center Minneapolis, Minnesota
BU	Children's Hospital State University of New York at Buffalo Buffalo, New York	NY	Metropolitan Hospital New York Medical College New York, New York
CH	Charity Hospital Tulane University School of Medicine and Medical Center, Louisiana State University New Orleans, Louisiana	OR	University of Oregon Medical School Portland, Oregon
CO	Columbia-Presbyterian Medical Center Columbia University College of Physicians and Surgeons New York, New York	PA	Pennsylvania Hospital and the Children's Hospital of Philadelphia University of Pennsylvania Philadelphia, Pennsylvania
JH	The Johns Hopkins Hospital The Johns Hopkins University School of Medicine Baltimore, Maryland	PR	Child Study Center Brown University Providence, Rhode Island
VA	Medical College of Virginia Virginia Commonwealth University Richmond, Virginia	TN	Gaylor Hospital University of Tennessee College of Medicine Memphis, Tennessee

Women were selected for the Study during an interval of seven years, from January 2, 1959 to December 31, 1965. A table in Appendix B (page 495) shows the time period of registration at each Center. The table also gives the number of pregnancies in the sampling frame (those available for selection), and the number selected, at each Center. The sampling frame consists of those pregnancies which met the Center's criteria for acceptance.

The most important criterion was the patients' admittance to the hospital clinic. The Buffalo Center was an exception, where the registrants were private patients of participating obstetricians (from four to thirteen, at various times during the Study).

Several of the Centers also imposed geographical constraints for acceptance in the sampling frame; The Johns Hopkins Center, for example, accepted patients residing only within Metropolitan Baltimore. Some Centers, over the years, deliberately decreased the acceptable geographical areas of residency; they had experienced difficulties in obtaining the necessary follow-up examinations with patients residing in outlying areas.

Additional constraints on patients entering the sampling frame were those generally designed to exclude women whose prognosis for follow-up was poor: unwed mothers who planned to place their babies for adoption, women who planned to leave the area, transients, and women who gave birth on the same day they registered in the Study. This latter group, termed "walk-ins," were excluded from the sampling frame after the first seventeen months of the Study.

The approximately 132,000 pregnancies which met the criteria for acceptance were on sampling frames which ranged from 3,000 pregnancies for the smallest to 27,000 for the largest Center.

The sampling ratio of pregnancies selected for the Study, to those available for selection, depended on the degree to which the Center could commit its resources. In Boston, for example, with more than 13,000 patients available over the six-year period, all patients entered the Study, and, consequently, the sampling ratio at that Center was 1:1. At the other ex-

treme, the New Orleans Center selected patients in the ratio 1:7.4 (14 per cent). In all, 55,908 pregnancies which met the Study criteria were registered.

The object of the sample selection procedure was to cover the broad spectrum of pregnancy conditions represented by the cases in the sample frame. It was designed to produce a selection free from the introduction of special pregnancies based on individual interests at each Center.

The selection procedures differed from Center to Center to minimize interference with the different routines of the maternity clinics. There were large differences in the size of the sampling frame present from Center to Center, and the maximum number of Study patients that a Center could process annually also varied widely. Of necessity, then, the Study patients selected, of those available for study, ranged from 14 to 100 per cent.

The selection methods varied: at some Centers there was a systematic selection of the nth pregnancy; at others, selection was based on the terminal digit of the patient history number, on the day of birth of the woman, or on a similar device. In each Center, other than those in which all sample frame patients were selected, either a systematic procedure was used to select the sample, or else the procedure incorporated the concept of random selection. At one Center, the sampling rate differed by race.

Appendix B provides the detailed data, by Center, of the selection criteria for inclusion of gravidas in the sample frame, as well as the frame size and the sampling method, for the Study.

At monthly intervals over the entire period of patient registration comparisons were made of certain characteristics of the Study gravidas with those in the sample frame from which they were selected. The purpose was to determine whether, for the characteristics compared, the gravidas in the sample were representative of those available for selection.

The tables that follow show the summary distributions of marital status, age of gravida, gestation at registration, and ethnic group of the gravidas in the sample selected, and in the sample frame, by institution.

MARITAL STATUS AT TIME OF REGISTRATION FOR SAMPLE FRAME AND SAMPLE

BY INSTITUTION, JANUARY 1, 1959 - DECEMBER 31, 1965

MARITAL STATUS	BO	BU	CH	CO	JH	VA				
	FRAME	SAMPLE								
SINGLE	2.6	2.7	1.0	1.0	15.0	15.0	6.4	7.0	17.5	20.4
MARRIED	94.9	94.8	98.7	98.7	65.4	64.5	90.0	87.3	76.0	72.4
COMMON LAW	X	X	.1	.1	6.3	6.9	X	.1	X	.1
WIDOWED	.1	.1	.1	.1	.8	.6	.3	.3	.6	.6
DIVORCED	.5	.5	-	-	1.1	1.1	.4	.8	.8	1.7
SEPARATED	1.8	1.9	.1	.1	11.4	11.9	2.9	4.4	5.0	5.7
UNKNOWN	-	-	-	-	-	-	X	.1	X	-
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

X LESS THAN 0.1 PERCENT.

MARITAL STATUS AT TIME OF REGISTRATION FOR SAMPLE FRAME AND SAMPLE

BY INSTITUTION, JANUARY 1, 1959 - DECEMBER 31, 1965 (CONT.)

MARITAL STATUS	MN	NY	OR	PA	PR	TN				
	FRAME	SAMPLE								
SINGLE	9.2	5.9	32.4	17.2	14.4	14.7	25.2	25.2	14.5	15.1
MARRIED	83.3	86.5	62.2	61.8	60.4	59.5	64.7	64.7	72.8	70.7
COMMON LAW	-	-	3.6	15.6	X	X	.2	.2	X	.1
WIDOWED	.3	.2	.2	.2	.7	.7	.7	.7	.3	.4
DIVORCED	2.6	2.7	.2	.4	7.5	7.3	.6	.6	3.1	3.3
SEPARATED	4.5	4.7	1.5	4.6	17.0	17.8	8.6	8.6	9.3	10.4
UNKNOWN	-	-	X	-	-	-	-	-	-	-
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

X LESS THAN 0.1 PERCENT.

AGE OF GRAVIDA IN COMPLETED YEARS AT TIME OF REGISTRATION FOR SAMPLING FRAME AND SAMPLE

BY INSTITUTION, JANUARY 1, 1959 - DECEMBER 31, 1965

AGE (YEARS)	BO	BU	CH	CO	JH	VA				
	FRAME	SAMPLE								
UNDER 15	X	X	-	-	.9	.9	.2	.2	3.0	3.3
15-19	12.4	12.6	4.8	4.8	26.7	25.5	13.2	13.7	24.4	24.7
20-34	77.8	77.6	86.1	86.1	64.3	65.7	76.0	75.7	63.4	63.2
35-39	7.5	7.4	7.4	7.4	6.3	6.2	8.3	8.8	7.0	6.8
40+	2.3	2.3	1.7	1.7	1.7	1.7	2.2	1.5	2.2	2.0
UNKNOWN	X	X	-	-	X	X	X	.1	X	X
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

X LESS THAN 0.1 PERCENT.

AGE OF GRAVIDA IN COMPLETED YEARS AT TIME OF REGISTRATION FOR SAMPLING FRAME AND SAMPLE

BY INSTITUTION, JANUARY 1, 1959 - DECEMBER 31, 1965 (CONT.)

AGE (YEARS)	MN	NY	OR	PA	PR	TN						
	FRAME	SAMPLE										
UNDER 15	.2	.1	.5	.1	.5	.6	1.0	1.0	.4	.3	1.7	2.4
15-19	21.0	19.8	21.7	25.7	27.4	27.4	26.4	26.5	25.4	29.3	26.9	39.0
20-34	73.5	75.0	70.9	69.2	65.1	65.4	65.3	65.3	65.3	62.9	63.8	55.3
35-39	4.1	4.1	5.3	3.8	5.5	4.9	5.7	5.7	6.8	5.9	5.9	2.6
40+	1.1	1.1	1.5	.9	1.5	1.7	1.4	1.4	2.1	1.7	1.7	.7
UNKNOWN	-	-	X	-	-	-	.2	.1	-	-	X	-
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

X LESS THAN 0.1 PERCENT.

WEEKS OF GESTATION AT TIME OF REGISTRATION FOR SAMPLING FRAME AND SAMPLE

BY INSTITUTION, JANUARY 1, 1959 - DECEMBER 31, 1965

WEEKS OF GESTATION	BD	BU	CH	CO	JH	VA						
	FRAME	SAMPLE										
UNDER 15	41.1	40.0	72.1	72.3	11.0	10.4	19.9	20.5	20.2	20.3	13.3	12.4
15-27	44.7	45.5	22.8	22.7	50.1	51.1	52.9	63.9	65.8	65.8	44.2	45.7
28-40	13.3	13.5	5.0	5.0	36.4	37.3	20.1	15.1	13.5	13.6	40.7	40.3
41+	.3	.3	X	X	.9	.6	6.7	.2	.2	.1	1.5	1.4
UNKNOWN	.6	.6	-	-	1.6	.7	.3	.2	.3	.2	.3	.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

X LESS THAN 0.1 PERCENT.

WEEKS OF GESTATION AT TIME OF REGISTRATION FOR SAMPLING FRAME AND SAMPLE

BY INSTITUTION, JANUARY 1, 1959 - DECEMBER 31, 1965 (CONT.)

WEEKS OF GESTATION	MN	NY	OR	PA	PR	TN						
	FRAME	SAMPLE										
UNDER 15	16.7	17.6	17.5	19.0	15.9	16.5	15.5	15.5	20.0	14.1	11.2	7.1
15-27	38.3	40.3	54.1	55.6	40.1	40.8	64.8	64.9	46.7	49.0	38.7	41.8
28-40	41.4	40.1	27.8	25.2	41.9	40.9	18.2	18.2	31.9	35.9	46.4	49.9
41+	3.3	1.7	.3	.1	1.7	1.5	.1	.1	.6	.7	2.4	1.0
UNKNOWN	.3	.3	.3	.1	.4	.3	1.4	1.2	.8	.3	1.4	.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

X LESS THAN 0.1 PERCENT.

ETHNIC GROUP REPORTED AT TIME OF REGISTRATION FOR SAMPLE FRAME AND SAMPLE

BY INSTITUTION, JANUARY 1, 1959 - DECEMBER 31, 1965

GROUP	BD		BU		CH		CO		JH		VR	
	FRAME	SAMPLE										
WHITE	89.4	89.0	96.4	96.4	-	-	35.4	28.8	28.1	23.4	20.0	26.1
NEGRO	9.3	9.6	2.5	2.5	100.0	100.0	38.5	40.6	71.6	76.4	79.8	73.7
ORIENTAL	1.0	1.1	.3	.3	-	-	.4	.4	.1	-	X	X
PUERTO RICAN	.1	.1	.5	.5	-	-	25.0	27.8	X	X	X	X
OTHER	.2	.2	.3	.3	-	-	.7	2.4	.2	.2	.1	.2
UNKNOWN	X	X	-	-	-	-	X	X	X	X	X	-
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* LESS THAN 0.1 PERCENT.

ETHNIC GROUP REPORTED AT TIME OF REGISTRATION FOR SAMPLE FRAME AND SAMPLE

BY INSTITUTION, JANUARY 1, 1959 - DECEMBER 31, 1965 (CONT.)

GROUP	MN		NY		OR		PA		PR		TN	
	FRAME	SAMPLE										
WHITE	94.1	94.1	5.2	6.3	72.6	71.1	9.4	9.4	77.4	74.4	2.1	.7
NEGRO	.8	.7	40.4	34.1	25.1	26.7	87.3	87.3	19.8	21.9	97.9	99.3
ORIENTAL	1.9	2.0	.3	.1	.2	.2	X	X	.2	.2	X	-
PUERTO RICAN	.1	.1	54.0	59.2	X	X	3.1	3.2	.1	.2	-	-
OTHER	3.1	3.1	.1	.2	2.0	2.0	.1	.1	2.5	3.4	-	-
UNKNOWN	X	X	X	-	-	-	-	-	-	-	X	-
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* LESS THAN 0.1 PERCENT.

SECTION 1. SELECTION OF THE COLLABORATING CENTERS AND THE GRAVIDAS (Continued)

During the period of patient intake, major deviations from the sampling frame were found at three hospitals. Two of the deviations did not introduce bias.

At one institution, within brief time intervals, the gravidas selected for the Study on the basis of the sampling plan were registered immediately; because of clerical shortages, those who were not selected generally were asked to return at a subsequent date for registration. Hence, the Study gravidas had an apparent registration date earlier in their pregnancies than did those who were not selected; nevertheless the selection procedure to secure a representative sample operated according to plan.

At another institution, differences between the sample and the sample frame occurred with regard to

marital status and ethnic group. Study definitions for both of these characteristics differed from those used by the patients themselves. As a consequence, many patients who classified themselves as single were considered, on the basis of additional Study information, to be in common-law status. In addition, many patients who classified themselves as Whites or Negroes were considered to be Puerto Rican according to the Study definition. Neither of these differences affected the representativeness of the sample.

A serious situation was unearthed when it became apparent that at one institution there was a significantly higher percentage of single women being registered in the Study than in the sample frame. An investigation revealed that, for a period of several months, the head nurse responsible for patient selection was deliberately choosing younger mothers, for whom hospital records were less voluminous than were those of older women of higher parity, in order to reduce her own work effort. This situation was corrected.

SECTION 2. COMPOSITION OF THE STUDY POPULATION

As previously noted, 55,908 pregnancies were registered in the Study after selection from the sample frame. The term "core" refers to these pregnancies. In addition, there were 298 walk-ins and 2622 "non-core" cases whose pregnancies and resulting children were followed, the latter group as a consequence of the special interests of individual Centers. Examples of non-core pregnancies were gravidas under 16 years of age, at Johns Hopkins, and first trimester registrants, at Oregon.

Study pregnancies were classified into five categories of ethnic group of the gravida: White, Negro, Puerto Rican, Oriental, and "Other." So few cases were Oriental and "Other" that they were excluded from the remainder of this report. (See the table below.)

The Gravidas by Ethnic Group

Ethnic Group of Gravida	Core Pregnancies
White	25703
Negro	25837
Puerto Rican	3795
Oriental	256
Other	317
Total	55908

Women of ethnic Puerto Rican background are excluded because they comprise a relatively small group but yet show enough differences from Whites and Negroes in preliminary tabulations to justify separate consideration. A separate study of the Puerto Rican patients is underway.

The table below shows the distribution of the 51,540 White and Negro Study registrants by Collaborating Center. Of these 51,540 registrants, 2106 (4.1 per cent) were lost to the Study. "Lost to Study" cases were those for whom, for one reason or other, neither labor and delivery information nor pediatric follow-up data could be obtained. A case was "lost to Study" if the gravida refused to participate after registering, if she moved away without trace, or for one of a number of similar reasons.

One of the Centers showed a "lost to Study" rate of 16.4 per cent, a rate far higher than the next highest, 5.9 per cent. This high percentage stems from a unique (for the Collaborative Perinatal Study) characteristic of the gravidas in the sample frame at this institution: they were private patients. These patients were automatically registered when they arrived for their first prenatal visit. Those who expressed a desire not to participate were immediately dropped from the Study. If such women at that institution had been excluded from the "lost to Study" group, the overall rate of loss would have approximated 3.3, rather than 4.1 per cent.

Some of the characteristics of patients "lost to Study" were compared with those for whom follow-up was obtained, in order to provide some information on the possible biases which might occur as a consequence of their loss. These comparisons are shown on the tables that follow this section.

NUMBER OF CORE CASES LOST TO STUDY, BY INSTITUTION AND BY RACE

INSTITUTION	WHITE			NEGRO			TOTAL			
	CORE CASES	LOST TO STUDY	REMAINDER	CORE CASES	LOST TO STUDY	REMAINDER	CORE CASES	LOST TO STUDY	PERCENT LOST TO STUDY	REMAINDER
BO	11618	672	10946	1297	93	1204	12915	765	5.9	12150
BU	2855	467	2388	73	14	59	2928	481	16.4	2447
CH	-	-	-	2590	10	2580	2590	10	0.4	2580
CO	667	31	636	911	31	880	1578	62	3.9	1516
JH	868	55	813	2898	103	2795	3766	158	4.2	3608
VA	862	26	836	2381	12	2369	3243	38	1.2	3205
MN	3104	5	3099	23	2	21	3127	7	0.2	3120
NY	295	24	271	1617	50	1567	1912	74	3.9	1838
OR	2314	37	2277	867	2	865	3181	39	1.2	3142
PA	975	77	898	8995	338	8657	9970	415	4.2	9555
PR	2122	25	2097	655	3	652	2777	28	1.0	2749
TN	23	1	22	3530	28	3502	3553	29	0.8	3524
TOTAL	25703	1420	24283	25837	686	25151	51540	2106	4.1	49434

The "lost to Study" patients diminished the number of core study pregnancies to 49,434.

If a woman had more than one pregnancy at a Collaborating Center during the interval of the Study, she could be selected into the sample more than once. As a matter of fact, there were six women who each had six study pregnancies during the seven year period of registration!

The table below shows the distribution of the repeat Study pregnancies.

Number of Repeat Pregnancies, by Race

Pregnancies	White	Negro	Total
First Study pregnancies	19621	20652	40273
Second Study pregnancies	3661	3517	7178
Third Study pregnancies	835	788	1623
Fourth Study pregnancies	137	165	302
Fifth Study pregnancies	25	27	52
Sixth Study pregnancies	4	2	6
Total	24283	25151	49434

The repeat pregnancies provide a valuable research resource. The availability of two or more Study pregnancies of the same woman permits comparisons to be made between the pregnancies, while at the same time many important characteristics of the mother remain reasonably constant.

Nevertheless, since it was the purpose of this report to characterize the women in the Study, and to avoid the possible biases which inclusion of repeat pregnancies of the same woman might create, the tabulations are restricted to the data of the gravida's first Study pregnancies.

Discussion is confined to those pregnancies which resulted in either stillbirths or livebirths. As a consequence, the 562 Negro and White patients whose pregnancy terminated before twenty weeks gestation were excluded.

Pregnancies terminating before 20 weeks gestation in the Study are under-represented, as the majority of patients were registered when they were beyond twenty weeks of gestation.

First Study Pregnancies, by Race

	White	Negro	Total
Single births			
Fetal deaths under 20 weeks gestation	372	190	562
Stillbirths and livebirths	19048	20167	39215
Multiple births	182	263	445
Unknown	19	32	51
Total	19621	20652	40273

This report is also restricted to single births, since the characteristics of the 445 multiple births are unique and require separate consideration.

All of these exclusions reduced the total to 39,215 gravidas — 19,048 Whites and 20,167 Negroes. These women comprise those core, first Study pregnancy registrants who delivered single products of conception after twenty weeks of gestation, and who were not walk-ins. The data shown in the remainder of this report refer to this group of women.

SECTION 3. CHARACTERISTICS OF WOMEN LOST TO STUDY

A table on page 11 provides the distribution, by Collaborating Center and by race, of women who dropped out of the Study before completion of their pregnancy. They comprised 4.1 per cent of the Study registrants, or 3.3 percent, if women who registered under the special circumstances at the Buffalo Center are excluded.

Some information concerning these women was recorded at the time of their registration. In order to evaluate possible bias resulting from their loss, the distribution of four of these characteristics of the women lost to the Study were developed for the purpose of comparisons with those who remained in the Study.

These tabulations, representing registrants in the period 1959-1964, are reproduced on a table on page 15 as well as two of the tables following this section.

A COMPARISON OF PERCENT OF STUDY POPULATION UNDER 18 YEARS OF AGE AND OVER 35 YEARS OF AGE
WITH THE LOST GROUP, BY RACE AND INSTITUTION

INSTITUTION	WHITE				NEGRO			
	UNDER 18 YEARS		35 YEARS OR MORE		UNDER 18 YEARS		35 YEARS OR MORE	
	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP
BO	3.9	3.1	9.5	4.9	3.9	2.0	13.1	20.0
BU	0.2	0.6	9.0	12.4	-	12.5	10.3	0.0
CH	-	-	-	-	12.4	25.0	7.6	0.0
CO	3.3	3.7	11.6	18.5	3.2	4.0	12.2	20.0
JH	14.8	12.6	7.3	3.1	17.5	11.0	10.2	6.3
VA	11.4	13.0	7.6	8.7	17.3	0.0	9.2	0.0
MN	5.8	0.0	5.5	0.0	12.5	0.0	0.0	0.0
NY	3.0	0.0	6.4	16.7	8.6	10.6	5.3	0.0
OR	9.7	8.3	6.1	0.0	17.4	0.0	8.1	0.0
PA	7.5	14.0	11.9	9.3	16.4	11.6	6.8	6.1
PR	13.3	14.3	7.8	14.3	14.8	50.0	9.2	50.0
TN	7.7	-	0.0	-	22.8	11.1	2.7	0.0
TOTAL	6.1	3.4	7.8	11.4	15.4	9.9	7.4	8.1

A COMPARISON OF THE PERCENT OF STUDY POPULATION WITH 8 YEARS OR LESS AND 12 YEARS OR MORE EDUCATION
WITH THE LOST GROUP, BY RACE AND INSTITUTION

INSTITUTION	WHITE				NEGRO			
	PERCENT LESS THAN 9 YEARS		PERCENT OVER 12 YEARS		PERCENT LESS THAN 9 YEARS		PERCENT OVER 12 YEARS	
	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP
BO	8.6	5.6	24.9	54.9	6.8	13.3	18.2	46.7
BU	2.2	0.0	50.5	83.3	0.0	-	27.6	-
CH	-	-	-	8.0	27.4	50.0	6.7	25.0
CO	20.3	12.5	9.0	0.0	9.5	14.3	13.0	14.3
JH	41.2	33.3	2.5	22.2	24.4	10.7	6.2	10.8
VA	36.6	16.7	2.8	0.0	29.3	66.7	2.2	0.0
MN	6.5	-	30.1	-	0.0	0.0	10.0	100.0
NY	35.3	40.0	5.5	20.0	13.0	13.3	5.6	6.7
OR	13.4	0.0	4.6	0.0	11.4	-	5.2	-
PA	23.5	16.6	3.1	9.5	13.2	13.9	2.7	7.9
PR	27.3	50.0	1.7	0.0	21.2	100.0	2.9	-
TN	30.8	-	7.7	-	24.2	27.8	3.7	5.6
TOTAL	13.6	10.5	20.3	39.7	18.9	8.2	5.2	11.1

A COMPARISON OF PERCENT OF STUDY POPULATION WITH NONE AND SIX OR MORE PRIOR PREGNANCIES
WITH LOST GROUP, BY RACE AND INSTITUTION

INSTITUTION	WHITE				NEGRO			
	NO PRIOR PREGNANCY		6 OR MORE PRIOR PREG.		NO PRIOR PREGNANCY		6 OR MORE PRIOR PREG.	
	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP
BO	41.5	54.1	5.4	1.4	32.1	29.4	7.1	5.9
BU	31.8	50.0	3.9	0.0	10.7	-	14.3	-
CH	-	-	-	-	23.3	50.0	18.4	25.0
CO	25.4	33.3	5.1	0.0	25.2	25.0	6.5	16.6
JH	33.5	39.1	8.6	17.3	31.6	48.9	14.0	2.2
VA	26.4	55.6	7.2	0.0	27.5	40.0	13.3	0.0
MN	40.4	-	7.9	-	37.5	100.0	0.0	0.0
NY	38.6	50.0	5.0	0.0	30.2	44.4	7.3	0.0
OR	24.6	42.9	11.3	0.0	25.4	-	17.7	-
PA	26.9	33.3	6.9	4.8	33.5	30.1	8.8	5.4
PR	34.7	0.0	9.1	0.0	25.9	0.0	15.1	0.0
TN	30.8	-	15.4	-	39.1	38.9	8.2	0.0
TOTAL	36.1	48.9	6.8	2.9	31.3	36.7	11.0	4.8

A COMPARISON OF THE PERCENT OF WOMEN NOT MARRIED AT REGISTRATION^x
IN THE STUDY POPULATION WITH LOST GROUP, BY RACE AND INSTITUTION

INSTITUTION	PERCENT NOT MARRIED AT REGISTRATION			
	WHITE		NEGRO	
	STUDY POPULATION	LOST GROUP	STUDY POPULATION	LOST GROUP
BO	5.5	7.1	11.3	17.7
BU	0.7	1.2	-	12.5
CH	-	-	27.8	0.0
CO	4.5	3.8	21.4	41.6
JH	14.4	15.6	35.6	37.6
VA	19.3	30.4	41.0	40.0
MN	13.7	0.0	12.6	0.0
NY	20.2	50.0	44.1	57.9
OR	34.4	25.0	55.6	-
PA	16.5	4.7	40.5	30.5
PR	25.9	42.9	46.7	0.0
TN	53.9	0.0	40.7	61.1
TOTAL	12.4	6.3	37.2	32.5

* NEVER MARRIED OR MARRIED IN THE PAST.

SECTION 3. CHARACTERISTICS OF WOMEN LOST TO STUDY (Continued)

Included are comparisons for the frequency of registrants under 18, and over 35 years of age; with education 8 years or less, or 12 years or more; with none, or with 6 or more prior pregnancies; or who were unmarried at the time of registration.

The tables show that, on the whole, there are fewer of the very young women, White or Negro,

dropping out than might normally be expected. This difference is not consistent by Collaborating Center.

Among women of both races, the more highly educated mothers are lost to the Study more frequently than are those of the lower educational group. Again, the disparity between the two groups is not consistent by Collaborating Center.

There is an excess of nulliparas and a reduced frequency of grand multiparas in the group lost to Study as compared with the Study population. The

trend is reasonably consistent by Collaborating Center.

There is no consistency among the Collaborating Centers in the marital statuses of the women in the two groups.

To summarize, some disparities are present between the lost to Study gravidas and those of the Study population, for the characteristics compared. With the exception of the characteristic, number of prior pregnancies, there was little consistency in the differences by Collaborating Center.

The next table summarizes the per cent of differences between Study women and women lost to Study, with regard to the distributions of certain of their characteristics, and the perinatal death rates, for the Study women.

The Study women of age 35 or higher, of both races, show increased perinatal mortality rate of their offspring as compared to women in the intermediate age bracket. It is reassuring to note that the lost to Study women do not show a disproportionate per cent of cases in this age bracket.

Education of the gravida does not appear to be importantly related to the perinatal mortality rate, so

the disproportionately high number of lost to Study women in the high education group does not appear to be a biasing factor with regard to perinatal death rate.

White and Negro women in the group having six or more prior pregnancies show higher perinatal mortality rates. The lost to Study women have a smaller per cent of cases in the grand multipara group than do the Study women. If one were willing to assume that the babies of lost to Study mothers had the same perinatal death rates as compared to babies of Study mothers of comparable parity, then the overall perinatal mortality rate would change from 35.1 to 34.9 for Whites and would be unchanged for Negroes when the lost to Study cases were included. The impact of these lost to Study cases would not appear to be very significant.

Similarly the perinatal mortality rate of babies of never-married White women is lower than that of White married women. The lost to Study cases show half the rate of never-married women as compared to those of Study women. An adjustment comparable to that described above would not change the overall perinatal mortality rates if the lost to Study cases were included.

COMPARISON OF SELECTED CHARACTERISTICS OF STUDY AND LOST TO STUDY GRAVIDAS

ITEM	WHITE			NEGRO		
	LOST TO STUDY GRAVIDAS	STUDY GRAVIDAS	PERINATAL DEATH RATE	LOST TO STUDY GRAVIDAS	STUDY GRAVIDAS	PERINATAL DEATH RATE
	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
AGE OF GRAVIDA (YRS)						
UNDER 18	3.4	6.3	23.5	9.9	15.9	38.0
18-34	88.2	85.9	33.2	82.0	76.9	40.7
35+	8.4	7.8	63.8	8.1	7.2	63.7
EDUCATION OF GRAVIDA (YRS)						
UNDER 9	10.5	13.1	33.2	8.2	19.0	42.7
9-11	49.8	65.7	33.6	80.7	75.9	41.9
12+	39.7	21.1	32.0	11.1	5.1	38.2
NO. OF PRIOR PREGNANCIES						
0	48.9	40.0	29.1	36.7	34.1	39.7
1-5	48.2	56.0	33.6	58.5	57.3	40.1
6+	2.9	4.0	70.1	4.8	8.6	52.3
MARITAL STATUS						
MARRIED	93.7	86.6	35.5	67.5	60.4	40.1
NOT MARRIED	6.3	13.4	32.5	32.5	39.6	44.7

SECTION 4. SAMPLE MAINTENANCE DURING THE FIRST YEAR

In any large, long-term study, investigators need to be concerned about obtaining follow-up examinations for all patients. In the Collaborative Perinatal Study, while the difficulties in this regard have been considerable because of the dimensions of the Study, effective action has been taken to overcome the difficulties.

Consider some of the characteristics of this Study. The patient population is large, with almost 60,000 gravidas enrolled, i.e., the 39,215 of interest in this

report, and about 20,000 others. The investigators are geographically dispersed, with Collaborating Centers as far away as Boston, Mass.; New Orleans, La.; and Portland, Ore. The period of data collection is extensive, with the first gravida registered in January, 1959, and the examination of the last eight-year-old child to be completed in 1974. The gravidas were examined frequently during the course of their pregnancies; the children are routinely examined at eight specified ages during the Study.

Throughout the course of the Study, a considerable effort has been made to prevent attrition of the Study population. Two tables below show the attrition

of the Study children, by race, during the period through age one year. During this interval the children normally received a series of nursery examinations, a four-month pediatric evaluation, an eight-month developmental assessment using a modification of the

Bayley scale of mental and motor development, and a one-year neurologic examination. The number and per cent of children receiving each examination, within the appropriate time limits, are given for each examination in the table immediately below.

INFANTS EXAMINED, DEATHS, AND ATTRITION, THROUGH ONE YEAR - WHITE

DESCRIPTION	BO	BU	CH	CO	JH	VA	MN	NY	OR	PA	PR	TN	TOTAL
TOTAL BIRTHS	7823	1926	0	603	667	741	2623	253	1894	728	1769	21	19048
STILLBIRTHS	194	57	0	13	9	10	53	4	30	14	31	0	415
LIVEBIRTHS	7629	1869	0	590	658	731	2570	249	1864	714	1738	21	18633
NO. WITH NURSERY EXAM.	7420	1839	0	582	643	705	2439	237	1742	686	1708	20	18021
% WITH NURSERY EXAM.	97.3	98.4	-	98.6	97.7	96.4	94.9	95.2	93.5	96.1	98.3	95.2	96.7
NEONATAL DEATHS	93	26	0	10	7	8	28	5	33	16	27	0	253
DEATHS AT 1 THRU 3 MO.	17	2	0	1	0	4	9	1	12	3	6	0	55
ALIVE AT 4 MO.	7519	1841	0	579	651	719	2533	243	1819	695	1705	21	18325
NO. WITH 4 MO. EXAM.	6743	1770	0	545	522	440	2153	197	1384	458	1239	16	15467
% WITH 4 MO. EXAM.	89.7	96.1	-	94.1	80.2	61.2	85.0	81.1	76.1	65.9	72.7	76.2	84.4
DEATHS AT 4 THRU 7 MO.	16	1	0	0	1	0	7	0	4	1	8	0	38
ALIVE AT 8 MO.	7503	1840	0	579	650	719	2526	243	1815	694	1697	21	18287
NO. WITH 8 MO. EXAM.	6243	1729	0	492	507	384	2040	178	1260	407	1166	12	14418
% WITH 8 MO. EXAM.	83.2	94.0	-	85.0	78.0	53.4	80.8	73.3	69.4	58.6	68.7	57.1	78.8
DEATHS AT 8 THRU 11 MO.	2	2	0	0	4	0	4	0	2	0	0	0	11
ALIVE AT 1 YEAR	7501	1838	0	579	649	719	2522	243	1813	694	1697	21	18276
NO. WITH 1 YEAR EXAM.	6084	1720	0	530	502	474	2060	178	1471	455	1173	15	14662
% WITH 1 YEAR EXAM.	81.1	93.6	-	91.5	77.3	65.9	81.7	73.3	81.1	65.6	69.1	71.4	80.2

INFANTS EXAMINED, DEATHS, AND ATTRITION, THROUGH ONE YEAR - NEGRO

DESCRIPTION	BO	BU	CH	CO	JH	VA	MN	NY	OR	PA	PR	TN	TOTAL
TOTAL BIRTHS	913	52	2380	842	2210	1840	17	1455	603	6158	501	3196	20167
STILLBIRTHS	26	4	51	19	60	46	1	26	14	147	14	49	457
LIVEBIRTHS	887	48	2329	823	2150	1794	16	1429	589	6011	487	3147	19710
NO. WITH NURSERY EXAM.	867	48	2320	805	2088	1747	14	1374	559	5881	478	3114	19295
% WITH NURSERY EXAM.	97.7	100.0	99.6	97.8	97.1	97.4	87.5	96.2	94.9	97.8	98.2	99.0	97.9
NEONATAL DEATHS	15	0	39	13	56	21	0	28	9	147	10	50	388
DEATHS AT 1 THRU 3 MO.	0	0	14	3	8	7	0	8	2	33	5	11	91
ALIVE AT 4 MO.	872	48	2276	807	2086	1766	16	1393	578	5831	472	3086	19231
NO. WITH 4 MO. EXAM.	816	47	2195	748	1918	1528	14	1155	523	5064	399	2949	17356
% WITH 4 MO. EXAM.	93.6	97.9	96.4	92.7	91.9	86.5	87.5	82.9	90.5	86.8	84.5	95.6	90.3
DEATHS AT 4 THRU 7 MO.	2	0	4	2	5	9	0	3	2	18	3	7	55
ALIVE AT 8 MO.	870	48	2272	805	2081	1757	16	1390	576	5813	469	3079	19176
NO. WITH 8 MO. EXAM.	767	46	2110	686	1915	1443	14	1061	488	4413	379	2626	15948
% WITH 8 MO. EXAM.	88.2	95.8	92.9	85.2	92.0	82.1	87.5	76.3	84.7	75.9	80.8	85.3	83.2
DEATHS AT 8 THRU 11 MO.	0	0	1	1	5	1	0	3	0	3	1	6	21
ALIVE AT 1 YEAR	870	48	2271	804	2076	1756	16	1387	576	5810	468	3073	19155
NO. WITH 1 YEAR EXAM.	766	48	2110	732	1928	1613	13	1137	533	4984	384	2875	17123
% WITH 1 YEAR EXAM.	88.0	100.0	92.9	91.0	92.9	91.9	81.3	82.0	92.5	85.8	82.1	93.6	89.4

SECTION 4. SAMPLE MAINTENANCE DURING THE FIRST YEAR (Continued)

Since the first detailed nursery examination was performed between 12 and 24 hours of age, infants who died in the first few hours of life were missed. Nevertheless, since infants were examined in the delivery room as a matter of course, a short form,

PED-1, was completed for them. A small number of other infants were delivered at other hospitals and missed the Study nursery examinations.

Overall, 85 per cent of the Study children received the one-year neurologic examination within the prescribed brief time interval. Thus, there was a high rate of successful follow-up involving clinical evaluation, though the rate was not consistent by institution.

Chapter 3

FORMS AND DATA PROCESSING

SECTION 1. FORMS AND MANUALS

The Collaborative Study requires the uniform collection of large volumes of information from many patients over long periods of time, taken by study personnel with varying degrees of professional experience and located at different medical Centers.

Detailed, structured forms were developed for the Study in order to provide for the collection of complete information, as hospital records were notoriously incomplete. The latter often emphasized only the minimum of positive information required for good patient care. In many instances the new forms prepared for the Study were adopted to replace standard hospital records. Procedure manuals were developed to insure uniformity. Important considerations in the development of the forms were:

1. To include detailed and comprehensive information necessary for thorough etiological studies.
2. To reduce ambiguity of meaning; to assure reproducibility and comparability of information collected over time by different examiners and institutions.
3. To simplify and standardize the processing of the information at all stages of data collection and handling.

The items on the forms were arranged in struc-

tured fashion with checkboxes for both positive and negative answers to facilitate direct key punching and to decrease the chances of coding errors. Ample space was provided on each page for comment and unstructured narrative information.

A list of forms pertaining to the gravida, her pregnancy, and delivery, appears below. The Procedure Manual for the Obstetric Phase, and several of the forms pertinent to this report, are presented in Appendix C. Copies of all forms and manuals are available upon request from the Perinatal Research Branch, NINDS, NIH, Bethesda, Maryland 20014.

Throughout the period of use of the forms, continuing efforts were made to ensure the consistency and accuracy of the data collected: staff members from the Medical Centers met in workshops; films describing the neonatal and one-year neurologic examinations were developed; there was an interchange of visits among personnel of the Collaborating Centers to exchange views and to standardize examining techniques.

For each case, soon after completion, the Study records were reviewed by a lay editor and compared with hospital records. Before the forms were submitted to the Perinatal Research Branch, they were edited in detail by medical personnel for consistency and accuracy.

THE OBSTETRIC AND RELATED FORMS OF THE COLLABORATIVE PERINATAL STUDY WHICH FORM THE BASIS OF THIS REPORT*

AR-1	Obstetrical Administrative Record
OB-2	Reproductive History
OB-3	History Since Last Menstrual Period
OB-4	Gynecological History
OB-5	Recent Medical History
OB-6	Past Medical History
OB-7	Infectious Disease and System Review
OB-8	Repeat Prenatal History (completed at each visit, and on admission for delivery)

*Instructions for use of these forms are included in the appropriate manuals and in the General Procedure Manual for the Obstetric Phase, a copy of which is included in Appendix C.

**THE OBSTETRIC AND RELATED FORMS OF THE COLLABORATIVE
PERINATAL STUDY WHICH FORM THE BASIS OF THIS REPORT—(Continued)**

OB-32	Labor Room Record
OB-33	Delivery Room Events
OB-40	Prenatal Record (optional form)
OB-42	Past Medical History
OB-43	Initial Prenatal Examination
OB-44	Prenatal Observations (completed at each visit)
OB-45	Laboratory Record
OB-46	Physicians Clinic Record
OB-47	Summary of Antepartum Hospitalization
OB-50	Admission History
OB-51	Admission Examination, Part I
OB-52	Admission Examination, Part II
OB-55	Delivery Report (Succeeded earlier Delivery Report, OB-34)
OB-56	Obstetric Summary
OB-57	Anesthetic Agents
OB-58	Summary of Puerperium
OB-60	Obstetric Diagnostic Summary
PATH-1	Placental Examination—Gross
PATH-2	Placental Examination—Microscopic
PATH-3	Autopsy Protocol (for stillbirths, neonatal and later infant deaths)
PED-1	Delivery Room Observation of the Neonate
PED-4	Report of Fetal or Infant Death
PED-11	One-Year Neurological Examination
SE-1	Socio-Economic Interview

SECTION 2. DATA PROCESSING

The Collaborative Perinatal Study has generated a huge quantity of data. Computer tapes presently store the equivalent of some 6 million punched cards, and the file will be expanded as examinations of children at ages seven and eight continue.

A data processing system was developed which included comprehensive reviews and tests at every stage of the processing in order to minimize errors. The system was organized in this manner:

1. When an examination was completed and reviewed at the Center, a copy of the form was sent for data processing to the Perinatal Research Branch.

2. The form was then edited by specially trained nurses for completeness and accuracy, and was then coded.

3. Cards were punched, verified, and sent to the computer facility.

4. The next stage of processing included a screening of every column in every card for invalid codes.

5. The data on the cards were checked to determine whether they fell outside of range levels established by the medical group responsible for that particular form. For example, the record for a child with a first breath recorded in excess of ten minutes after birth, and who was reported to be liveborn, would be questioned. Similar reviews were made for many other measurements.

6. The cards earmarked for review in this procedure were returned to the appropriate evaluations unit, which then examined the original form. If a mis-

take was found, the card was corrected and returned for processing. If the item was correctly recorded, it was then forwarded to the physician in charge who attempted to ascertain the reason for the unusual reading. He had two options. The first was to accept the recording as legitimate and send the data back to the processing group. The second option was to request a review by the hospital for confirmation or rejection of the observation and a substitution of the correct observation, if known. If the observation was incorrect and no substitution was possible, the item was classed as unknown.

7. After data were processed into the computer file, frequency distributions were tabulated periodically for specific items in the file so that unusual values could be rechecked. The original forms were examined to provide a review of these unusual observations.

SECTION 3. ACCURACY OF THE DATA PROCESSING

The quality of the data processing effort is reflected in the results of a study of the data processing operation. The case numbers of 20 Study registrants were selected at random; photo copies of all of the Study forms filled out for these mothers and their children were requested, and computer printouts were made of the data processed from these records. Cases were selected from women registered in each of the several years of the Study.

A total of 40,000 separate pieces of information in this sample was examined. In all, 34 unique errors

were identified, yielding an error rate of less than one-tenth of one per cent, which is very low for the large volume of records processed. A similar review of 100 cases carried out at The Johns Hopkins Center compared Study information and hospital records and found a similarly small rate of error.

In another study⁶ the validity of obstetric information in the Study records was assessed at two hospitals by comparing them with the hospital records of the same Centers. At these two hospitals a sample of eight per cent of the records was reviewed, stratified to insure a sufficient number of normal pregnancies in the Study sample.

A sample of Study cases was drawn and the Centers were requested to provide the actual hospital records for the sample. Arrangements were made for the hospital records to be reviewed by a physician. Information on demographic, prenatal, delivery, postpartum, and infant characteristics was obtained from 14 different Collaborative Study forms and records. The hospital and the Collaborative Study records for each selected patient were reviewed and abstracted "blind" and independently by the same physician. Forty of the most important characteristics were selected for detailed analysis. The items can be characterized as five demographic, ten prenatal, thirteen delivery, four postpartum, and eight infant.

The review showed that more information was missing from the hospital records than from the Collaborative Study records. In addition, the Collaborative Study records contained more detailed information than did the hospital records.

⁶NINDB Perinatal Statistical Ad Hoc Committee.

An insignificantly small number of patients had important facts missing from both the Study and hospital records. The only frequent omissions in both records were the results of a failure to check "not present" or "not done" boxes for the rare conditions and procedures. In one hospital, five important items were totally absent for a small proportion of the patients. These items were: maternal pre-conception weight and height for 1 per cent of the patients; birth-weight for 0.5 per cent of the babies; blood pressure measurements for 1.5 per cent of the patients; and postpartum temperatures for 1 per cent of the patients. Only one item, the staff position of the person who delivered the baby, was completely missing for a significantly large number of patients: 19 per cent in one hospital and 3.5 per cent in the other.

The Collaborative Study records were also compared with the hospital records by computing the per cent of records in which the item was present in both hospital and Study records, and also the per cent of hospital records with items missing that were present in the Study records (see the table below.) When the hospital record contained an item of information, it was generally present in the Study record; when the item was absent in the hospital record, it again frequently appeared in the Study record. More of the important items of information were recorded in the Collaborative Study records than in the hospital records.

The study concluded that the Collaborating Study records contained extensive and detailed information not available in the other hospital records and that the Study records had a high standard of completeness in the two Centers where they could be evaluated.

COMPARISON OF COLLABORATIVE STUDY RECORDS WITH HOSPITAL RECORDS

ITEM	PERCENT OF HOSPITAL RECORDS WITH ITEM ALSO PRESENT IN STUDY RECORD		PERCENT OF HOSPITAL RECORDS WITH ITEM MISSING FOR WHICH STUDY RECORD HAD ITEM	
	HOSP. 1	HOSP. 2	HOSP. 1	HOSP. 2
HISTORY OF PREVIOUS PREGNANCY				
COMPLICATIONS	98	94	42	17
COMPLICATIONS DURING THE PRENATAL PERIOD OF THE PREGNANCY	93	91	58	52
COMPLICATIONS DURING POST-PARTUM	84	-	29	-
COMPLICATIONS DURING DELIVERY	96	80	71	22
TYPE OF RUPTURE	85	-	10	-
USE OF UTERINE STIMULANT	-	100	-	14
CONTROLLED DELIVERY OF HEAD	100	100	36	89
DIAGNOSIS OF TOXEMIA AT DELIVERY	100	100	68	27
POST-PARTUM INFECTION	95	-	18	-
TEMPERATURE ABOVE 99 DEGREES	75	90	4	9
CONGENITAL MALFORMATIONS OR ANY OTHER ABNORMALITIES OTHER THAN CNS DEFECTS	78	100	14	32

Chapter 4

DATA ANALYSIS AND INTERPRETATION

SECTION 1. POOLING OF DATA FROM THE COLLABORATING CENTERS

During the period of the NINDB Perinatal Statistical Ad Hoc Committee review, one of the major questions that the Committee attempted to resolve was the appropriateness of the pooling of information from the Collaborating Centers.

There was general recognition that the data for White and Negro gravidas should not be combined. While there are many similarities between White and Negro women in this Study with respect to the medical and obstetrical conditions and complications they experience, their demographic characteristics are very different. There are differences in mortality rates, in low birthweight rates, and in the morbidity experienced by the child from birth onward to the end of the Study period.

The Perinatal Statistical Ad Hoc Committee studied the problem of pooling data for each race across Collaborating Centers. Appendix E provides the relative frequency of the characteristics and outcomes by Collaborating Center.

The Committee found that the application of standard measures of variability did not seem to be a very meaningful way to identify excessive variation. In many instances, demonstration of statistical significance, because of the relatively large sample sizes, need not correspond to substantive significance. Medical investigators could not be assumed to consider such variation unusual or suspect.

Their study found that, as would be expected, demographic characteristics of the gravidas showed considerable variability in their relative frequency by Collaborating Center. This is a basic strength of the Collaborative Perinatal Study: that a group of Collaborating Centers, heterogeneous with regard to the demographic characteristics of their gravidas, show, in general, the same basic relationships of prenatal characteristics to fetal outcome.

The Committee also found that the antepartum characteristics, with one exception, "infections during pregnancy," were quite uniform. They found that the labor and delivery characteristics were, for the most

part, fairly uniform. As might be expected, the Committee found that the relative frequencies of "definite" findings were much more consistent than were "suspect" findings.

A variety of weighting methods for combining data from the Collaborating Centers were evaluated. The table and charts below show examples for perinatal death rates. The pooled rate is the total number of perinatal deaths divided by the total number of births, times 1000. The second method involves weighting each institution by its sampling ratio (see Appendix B).

The mean rate is the sum of the individual hospital rates divided by the number of hospitals. The pooled rate amounts to weighting each hospital by the number of cases it contributes, while the mean rate gives the same weight to each hospital, regardless of differences in the number of cases. Comparisons of the various methods show generally close results; where the rates diverge materially, they tend to be based on small numbers. In addition, and perhaps the most important, the selection of combination method tends to have little effect on the relationship between the death rate and the factor being considered, such as age. None of the combination methods investigated gave results sufficiently different from the pooling procedure to warrant their use.

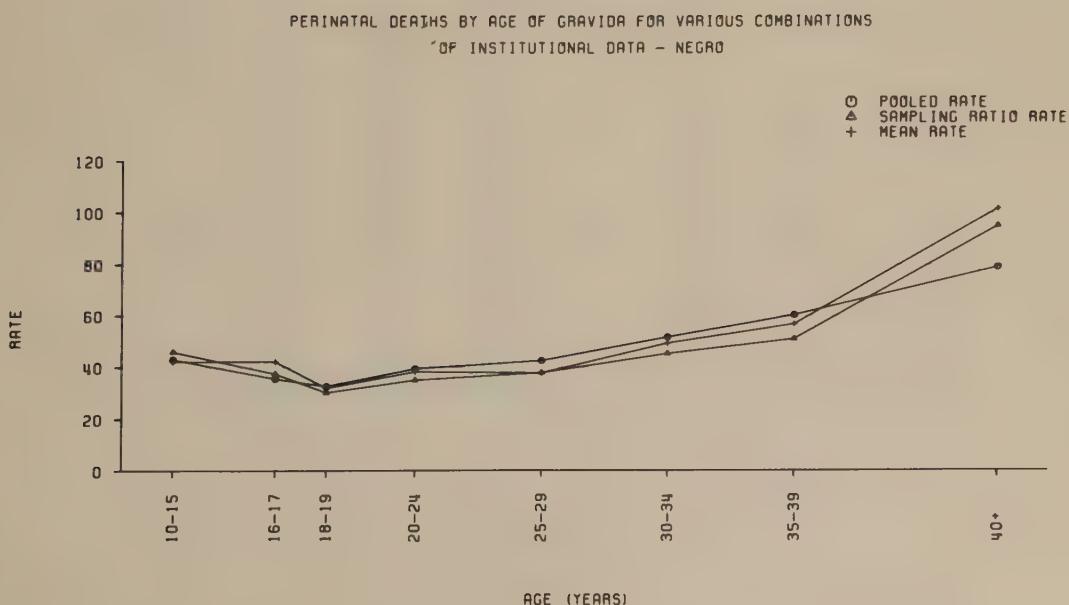
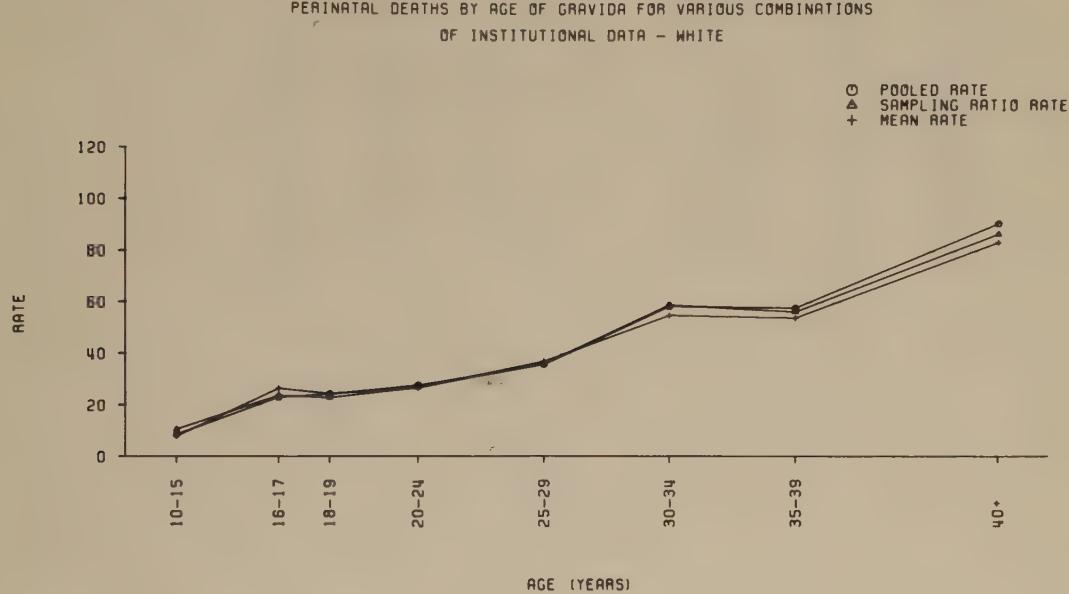
For a number of characteristics in this report, the data are too sparse by Center to provide precise information concerning the hazard of a pooled association being spurious. It must suffice to note that the pooled data for these characteristics do not suggest the composite association to be spurious, and that the overwhelming proportion of these associations, when pooled, are logical and consistent with experience. Those variables whose frequencies of occurrence were sufficient to permit an examination of the associations by Collaborating Center were extensively reviewed. The pooled data rather consistently reflected the associations by Collaborating Center.

For most of the characteristics presented in the main body of this report, only the pooled data are shown. It was impractical to present all of the individual Collaborating Center data, though they have been prepared and studied in the same manner as are the pooled data. Some of these data are contained in this report, when informative. For example, the demo-

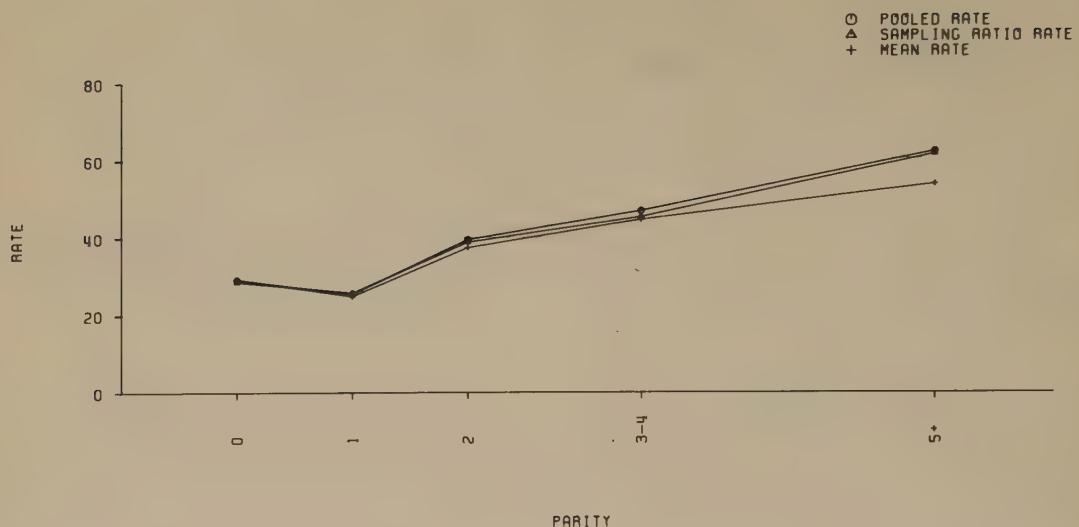
graphic or descriptive characteristics of the patient population are reported by Center; the use of obstetric procedures, which vary markedly in the relative frequency of their application, is reported by individual Center.

For all of the characteristics described in this

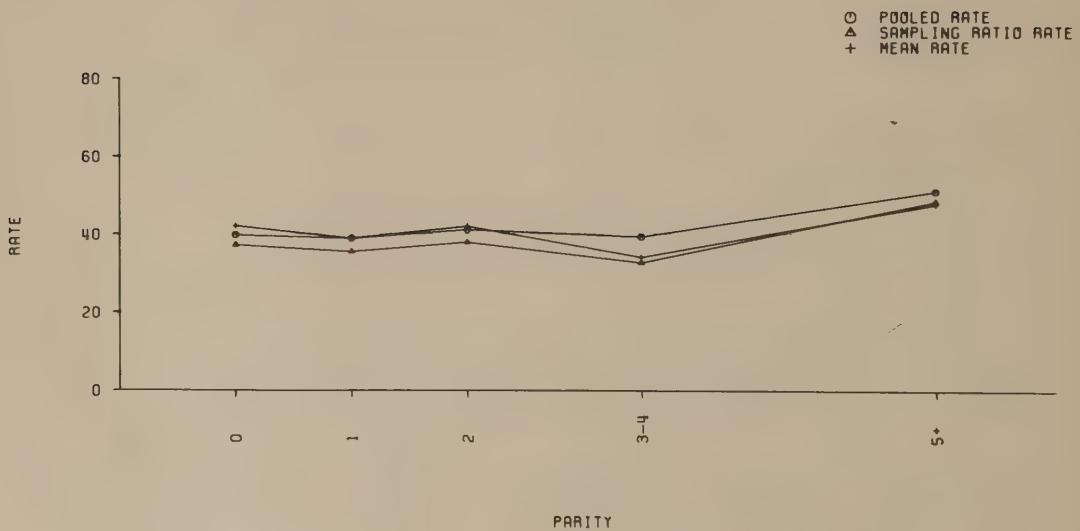
report, the charts and tables of the data, separately by each Collaborating Center, are available upon request from the archives of the National Library of Medicine, in Bethesda, Maryland. The material is indexed and bound, as are copies of all the Study forms and manuals.



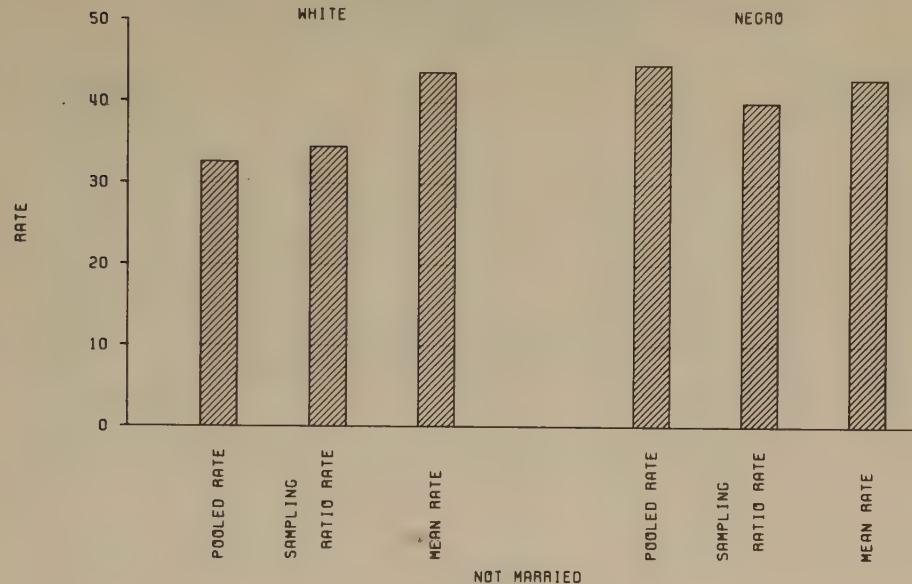
PERINATAL DEATHS BY PARITY FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA - WHITE



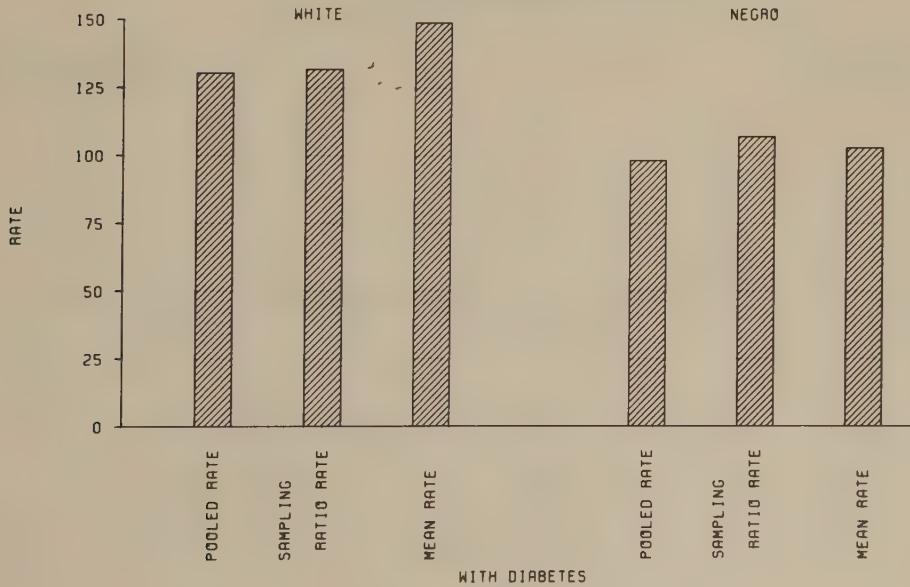
PERINATAL DEATHS BY PARITY FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA - NEGRO



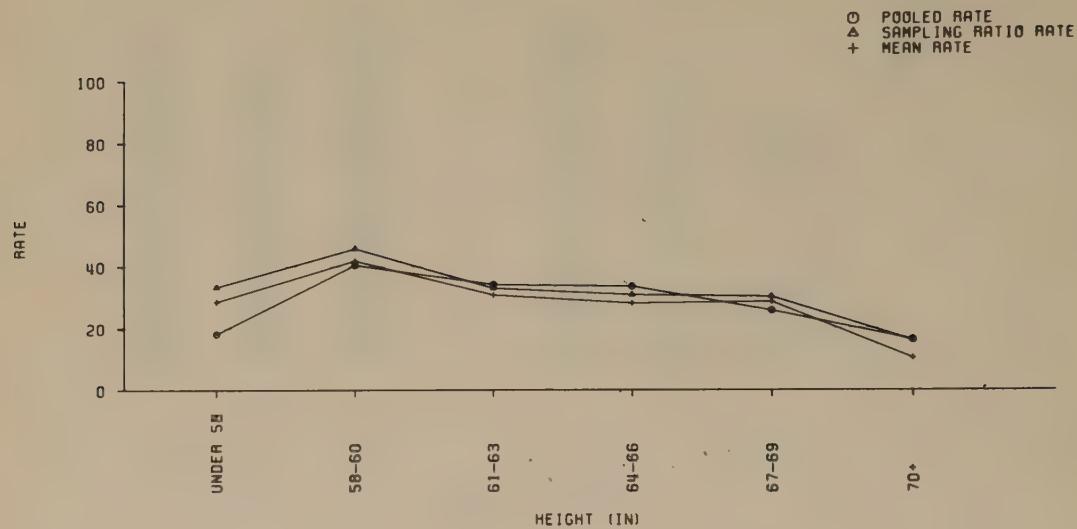
PERINATAL DEATH RATES FOR NON-MARRIED GRAVIDAS FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA BY RACE



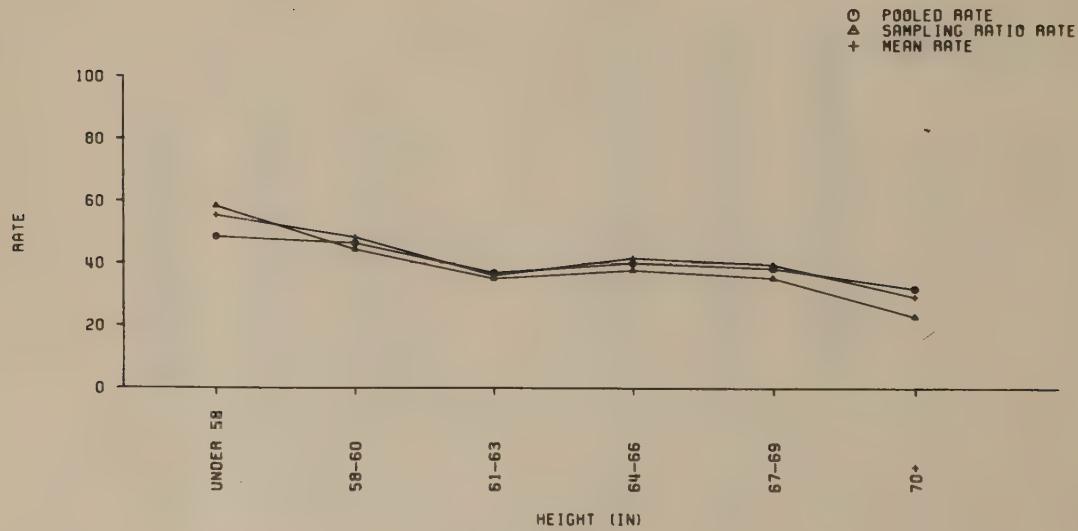
PERINATAL DEATH RATES FOR GRAVIDAS WITH DIABETES FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA BY RACE



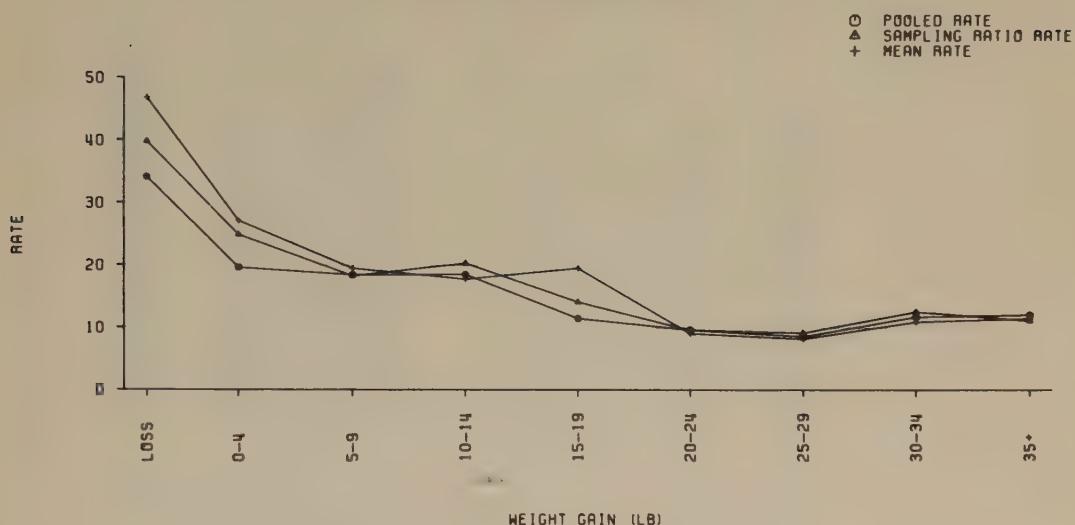
PERINATAL DEATHS BY HEIGHT OF GRAVIDA FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA - WHITE



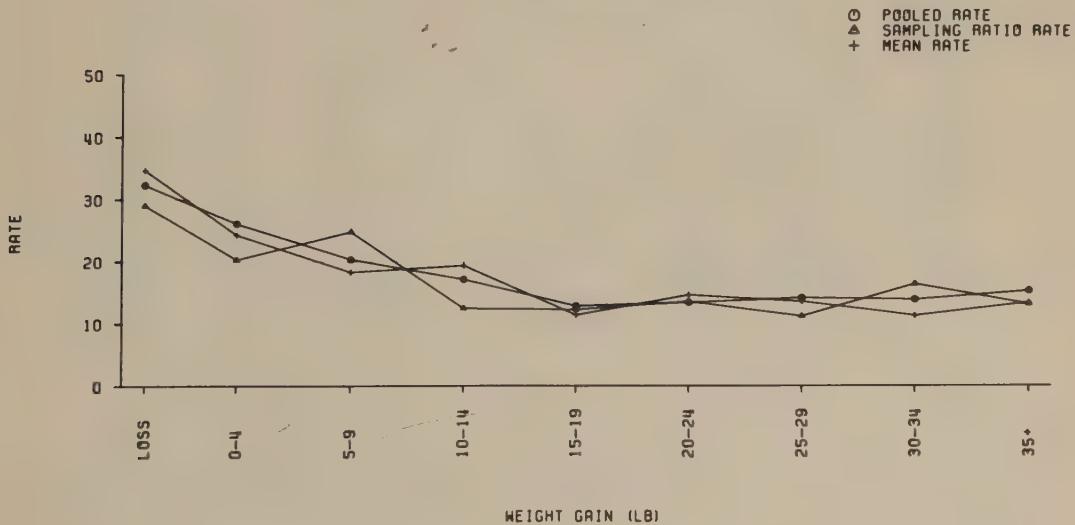
PERINATAL DEATHS BY HEIGHT OF GRAVIDA FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA - NEGRO



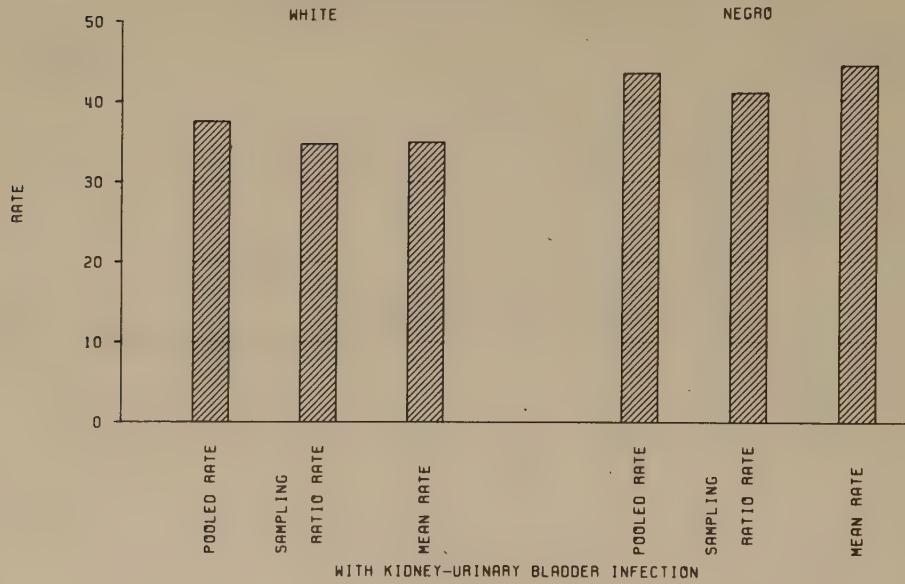
PERINATAL DEATHS BY WEIGHT GAIN OF GRAVIDA FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA - WHITE
(INSTITUTIONS WITH 20+ GRAVIDAS AND GESTATION 37+ WEEKS)



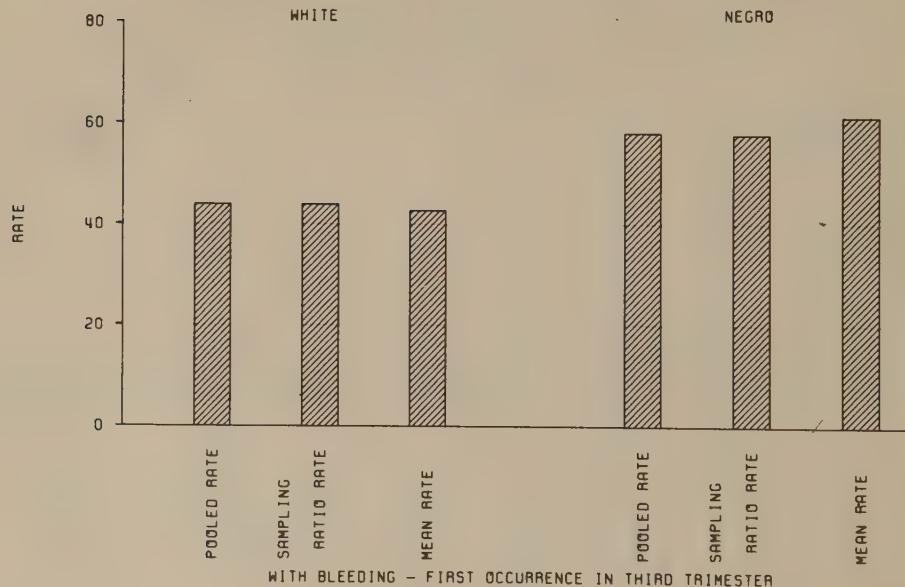
PERINATAL DEATHS BY WEIGHT GAIN OF GRAVIDA FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA - NEGRO
(INSTITUTIONS WITH 20+ GRAVIDAS AND GESTATION 37+ WEEKS)



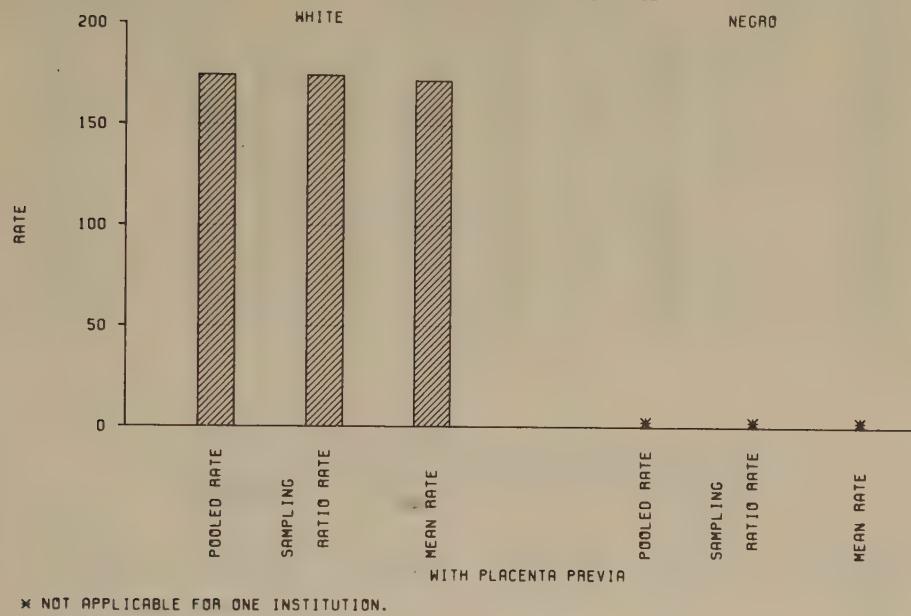
PERINATAL DEATH RATES FOR GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION
FOR VARIOUS COMBINATIONS OF INSTITUTIONAL DATA BY RACE



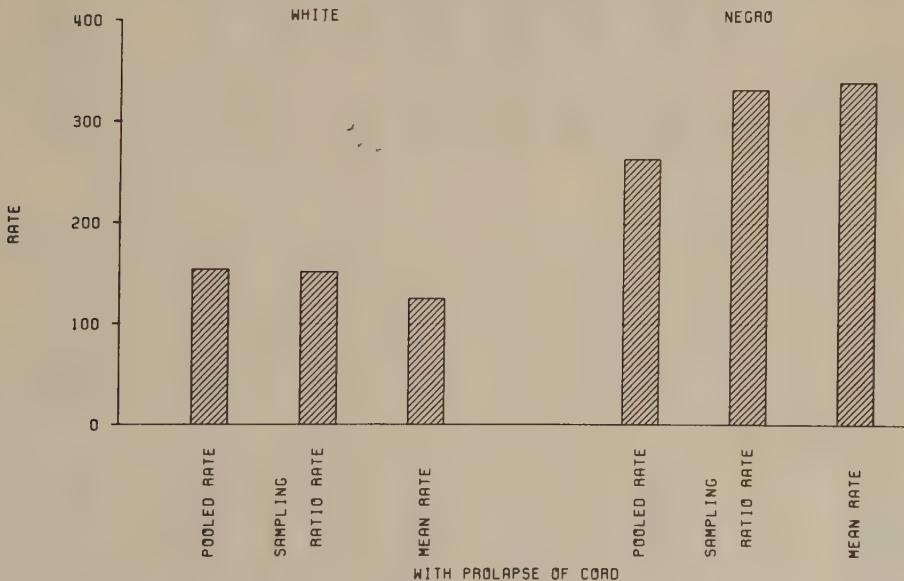
PERINATAL DEATH RATE FOR GRAVIDAS WITH BLEEDING - FIRST OCCURRENCE
IN THIRD TRIMESTER - FOR VARIOUS COMBINATIONS OF INSTITUTIONAL DATA BY RACE



PERINATAL DEATH RATES FOR GRAVIDAS WITH PLACENTA PREVIA FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA BY RACE



PERINATAL DEATH RATES FOR GRAVIDAS WITH PROLAPSE OF CORD FOR VARIOUS COMBINATIONS
OF INSTITUTIONAL DATA BY RACE



PERINATAL DEATH RATES FOR VARIOUS COMBINATIONS OF INSTITUTIONAL DATA

	INST. WITH 20+ GRAV.		POOLED RATE		RATE BASED ON SAMPLING RATIOS		MEAN RATE (INST. WITH 20+ GRAVIDAS)	
	TOTAL GRAV.	INST.	GRAV.	ALL INST.	INST. WITH 20+ GRAV.	ALL INST.	INST. WITH 20+ GRAV.	
AGE OF GRAVIDA (YR)								
WHITE								
10-15	157	4	118	12.7	8.5	12.2	10.6	7.8
16-17	1035	7	999	25.1	23.0	30.9	23.8	26.5
18-19	2600	10	2600	24.2	24.2	22.8	22.8	24.4
20-24	7469	10	7469	27.6	27.6	26.9	26.9	26.6
25-29	4127	10	4127	35.9	35.9	36.0	36.0	37.0
30-34	2171	10	2171	58.5	58.5	59.1	59.1	55.0
35-39	1151	19	1139	57.3	57.9	54.1	56.4	54.0
40+	337	6	308	86.1	90.9	74.2	86.9	83.6
NEGRO								
10-15	1049	7	1022	42.9	43.1	45.8	46.1	42.2
16-17	2162	10	2162	35.6	35.6	37.6	37.6	42.3
18-19	3080	10	3080	32.8	32.8	30.3	30.3	32.1
20-24	6551	10	6551	39.5	39.5	35.1	35.1	38.4
25-29	3722	10	3722	42.7	42.7	37.9	37.9	37.8
30-34	2142	10	2142	51.8	51.8	45.4	45.4	49.4
35-39	1159	10	1159	60.4	60.4	51.1	51.1	56.9
40+	301	6	253	76.9	79.1	84.5	95.1	101.8

PERINATAL DEATH RATES FOR VARIOUS COMBINATIONS OF INSTITUTIONAL DATA

	INST. WITH 20+ GRAV.		POOLED RATE		RATE BASED ON SAMPLING RATIOS		MEAN RATE (INST. WITH 20+ GRAVIDAS)	
	TOTAL GRAV.	INST.	GRAV.	ALL INST.	INST. WITH 20+ GRAV.	ALL INST.	INST. WITH 20+ GRAV.	
PARITY								
WHITE								
0	7598	10	7598	29.1	29.1	28.6	28.6	29.3
1	4239	10	4239	25.5	25.5	25.7	25.7	24.9
2	2735	10	2735	39.5	39.5	38.8	38.8	37.4
3-4	2989	10	2989	46.8	46.8	45.2	45.2	44.5
5+	1439	9	1425	61.2	61.8	58.8	61.1	53.5
NEGRO								
0	6852	10	6852	39.7	39.7	37.2	37.2	42.1
1	3989	10	3989	38.9	38.9	35.5	35.5	38.9
2	2876	10	2876	41.0	41.0	37.8	37.8	41.9
3-4	3646	10	3646	39.2	39.2	32.6	32.6	34.0
5+	2756	10	2756	50.8	50.8	48.2	48.2	47.5
MARITAL STATUS								
WHITE								
NOT MARRIED	2551	9	2518	32.5	32.6	34.6	34.5	43.7
NEGRO								
NOT MARRIED	7993	10	7993	44.7	44.7	40.1	40.1	43.0

PERINATAL DEATH RATES FOR VARIOUS COMBINATIONS OF INSTITUTIONAL DATA

	INST. WITH 20+ GRAV.		POOLED RATE		RATE BASED ON SAMPLING RATIOS		MEAN RATE (INST. WITH 20+ GRAVIDAS)	
	TOTAL GRAV.	INST.	GRAV.	ALL INST.	INST. WITH 20+ GRAV.	ALL INST.	INST. WITH 20+ GRAV.	
HEIGHT OF GRAVIDA (IN)								
WHITE								
UNDER 58	168	3	110	23.8	18.2	32.9	33.4	28.6
58-60	1560	10	1560	40.4	40.4	45.8	45.8	41.8
61-63	6398	10	6398	34.1	34.1	32.9	32.9	30.8
64-66	6565	10	6565	33.5	33.5	30.8	30.8	28.0
67-69	2077	9	2066	26.0	25.7	31.5	30.1	28.5
70+	177	3	123	28.3	16.3	25.1	16.0	10.3
NEGRO								
UNDER 58	254	5	206	39.4	48.5	53.2	58.4	55.4
58-60	1855	10	1855	46.4	46.4	44.3	44.3	48.3
61-63	7619	10	7619	36.9	36.9	35.0	35.0	36.0
64-66	7362	10	7362	39.9	39.9	37.6	37.6	41.5
67-69	2120	10	2120	38.2	38.2	35.1	35.1	39.4
70+	181	4	126	27.6	31.7	19.4	22.8	29.1
GRAVIDAS WITH DIABETES								
WHITE								
	125	3	72	144.0	130.4	133.6	131.9	149.0
NEGRO								
	129	2	61	139.5	98.4	128.8	107.1	103.0

PERINATAL DEATH RATES FOR VARIOUS COMBINATIONS OF INSTITUTIONAL DATA

	TOTAL GRAV.	INST.	GRAV.	ALL INST.	INST. WITH 20+ GRAV.	ALL INST.	INST. WITH 20+ GRAV.	MEAN RATE (INST. WITH 20+ GRAVIDAS)
WEIGHT GAIN OF GRAVIDA (LB.) (37+ WEEKS GESTATION)								
WHITE								
LOSS	273	4	205	36.6	34.1	46.1	39.8	46.8
0-4	306	5	255	22.9	19.6	24.9	24.9	27.1
5-9	764	9	757	19.6	18.5	23.0	18.3	19.5
10-14	1826	10	1826	18.6	18.6	20.4	20.4	17.8
15-19	3216	10	3216	11.5	11.5	14.2	14.2	19.6
20-24	3820	10	3820	9.7	9.7	9.6	9.6	9.1
25-29	2893	10	2893	8.6	8.6	9.2	9.2	8.2
30-34	1609	10	1609	11.8	11.8	12.6	12.6	11.0
35+	2390	10	2390	12.1	12.1	11.2	11.2	11.5
NEGRO								
LOSS	407	7	372	34.4	32.3	30.1	29.0	34.7
0-4	462	7	422	28.1	26.1	21.3	20.3	24.3
5-9	931	10	931	20.4	20.4	24.8	24.8	18.3
10-14	1920	10	1920	17.2	17.2	12.5	12.5	19.4
15-19	2792	10	2792	12.9	12.9	12.3	12.3	11.4
20-24	2918	10	2918	13.4	13.4	13.6	13.6	14.6
25-29	2400	10	2400	14.2	14.2	11.2	11.2	13.6
30-34	1516	10	1516	13.9	13.9	16.4	16.4	11.3
35+	2608	10	2608	15.3	15.3	13.2	13.2	13.4

PERINATAL DEATH RATES FOR VARIOUS COMBINATIONS OF INSTITUTIONAL DATA

	TOTAL GRAV.	INST.	GRAV.	ALL INST.	INST. WITH 20+ GRAV.	ALL INST.	INST. WITH 20+ GRAV.	MEAN RATE (INST. WITH 20+ GRAVIDAS)
GRAVIDA WITH KIDNEY-URINARY BLADDER INFECTION								
WHITE								
WHITE	1972	10	1972	37.5	37.5	34.7	34.7	34.9
NEGRO	3939	10	3939	43.4	43.4	40.9	40.9	44.2
GRAVIDA WITH BLEEDING - FIRST OCCURRENCE IN THIRD TRIMESTER								
WHITE								
WHITE	1772	9	1753	44.6	43.9	47.0	43.9	42.7
NEGRO	2278	10	2278	58.0	58.0	57.6	57.6	61.1
GRAVIDA WITH PLACENTA PREVIA								
WHITE								
WHITE	142	2	86	176.1	174.4	171.2	174.4	172.0
NEGRO	110	1	39	190.9	*	174.9	*	*
GRAVIDA WITH PROLAPSE OF CORD								
WHITE								
WHITE	202	3	156	168.3	153.8	164.2	151.3	125.1
NEGRO	151	2	72	298.0	263.9	304.5	333.0	340.3

* NOT APPLICABLE FOR ONE INSTITUTION.

SECTION 2. INTERPRETATION OF THE DATA

The data in this report represent a large number of gravidas (almost 40,000). As described, the data were collected with the use of standardized and structured forms and manuals. There was extensive use of training workshops over the entire period of the Study in order to promote uniformity in examinations, interpretation of the instruction manuals, and recording of data. There is a general consistency of the associations between characteristics and conditions of pregnancy and the pregnancy outcomes among the Collaborating Centers, among women of both races. Nevertheless, for a variety of reasons, these data must be interpreted with caution.

In the remaining portion of this section, some of the demographic characteristics of the Study gravidas

are compared with national or appropriate state or city statistics, primarily to show that, as expected, the Study women are different to some degree from those in the larger populations. The fact that these women sought care at well-known medical centers immediately identifies them as a special population.

RACE OF THE MOTHER

This study is unusual in the distribution of the racial components of its population. Of the 55,908 total registrants, 46.0 per cent were Whites, 46.2 per cent were Negroes, 6.8 per cent were Puerto Ricans, and 1.0 per cent were Orientals or in an "Other" category. For the data in this report, restricted to observations concerning the first Study pregnancy of 39,215 Whites and Negroes, the Whites comprise less than half the

group, or 48.6 per cent. Since the Collaborating Centers are located in urban areas and since public hospital outpatient clinics provided the major source of patients, the White patients comprised a smaller proportion of the Study registrants than might be expected.

While many of the associations are similar for the two races, the major differences in their demographic characteristics led to the decision to report all distributions and associations separately by race. As a result, the essentially equal distribution is not a source of bias,

and the many similar associations within each ethnic group lend strength to the data.

The racial configuration of the Study population depended on the geographical location of the Collaborating Center as regards the region, the urban setting for the Center, and the selection of the particular clinic at the Center. The registration of Negro gravidas ranged from 0.7 per cent at the Minnesota Center to 100.0 per cent at New Orleans. At 5 Centers, the proportion of Negro gravidas exceeded 50 per cent (see the table below).

RACE BY INSTITUTION

INSTITUTION	WHITE		NEGRO		TOTAL CASES
	NUMBER	PERCENT	NUMBER	PERCENT	
BO	7823	89.5	913	10.5	8736
BU	1926	97.4	52	2.6	1978
CH	0	0.0	2380	100.0	2380
CO	603	41.7	842	58.3	1445
JH	667	23.2	2210	76.8	2877
VA	741	28.7	1840	71.3	2581
MN	2623	99.4	17	0.6	2640
NY	253	14.8	1455	85.2	1708
OR	1894	75.9	603	24.1	2497
PA	728	10.6	6158	89.4	6886
PR	1769	77.9	501	22.1	2270
TN	21	0.7	3196	99.3	3217
TOTAL	19048	48.6	20167	51.4	39215

AGE OF MOTHER

A higher proportion of the White gravidas are under 18 years of age in the Study population than is the case for the city populations of the Collaborating Centers. The average per cent of White gravidas under 18 at the time of their registration in the Study is 6.2, with a range from 0.7 per cent at the Buffalo Center to 14.9 per cent at Johns Hopkins in Baltimore, Maryland. The overall percentage of young mothers is approximately two and one-half times the figure for mothers in the corresponding city populations. The table below shows for each institution the percentage of White women under 18 years of age at their registration, and the corresponding per cent for the city in which the institution is situated.*

The 15.9 per cent of Negro gravidas under 18 years of age at the time of their registration in the Study represents a several-fold increase over their counterparts in the city populations. However, the increases were not observed in the Boston, Buffalo, and Columbia Centers. The range in the percentage of young (under 18) Negro gravidas is from 3.3 at Columbia to 18.2 at the Medical College of Virginia (excluding Tennessee, which is an exception due to the purposeful selection of low parity women, as discussed earlier).

The proportion of older gravidas, 35 years of age or more at the time of their registration in the Study, reflects the shift of the Study population to a younger age group. All the Collaborating Centers with White populations show a smaller per cent of older gravidas in the Study than the corresponding city population.

*Vital Statistics reports for the United States, 1962.

A COMPARISON OF MATERNAL AGE DISTRIBUTIONS IN THE STUDY POPULATION
WITH LOCAL CITY POPULATIONS* BY RACE AND INSTITUTION

INSTITUTION	PERCENT UNDER 18 YEARS				PERCENT 35 YEARS OR MORE			
	WHITE		NEGRO		WHITE		NEGRO	
	STUDY	CITY	STUDY	CITY	STUDY	CITY	STUDY	CITY
BO	4.2	1.9	4.4	7.3	8.6	13.0	11.9	8.8
BU	0.7	2.0	3.8	8.6	8.3	12.8	9.6	8.4
CH	-	3.4	13.2	8.8	-	10.9	7.6	10.0
CO	3.3	2.0	3.3	7.1	11.6	12.1	12.0	8.7
JH	14.8	3.5	17.5	10.4	7.1	10.5	10.0	8.5
VA	12.4	3.6	18.2	10.8	7.5	9.3	9.0	7.3
MN	5.8	2.2	11.8	6.5	5.4	11.3	-	11.1
NY	2.4	2.0	9.0	7.1	5.1	12.1	4.9	8.7
OR	10.4	3.9	17.4	8.0	5.8	9.7	8.2	12.0
PA	7.0	(3.3)XX	17.2	(3.3)XX	11.6	(11.9)XX	6.6	(11.9)XX
PR	13.0	2.6	15.4	7.0	7.1	13.0	8.7	9.0
TN	4.8	3.9	22.6	9.8	0.0	8.1	3.2	9.1

* SOURCE: VITAL STATISTICS FOR THE UNITED STATES, 1962.
XX PERCENTS IN PARENTHESES ARE FOR WHITE AND NEGRO COMBINED.

NUMBER OF PRIOR PREGNANCIES*

By and large, the women in the Study population are of lower parity than their counterparts in the United States as a whole (see table below). This is consistent with the finding that the Study women tend also to be younger.

A COMPARISON OF NUMBER OF PRIOR PREGNANCIES IN THE STUDY POPULATION AND IN THE UNITED STATES*, BY RACE

NUMBER OF PRIOR PREGNANCIES	PERCENT OF CASES			
	WHITE	NEGRO	WHITE	NEGRO
	STUDY	U. S.	STUDY	U. S.
0	40.2	26.2	34.0	21.0
1	22.5	24.8	19.9	18.3
2	14.3	19.6	14.3	15.3
3	9.7	12.7	10.8	12.0
4	5.9	7.3	7.4	9.3
5+	7.4	9.5	13.6	24.1
TOTAL	100.0	100.0	100.0	100.0

* SOURCE: UNPUBLISHED TABULATIONS FROM THE DIVISION OF VITAL STATISTICS, DEPARTMENT OF HEALTH, EDUCATION AND WELFARE, 1960.

Among Whites, for example, 40.2 per cent of the gravidas had no prior pregnancy of more than twenty weeks of gestation, compared to 26.2 per cent in the United States as a whole. The range in the Study popu-

*These figures represent Study women whose Study infant was liveborn, and U.S. women who delivered a liveborn infant in 1960. The data for Study women represent the number of prior pregnancies other than abortions (i.e., less than twenty weeks gestation) and for the U.S. women, the number of prior children ever born to the U.S. women. To this extent, they lack comparability.

lation, excluding Tennessee, is from 28.4 per cent at the Oregon Center to 45.5 per cent at Boston. Among Negroes, similar differences exist, with 34.0 per cent of Study women of parity zero compared to 21.0 per cent in the general U.S. population. The range at the Study Centers, excluding Tennessee, was from 25.5 at Charley to 36.5 at the Pennsylvania Center.

Among Study Whites, the percentage of grand multiparas (five or more prior pregnancies) of 7.4 per cent was slightly less than the U.S. figure of 9.4 per cent. Among Whites, the range was from 3.6 per cent at the Buffalo Center to 11.9 per cent at Oregon. Among Negroes, with 13.6 per cent grand multiparas as compared to the United States figures of 24.1 per cent, the range was from 7.4 per cent at Columbia to 24.1 per cent at New Orleans.

MARITAL STATUS

The disparity in the distributions of marital status by Collaborating Center suggests that the data for all institutions combined are primarily a function of which Centers were invited to participate in the Study. The 5.9 per cent never-married White women in the Study is derived from percentages that range from 0.8 never-married at the Buffalo Center to 13.2 at Providence (excluding Tennessee which had only a few White cases). The never-married figure of 28.2 per cent for Negro registrants at all Centers is similarly an average of widely differing situations among the individual Centers. The range is from 5.9 per cent at the Minneapolis Center to 34.9 per cent at New York Medical Center. Comparable figures on marital status for all gravidas in the United States are not available.

FAMILY INCOME

The table below shows, for each of the Collaborating Centers, the percentage of women whose annual family incomes during the period of pregnancy were under \$2000, or \$8000 or more, for the Study population and the appropriate state population, according to the U.S. Census figures of 1960. Information was collected in the Study for the first three months of pregnancy, and prorated on an annual basis (Form

SE-1). Although the Study refers to pregnant women and the State data refer to the situation in the total population (i.e., family income whether or not a pregnancy occurred during the year), the comparisons are of interest.

For Whites in the Study, there is a shift to a lower income level than for Whites in the state: the proportion of the White Study families with low incomes is higher, and the proportion with high incomes is lower. On the other hand, for Study Negroes, there is a shift to a higher income level than for Negroes in the state.

A COMPARISON OF FAMILY INCOMES IN THE STUDY POPULATION WITH STATE POPULATIONS^X BY RACE AND INSTITUTION :

INSTITUTION	PERCENT UNDER \$2000				PERCENT \$8000 OR OVER			
	WHITE		NEGRO		WHITE		NEGRO	
	STUDY	STATE	STUDY	STATE	STUDY	STATE	STUDY	STATE
BO	4.8	4.0	3.5	19.9	10.5	33.7	18.2	12.5
BU	1.5	3.9	4.0	22.1	48.0	30.5	40.0	9.7
CH	-	5.5	35.6	29.6	-	28.8	0.1	4.6
CO	2.2	4.4	5.2	15.9	5.3	35.2	8.1	11.6
JH	10.1	3.8	13.4	18.7	5.0	31.9	6.0	10.4
VA	15.4	3.3	32.8	25.1	2.7	33.2	0.9	6.1
MN	9.4	3.1	8.3	16.5	6.8	34.7	16.7	14.9
NY	6.6	4.4	13.6	15.9	1.2	35.2	1.1	11.6
OR	25.8	(5.1)XX	31.7	(5.1)XX	2.2	(30.8)XX	0.7	(30.8)XX
PA	16.8	3.6	20.7	18.6	0.8	33.6	1.0	10.4
PR	15.4	(5.9)XX	24.5	(5.9)XX	3.6	(21.7)XX	1.8	(21.7)XX
TN	42.8	5.0	30.4	33.0	4.8	26.5	0.6	3.0

X SOURCE: UNITED STATES CENSUS OF 1960.

XX PERCENTS IN PARENTHESES ARE FOR WHITE AND NEGRO COMBINED.

EDUCATION

The proportion of White gravidas in the Study population with less than nine years of education is greater than that of gravidas in the State population, according to U.S. Census data for 1960. The table below shows the distribution, by race, of the women with eight years or less of education, and those with more than twelve years of education. The range is considerable, and is suggestive of a different selectivity process operating for Study registrants at each Center.

The small proportion of gravidas with education greater than twelve years supports the trend toward less education among Study women. Exceptions include Buffalo, with the private patient group, and the Minnesota Center, where many wives of University of Minnesota students registered.

This difference in education level between the Study and state populations is reversed for Negroes, with the Study women having more education than the relevant state population. It is likely that the differences represent the urban status of the Study Negroes as compared with those statewide, which included rural women, represented by the census data.

The comparisons of these demographic characteristics of the gravidas in the Study with various census figures gives the reader an opportunity to place the Study population in perspective. More than half of the Study women described in this report are Negroes, though the separate reporting by race avoids the bias that would exist if these data were combined. Proportionately, the Study gravidas tend to be younger in their age distribution; they include a higher proportion of White gravidas with no prior pregnancy; the family incomes are lower for Whites as compared with other members of their ethnic group. As regards education, the Study Whites have fewer years of schooling, while Study Negroes have more. There is a considerable disparity in education distribution among the Collaborating Centers. Similarly, there is a considerable variability in the never-married gravidas of both races, by Collaborating Center.

The authors have intentionally not defined their choice of representative population of gravidas. It is easier to state what populations the Collaborative Study gravida do *not* represent. They do not represent the population of gravidas in the United States in the early 1960's; nor do they represent those in the stand-

A COMPARISON OF MATERNAL EDUCATION IN THE STUDY POPULATION WITH
STATE POPULATIONS^x BY RACE AND INSTITUTION

INSTITUTION	PERCENT LESS THAN 9 YEARS				PERCENT OVER 12 YEARS			
	WHITE		NEGRO		WHITE		NEGRO	
	STUDY	STATE	STUDY	STATE	STUDY	STATE	STUDY	STATE
BO	8.8	11.9	7.6	23.3	25.0	22.2	18.0	14.0
BU	2.2	17.3	0.0	35.4	49.6	14.2	30.8	6.1
CH	-	22.5	28.1	43.5	-	16.4	6.1	7.4
CO	20.5	17.3	9.5	27.7	8.7	17.7	13.2	9.8
JH	40.9	28.2	24.7	36.1	2.5	11.4	6.2	8.4
VA	36.5	16.3	29.0	33.8	2.5	21.6	2.2	10.8
MN	6.2	11.1	0.0	19.1	31.4	21.6	43.8	17.2
NY	35.4	17.3	12.9	27.7	6.4	17.7	5.3	9.8
OR	13.5	(12.7)xx	11.2	(12.7)xx	4.4	(19.2)xx	5.2	(19.2)xx
PA	23.1	17.4	12.7	26.1	3.2	10.0	2.6	6.3
PR	25.2	(21.9)xx	19.9	(21.9)xx	1.9	(12.2)xx	2.5	(12.2)xx
TN	28.6	15.2	24.9	44.4	4.8	17.6	3.7	5.9

^x SOURCE: UNITED STATES CENSUS OF 1960.

xx PERCENTS IN PARENTHESES ARE FOR WHITE AND NEGRO COMBINED.

ard metropolitan or urban areas in which the Collaborating Centers are located; and because of the restrictions on the acceptance of registrants, such as the exclusion of walk-in cases, the Study women do not wholly represent the gravidas delivering at the Centers. In general, they *do* represent the women in the sampling frame at each Center. For the purposes of the Collaborative Perinatal Study this lack of representativeness of a major segment of the U.S. population is not of great importance. The objectives of the Study involve the identification of associations between antecedent events and the outcome of pregnancy in a definable population rather than the development of incidence rates applicable to the population of the U.S.

Therefore, caution should be exercised in the interpretation of the data. First, generalizations from these data offer a potential for bias from many sources. The bias is frequently difficult or impossible to assess. Once the associations are applied to a population other than the sample frame, the protection against bias offered by the concept of random sampling is no longer present.

A second reason for caution in the interpretation of these data is that the associations which are shown among two or three or four variables may not reflect precisely the complex interrelationships that do exist. It is expected that the reader understands well that an association between a condition of pregnancy and the outcome of that pregnancy is, most frequently, complex; that many other variables impinge on this relationship, whether it be the mother's age, her parity, nutritional state, genetic inheritance, or her prenatal care. For example, the "unmarried" state is a composite of other characteristics of that mother: the latter

is more frequently very young, more frequently nulliparous, generally poorer, (in itself a composite of many characteristics); and frequently she will have had less prenatal care.

It would be incorrect to assume that the demonstration of any association in this body of data precludes the possibility that the association is indirect, or is an artifact. An example of the latter might well be the strong inverse association observed between the variable gestation at registration and stillbirth rate. The diminution in the stillbirth rate for women of advanced pregnancy, at the time of their registration in the Study as compared to the rate for women who registered early in their pregnancy, is likely to be, in part, a function of the restricted time period in which they could have produced a stillborn infant. A gravida registering in her 25th week of pregnancy has a greater opportunity to produce a stillborn infant than one registering at, say, 38 weeks. There is an equally strong inverse association between the characteristic, gestational age at registration, and neonatal mortality rate. In this latter association the possibility of a "gestation at registration" artifact also exists. Other factors probably are involved in this association as well. For example, the age distributions of the Study gravidas who register early differ from those who register late. Young White gravidas register in the first trimester of their pregnancy at one-third the rate of their older counterparts.

This report is intended to provide a broad description of the women and their pregnancy and is not intended to replace the in-depth evaluations of multiple variable relationships that are required to obtain the most precise understanding of the underlying associations. The statistical methods of multivariate analysis and the examination of complex cross-tabulations are useful tools in this regard. However, the data reported do provide indications of the importance of

^aUnpublished manuscript by Weiss, et al., presented at the 1963 Annual Meeting of the American Academy of Pediatrics.

the many characteristics, and conditions of pregnancy, to important pregnancy outcomes. As their experience permits, the investigators discuss the degree to which these associations are direct, or to which they may represent a more complex, indirect, and perhaps concealed relationship. The commentary accompanying the charts and tables describing the data includes cautionary statements concerning the interpretation, when the investigators believe them to be appropriate.

Another reason for caution in the interpretation of these data pertains to the problems of sample size and statistical significance. We have described in another section the difficulties in ascribing meaningful probabilities to these associations. The problem becomes more acute when we attempt to evaluate the associations at the extremes of the distributions, when the number of cases in a subgroup becomes small. However, it is frequently the extreme end of the distribution which is of the greatest medical interest, because the mortality or morbidity is the highest there. The neonatal mortality rates of babies of the youngest gravidas, or of mothers with the smallest maternal weight gains, or of mothers whose length of labor was precipitous or extended are of greater interest than those of mothers in the middle range.

There is a risk that the reader may accept uncritically the observed shape of the curve of the association at the extremes, which may merely reflect chance variation rather than the true relationship, because of the relatively small numbers of cases in the outlying groups. It is frequently difficult to determine the most appropriate number of intervals in order to reduce the risk that the reader will be misled. Too many intervals increase apparent variability because small samples in each interval may hide the true trend; too few intervals may smooth the curve at the cost of averaging out the trend. Obviously, judgment must be exercised in order to avoid too broad a subgrouping of the data.

The authors adopted a middle course; they have combined subgroups freely. However, when subgroups seem important, they have been shown separately, even though the number of cases is small. In addition, some categories are shown separately, even though they are small, to keep the adjacent group clean. Whenever means are shown for less than five cases, or rates or per cents shown for less than twenty cases, they are asterisked on the tables and omitted from the charts. Even when numbers exceed those which are asterisked, caution should be exercised in interpreting differences between rates when the numbers of cases are small.

While the sampling variation for these small sample sizes is considerable, the authors, after considerable review of the data, are of the opinion that a reasonable compromise has been made between the risk of loss of information for the most interesting portion of the association and the risk of portraying a facet of the association which may merely reflect the sampling variation.

Another reason for exercising caution in the in-

terpretation of the data stems from the fact that, for most variables, there are some cases for which the data are unknown. The possibility exists that these unknown cases represent some special subgroup of cases for which data were more difficult to collect than for the other cases, and that the characteristics of the special subgroup were different from the remainder.

Frequently, the mortality rates and/or the low birthweight rates are high for those cases in which the characteristic under discussion is unknown. A review of a sample of these cases suggests that the death of the infant may be the key here. The infants who died during the perinatal period more frequently have other characteristics listed as unknown than those who survived. If a gravida's infant suffers a perinatal death outside of the Study hospital, it is more likely that the hospital will succeed in obtaining the death information, and possibly the birthweight information, than if the child survives. It would be logical to find higher mortality rates and low birthweight rates in those cases with other characteristics listed as unknown.

In order to permit the reader to exercise judgment concerning the likelihood of bias due to unknowns, most tables provide a summary of the pregnancy outcomes for those cases. If the distributions of mortality and morbidity outcomes for unknowns are similar to those of the cases with the characteristic known, the possibility of bias would be a matter of less concern.

For the few tables in which information about the unknown cases are not provided, the data on the unknowns can be found in Appendix D.

Another possible source of bias is those children who missed the one-year neurological examination. There are 3614 White children and 2032 Negro children who were alive at one year but who were not examined. A comparison was made of some characteristics of the "missed exam" cases with those of the cases examined. The results are shown in the table below.

The mothers whose children were not examined were reasonably similar in age and education to mothers of children who were examined. There is a striking difference in the parity of the two groups. White primiparas are much more heavily represented (40 per cent) in the group with infants who had the one-year examination; they represented only 8 per cent in the missed-exam group. Similarly, comparable figures for Negro gravidas are 34 and 5 per cent.

There is a moderate diminution in mean birth-weight of the missed group: for Whites, of 3196 gm as compared to 3272 gm in the examined group; for Negroes, comparable figures are 2945 as compared to 3039 gm.

Only small differences are observed in the comparisons of the one-minute Apgar scores. For Whites, the Apgar score under 4 is 5.2, for the missed-exam group, and 5.9 for the examined group. Comparable figures for the Negro gravidas are 5.9 and 5.8.

The previously stated cautions notwithstanding, and despite possible shortcomings, the data in this

COMPARISON OF CHARACTERISTICS OF GRAVIDAS WHOSE INFANTS MISSED
THE ONE-YEAR NEUROLOGICAL EXAMINATIONS WITH THOSE EXAMINED

	WHITE				NEGRO			
	NUMBER		PERCENT		NUMBER		PERCENT	
	MISSING EXAM	WITH EXAM						
AGE OF GRAVIDA (YRS.)								
UNDER 20	794	2883	22.0	19.7	610	5406	30.0	31.6
20-29	2289	8882	63.3	60.6	1141	8613	56.2	50.3
30+	531	2897	14.7	19.8	281	3103	13.8	18.1
TOTAL	3614	14662	100.0	100.0	2032	17122	100.0	100.0
PARITY								
0	1323	5847	38.5	40.0	583	5877	29.5	34.4
1	833	3272	24.3	22.4	485	3331	24.5	19.5
2	522	2087	15.2	14.3	289	2449	14.6	14.3
3-4	509	2324	14.8	15.9	367	3095	18.6	18.1
5+	248	1101	7.2	7.5	252	2348	12.8	13.7
TOTAL	3435	14631	100.0	100.0	1976	17100	100.0	100.0
SCHOOLING OF GRAVIDA (YRS.)								
UNDER 9	507	1810	15.5	12.6	331	3249	16.8	19.2
9-12	1999	9575	61.2	66.6	1527	12810	77.7	75.7
13+	761	2993	23.3	20.8	108	857	5.5	5.1
TOTAL	3267	14378	100.0	100.0	1966	16916	100.0	100.0

Study are unique in their magnitude, their completeness, their prospective nature, and in the care which was taken to assure comparability in their collection. They are suitable to permit the goals of the Study to be achieved. There is no similar body of data in existence.

The British Perinatal Study,^{*} with which the Collaborative Perinatal Study is often compared, contains a most informative body of data, collected postpartum, on all births occurring in the United Kingdom during a one-week period in the spring of 1958, and on all fetal

*Butler, Neville, R., and Bonham, Dennis G. *Perinatal Mortality*. E. & S. Livingstone, Ltd., Edinburgh and London, 1963.

and neonatal deaths during the three-month period from March through May, 1958. A very large number of cases was included, in excess of 17,000 births. While the British Study is strong in that it represents a true cross-section of all socio-economic levels of the population, it reflects the experience during a brief time period, one quarter of one year. While there is little missing information, the data were retrospectively collected by many people with a minimum of special instruction. Because of the different methodologies employed and the different sets of biases introduced thereby, the two studies are not strictly comparable. Nonetheless they both illuminate various aspects of the problem of perinatal wastage.

PART II

CHARACTERISTICS OF THE MOTHER AND HER PREGNANCY AND THEIR ASSOCIATION WITH FETAL OUTCOME

Chapter 5

INTRODUCTION

INTRODUCTION

This section of the monograph is concerned with the development of the data derived from the Study records of the women. They include 19,048 White and 20,167 Negro women delivering their first single-born Study pregnancy. Pregnancies which terminated prior to the twentieth week of gestation were excluded. The first Study pregnancy is not necessarily the gravida's first pregnancy, merely the first observed by the Study.

As a general rule, the data are shown separately for Whites and Negroes in tables and charts in accordance with the following:

1. The relative frequency with which the characteristic is reported.
2. The association of the characteristic with stillbirth, neonatal, and combined (perinatal) death rates. Perinatal deaths and stillbirths are reported as numbers and as rates per 1000 births (livebirths plus stillbirths); neonatal deaths are also reported as numbers, but the rates are per 1000 *livebirths*.
3. The association of the characteristic with birthweight. Birthweight is reported as rates below 2501 grams ($5\frac{1}{2}$ pounds) per 1000 live-

births with known birthweight, and as mean birthweight.

4. The association of the characteristic with the rate of "definite" neurologic abnormality reported at the time of the one-year pediatric neurologic examination, expressed in numbers and rate per 1000 examinations.

On occasion, when it appeared particularly relevant, the characteristic under consideration is further described and amplified by subgrouping. For example, when examining age of gravida, age is also subdivided in terms of parity. Sometimes the characteristics are reported by institution. On the other hand, the display of data has been curtailed by the omission of tables and/or charts where the number of cases was insufficient or the data inadequate for the detailed examination of outcomes. Summary tables at the end of each section include additional data. When rates or proportions are based on fewer than twenty cases, or means based on fewer than five cases, the figures are asterisked on the tables and omitted on the charts. A dashed line connecting two points on a chart indicates that one or more intervening points have been omitted between the two points.

When a particular characteristic is unknown for some gravidas the relevant information is provided at the bottom of the specific table. Where this information is not given, refer to Appendix D.

Chapter 6

DISTRIBUTION OF FETAL OUTCOME

The basic purpose of the Collaborative Perinatal Study is to achieve understanding of factors relating to pregnancy wastage. Major components of pregnancy wastage include perinatal mortality, low birthweight, and neurologic abnormalities. The first table below reports the distributions of these outcomes for the gravidas in this Study by race; the other tables show the distributions for each race by institution.

The children classified as neurologically abnormal in this monograph are those considered definitely abnormal, exclusive of those who were merely "suspect." In accordance with the instruction manual for this examination, the category includes: those children for whom the examiner is able to make a diagnosis of a recognized syndrome; those who he feels are definitely neurologically abnormal but who do not fit into any specific diagnostic category; and those with conditions which may not be themselves neurological but which are often related to central nervous system disorders (such as abnormalities of skull, spinal anomalies, and unusual facies). The overall neurologic abnormality rates reported are similar for White and Negro children, although there is some institutional variation.

The first table below presents the outcomes by race of gravida. Of general interest is the fact that perinatal mortality rates for Whites — 35 per 1000 — are somewhat higher, and the rates for Negroes — 42 per 1000 — are somewhat lower, than those for the corresponding race for the United States as a whole. (Over the period 1958-1965 the U.S. perinatal death rates averaged 31 per 1000 for Whites, and 54 per 1000 for Negroes.) These higher rates in Whites may reflect the generally higher obstetric risk found among patients seeking care in teaching institutions. The lower rates of Negro gravidas may reflect their higher socioeconomic status than that of U.S. Negroes as a whole.

When one looks at the components, stillbirth

rates are not appreciably different for the two races (21.8 for Whites and 22.7 for Negroes). Neonatal death rates are higher for Negroes (19.7 for Negroes as compared with 13.6 for Whites). Consistent with other data, the low birthweight rate for Negroes is almost twice that experienced by Whites (134.2 as compared with 71.4 for Whites). Mean birthweights are also consistent, with the Negroes over 200 grams smaller than the Whites (3039 gm for Negroes, 3272 for Whites).

The lower average birthweight of Negro infants may be in part due to the shorter gestation periods of Negro women; on the average, it is some eight days less than those of White women.

The other table shows the distribution of gestation at delivery (in weeks, rounded to the nearest week) of women delivering a liveborn infant with known birthweight, by race.

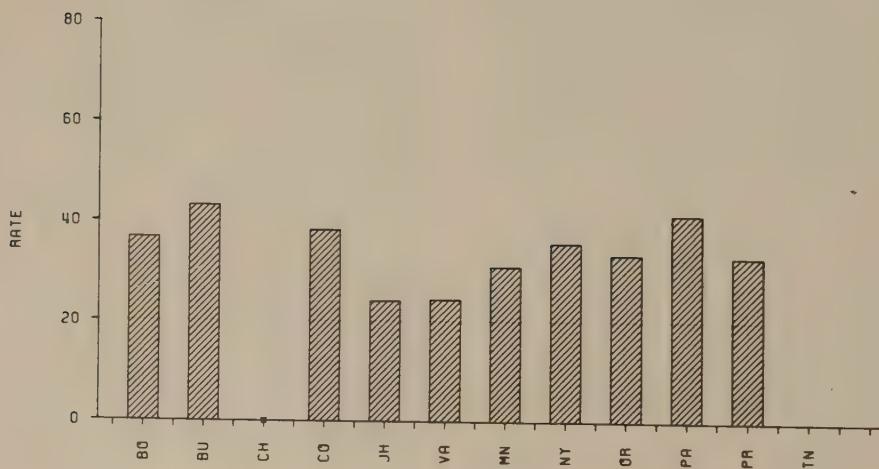
The mean birthweights are given as well, for each week of gestation. In general, for gestations under 36 weeks, the mean birthweights of the White babies are less than those of Negroes at comparable gestations. For every gestation, subgrouped beyond 35 weeks, the difference in mean birthweights is reversed, with Whites having the higher mean birthweights.

Included among the children classified as neurologically abnormal at the one-year examination are those with definite signs of organic impairment; for example, definite hemiparesis. Excluded are those children who, on the basis of "soft" signs, were suspect of being abnormal. It is unexpected and fascinating to find no meaningful difference between Whites and Negroes with respect to the rates of definite neurologic abnormality observed at one year, though there are some differences in the rates reported from Center to Center. The failure to find a difference by race is unexpected because of the known relationship between low birthweight and neurologic abnormality.

OUTCOMES BY RACE

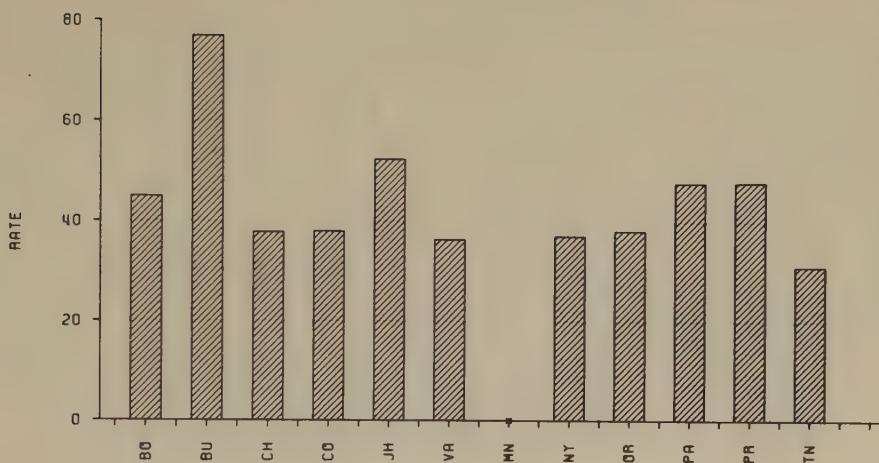
OUTCOMES	WHITE			NEGRO		
	ALL CASES	NUMBER	RATE	ALL CASES	NUMBER	RATE
BIRTHS	19048			20167		
PERINATAL DEATHS		668	35.07		845	41.90
STILLBIRTHS		415	21.79		457	22.66
FRESH STILLBIRTHS		200	10.50		246	12.20
LIVEBIRTHS	18633			19710		
NEONATAL DEATHS		253	13.58		388	19.69
LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	18481			19504		
BIRTHWEIGHT UNDER 2501 GM.		1319	71.37		2617	134.18
MEAN BIRTHWEIGHT		3272			3039	
ONE YEAR EXAMS	14662			17123		
NEUROLOGICALLY ABNORMAL AT 1 YEAR		253	17.26		274	16.00

PERINATAL DEATHS BY INSTITUTION BY RACE - WHITE



* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY INSTITUTION BY RACE - NEGRO



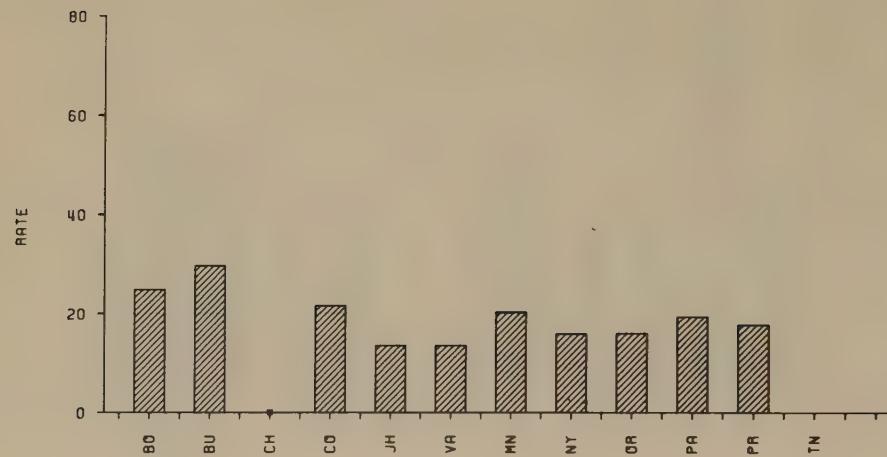
* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY INSTITUTION BY RACE

	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
TOTAL	19048	668	35.07	20167	845	41.90
BO	7823	287	36.69	913	41	44.91
BU	1926	83	43.09	52	4	76.92
CH	0	0	-	2380	90	37.82
CO	603	23	38.14	842	32	38.00
JH	667	16	23.99	2210	116	52.19
VA	741	18	24.29	1840	67	36.41
MN	2623	81	30.88	17	1	58.82*
NY	253	9	35.57	1455	54	37.11
OR	1894	63	33.26	603	23	38.14
PA	728	30	41.21	6158	294	47.74
PR	1769	58	32.79	501	24	47.90
TN	21	0	0	3196	99	30.98

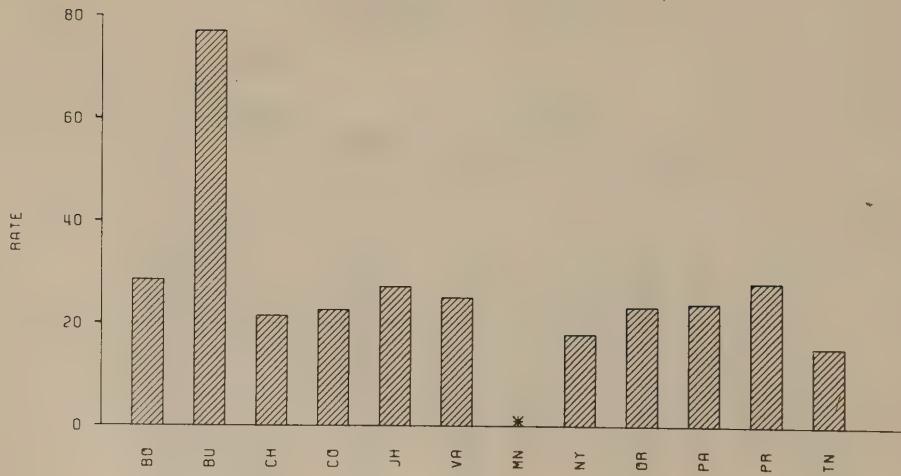
* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY INSTITUTION BY RACE - WHITE



* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY INSTITUTION BY RACE - NEGRO



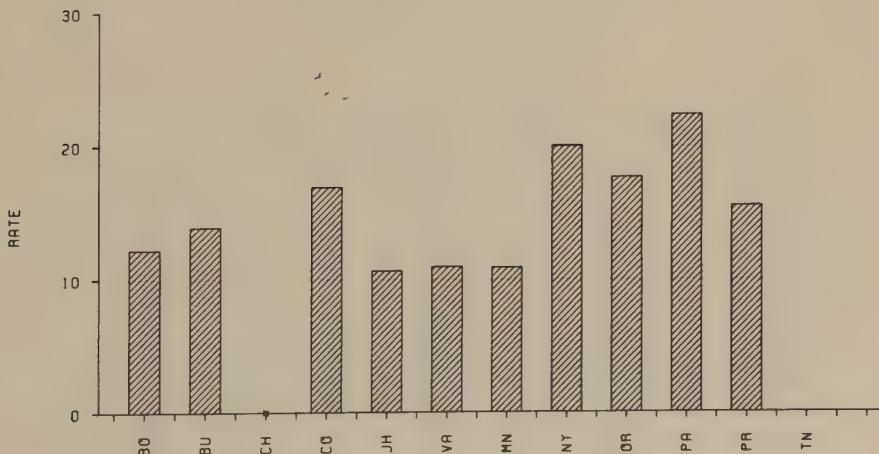
* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY INSTITUTION BY RACE

	WHITE					NEGRO				
	BIRTHS	TOTAL NO.	STILLBIRTHS RATE	FRESH NO.	STILLBIRTHS RATE	BIRTHS	TOTAL NO.	STILLBIRTHS RATE	FRESH NO.	STILLBIRTHS RATE
TOTAL	19048	415	21.79	200	10.50	20167	457	22.66	246	12.20
BO	7823	194	24.80	89	11.38	913	26	28.48	14	15.33
BU	1926	57	29.60	21	10.90	52	4	76.92	0	0
CH	0	0	-	0	-	2380	51	21.43	27	11.34
CO	603	13	21.56	5	8.29	842	19	22.57	10	11.88
JH	667	9	13.49	5	7.50	2210	60	27.15	28	12.67
VA	741	10	13.50	8	10.80	1840	46	25.00	32	17.39
MN	2623	53	20.21	29	11.06	17	1	58.82*	1	58.82*
NY	253	4	15.81	2	7.91	1455	26	17.87	15	10.31
OR	1894	30	15.84	18	9.50	603	14	23.22	9	14.93
PR	728	14	19.23	8	10.99	6158	147	23.87	77	12.50
PR	1769	31	17.52	15	8.48	501	14	27.94	4	7.98
TN	21	0	0	0	0	3196	49	15.33	29	9.07

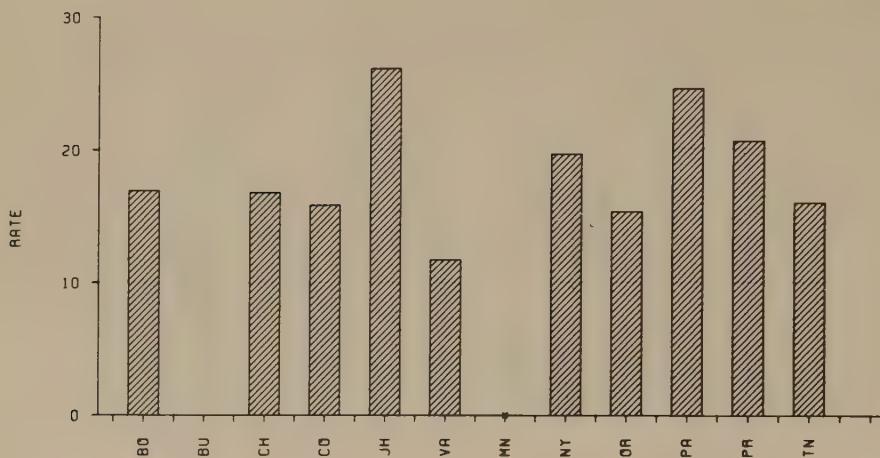
* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY INSTITUTION BY RACE - WHITE



* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY INSTITUTION BY RACE - NEGRO



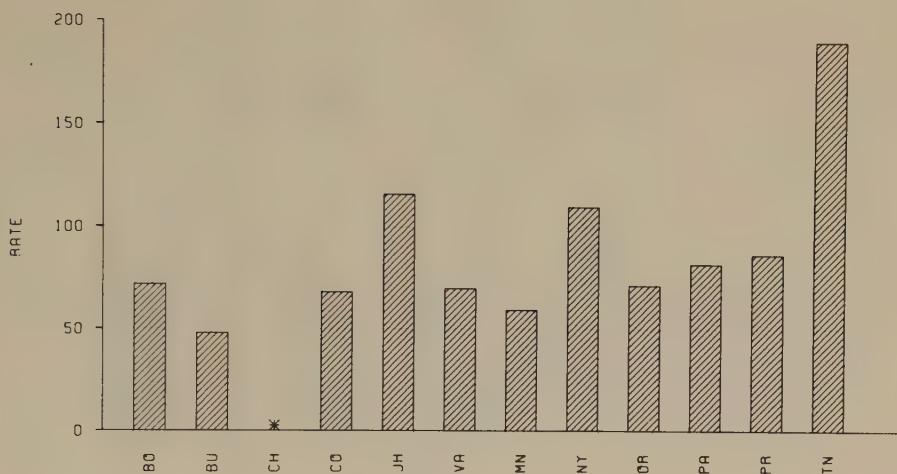
* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY INSTITUTION BY RACE

	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
TOTAL	18633	253	13.58	19710	388	19.69
BO	7629	93	12.19	887	15	16.91
BU	1869	26	13.91	48	0	0
CH	0	0		2329	39	16.75
CO	590	10	16.95	823	13	15.80
JH	658	7	10.64	2150	56	26.05
VR	731	8	10.94	1794	21	11.71
MN	2570	28	10.89	16	0	0 *
NY	249	5	20.08	1429	28	19.59
OR	1864	33	17.70	589	9	15.28
PR	714	16	22.41	6011	147	24.46
PR	1738	27	15.54	487	10	20.53
TN	21	0	0	3147	50	15.89

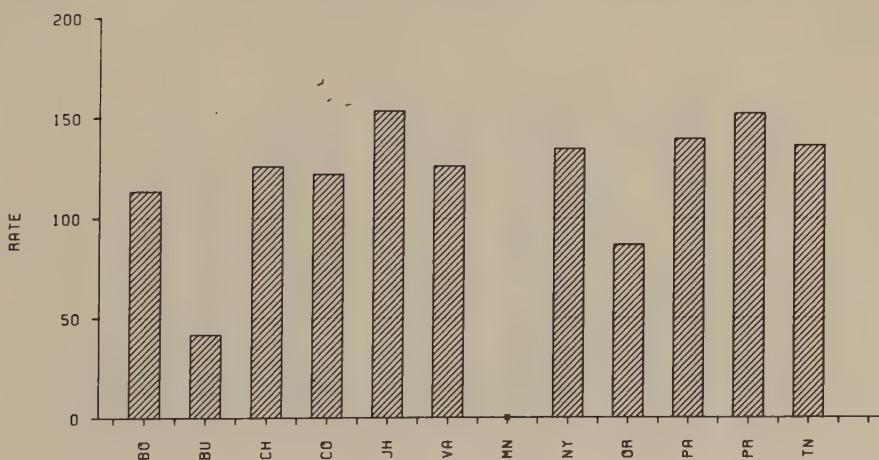
* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. BY INSTITUTION BY RACE - WHITE



* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. BY INSTITUTION BY RACE - NEGRO



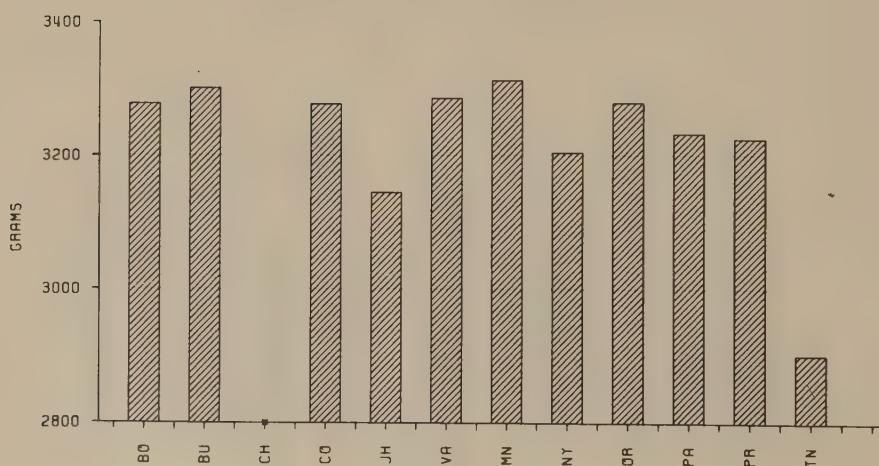
* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. BY INSTITUTION BY RACE

	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
TOTAL	18481	1319	71.37	19504	2617	134.18
BO	7588	544	71.69	882	100	113.38
BU	1862	89	47.80	48	2	41.67
CH	0	0	-	2320	292	125.86
CO	588	40	68.03	820	100	121.95
JH	654	76	116.21	2126	327	153.81
VA	716	50	69.83	1780	225	126.40
MN	2548	151	59.26	16	2	125.00*
NY	245	27	110.20	1392	188	135.06
OR	1832	131	71.51	576	50	86.81
PA	695	57	82.01	5934	830	139.87
PR	1732	150	86.61	485	74	152.58
TN	21	4	190.48	3125	427	136.64

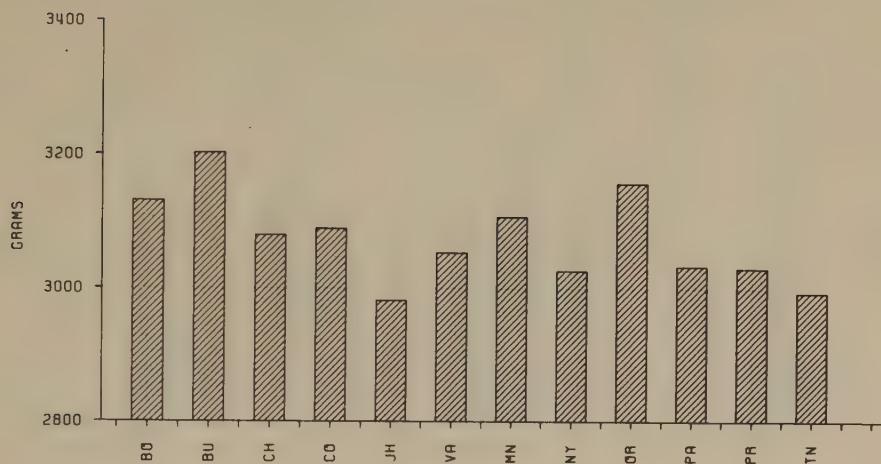
* RATE BASED ON LESS THAN 20 CASES.

MEAN BIRTHWEIGHT BY INSTITUTION BY RACE - WHITE



* RATE BASED ON LESS THAN 20 CASES.

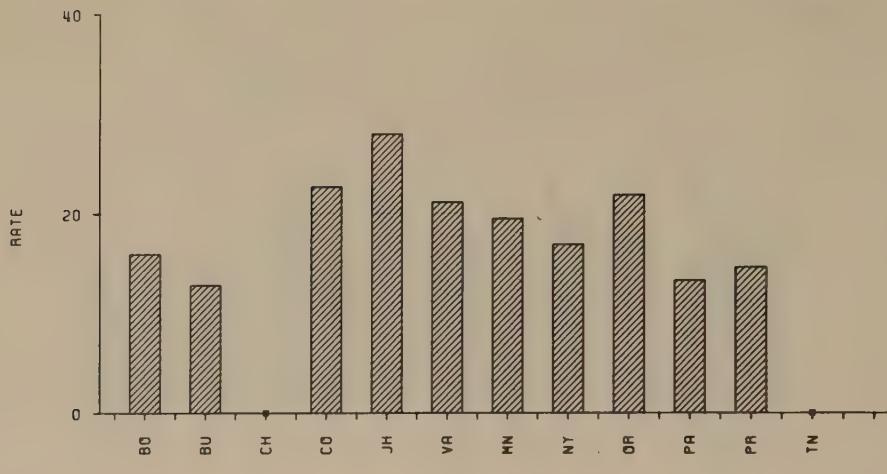
MEAN BIRTHWEIGHT BY INSTITUTION BY RACE - NEGRO



MEAN BIRTHWEIGHT BY INSTITUTION BY RACE

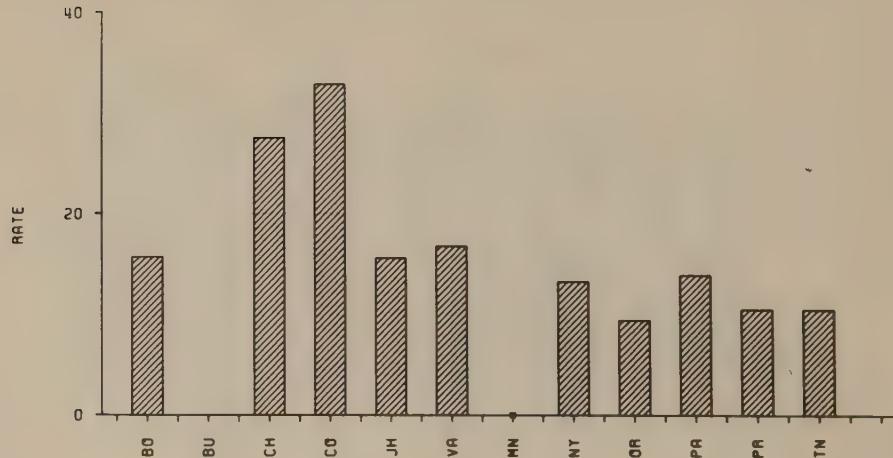
	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
TOTAL	18481	3272	19504	3039
BO	7588	3277	882	3131
BU	1862	3300	48	3203
CH	0	-	2320	3080
CO	588	3276	820	3090
JH	654	3144	2126	2982
VA	716	3285	1780	3054
MN	2548	3312	16	3108
NY	245	3204	1392	3027
OR	1832	3278	576	3159
PA	695	3232	5934	3034
PR	1732	3224	485	3031
TN	21	2901	3125	2994

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY INSTITUTION BY RACE - WHITE



* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY INSTITUTION BY RACE - NEGRO



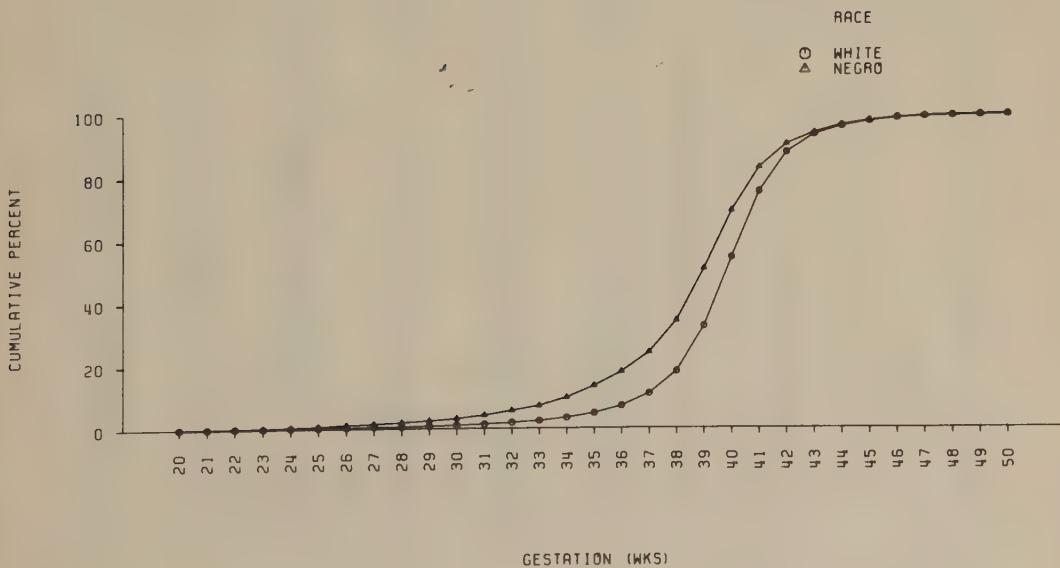
* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY INSTITUTION BY RACE

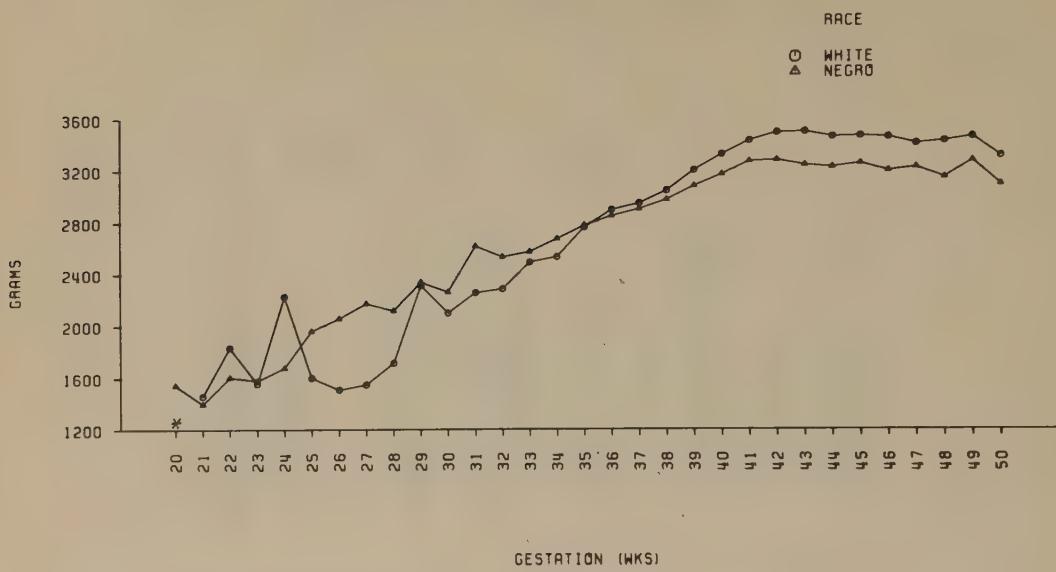
	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
TOTAL	14662	253	17.26	17123	274	16.00
BO	6084	97	15.94	766	12	15.67
BU	1720	22	12.79	48	0	0
CH	0	0	-	2110	58	27.49
CO	530	12	22.64	732	24	32.79
JH	502	14	27.89	1928	30	15.56
VA	474	10	21.10	1613	27	16.74
MN	2060	40	19.42	13	0	0
NY	178	3	16.85	1137	15	13.19
OR	1471	32	21.75	533	5	9.38
PA	455	6	13.19	4984	69	13.84
PR	1173	17	14.49	384	4	10.42
TN	15	0	0 *	2875	30	10.43

* RATE BASED ON LESS THAN 20 CASES.

GESTATION AT DELIVERY BY RACE



MEAN BIRTHWEIGHT BY GESTATION AT DELIVERY BY RACE



* MEAN BASED ON LESS THAN 5 CASES.

GESTATION AT DELIVERY BY BIRTHWEIGHT AND BY RACE

GESTATION (WKS)	WHITE			NEGRO				
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	PERCENT	CUMULATIVE PERCENT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	PERCENT	CUMULATIVE PERCENT	MEAN BIRTHWEIGHT
20	3	0.0	0.0	2098*	11	0.1	0.1	1544
21	5	0.0	0.0	1457	15	0.1	0.1	1399
22	7	0.0	0.1	1835	21	0.1	0.2	1604
23	9	0.0	0.1	1556	19	0.1	0.3	1579
24	11	0.1	0.2	2229	33	0.2	0.5	1677
25	11	0.1	0.3	1598	52	0.3	0.8	1963
26	25	0.1	0.4	1508	77	0.4	1.2	2058
27	31	0.2	0.6	1546	60	0.3	1.5	2174
28	26	0.1	0.7	1713	90	0.5	2.0	2117
29	36	0.2	0.9	2314	105	0.5	2.5	2337
30	41	0.2	1.1	2100	136	0.7	3.2	2262
31	51	0.3	1.4	2256	198	1.0	4.2	2616
32	79	0.4	1.8	2285	287	1.5	5.7	2533
33	113	0.6	2.4	2492	291	1.5	7.2	2572
34	175	1.0	3.4	2534	506	2.6	9.8	2671
35	254	1.4	4.8	2760	710	3.7	13.5	2773
36	424	2.3	7.1	2892	850	4.4	17.9	2887
37	711	3.9	11.0	2943	1210	6.2	24.1	2897
38	1292	7.0	18.0	3040	2000	10.3	34.4	2969
39	2662	14.5	32.5	3195	3180	16.4	50.9	3072
40	4074	22.2	54.6	3315	3602	18.6	69.5	3163
41	3835	20.9	75.5	3420	2671	13.8	83.3	3261
42	2300	12.5	88.0	3481	1446	7.5	90.7	3269
43	1043	5.7	93.7	3486	667	3.4	94.2	3230
44	474	2.6	96.3	3445	473	2.4	96.6	3214
45	283	1.5	97.8	3450	264	1.4	98.0	3239
46	171	0.9	98.8	3441	169	0.9	98.8	3183
47	102	0.6	99.3	3391	90	0.5	99.3	3210
48	58	0.3	99.6	3409	54	0.3	99.6	3130
49	36	0.2	99.8	3442	41	0.2	99.8	3258
50	31	0.2	100.0	3291	39	0.2	100.0	3076
TOTAL	18373	100.0	100.0	3271	19367	100.0	100.0	3038
UNKNOWN	108	0.6		3442	137	0.7		3180
GRAND TOTAL	18481	100.0		3272	19504	100.0		3039

* MEAN BASED ON LESS THAN 5 CASES.

Chapter 7

MATERNAL CHARACTERISTICS

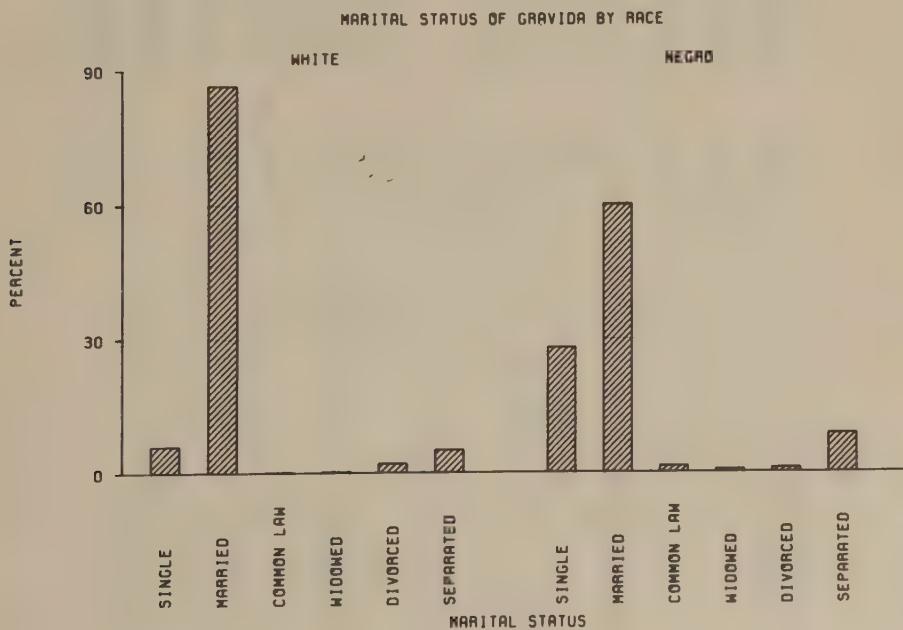
SECTION 1. DEMOGRAPHIC CHARACTERISTICS

MARITAL STATUS

The gravidas were classified as married, common-law, single, widowed, divorced, or separated on the basis of their statements at the time of registration for prenatal care. Among the White women, 87 per cent were married and 6 per cent were single. By contrast, among the Negro women, 60 per cent were married and 28 per cent were single. The remaining women fell in the other categories.

There are marked institutional differences in the distribution of marital status. For Whites, the proportion of unmarried women ranged from about 0.8 per cent to a high of about 13 per cent; for Negroes, from 10 to 30 per cent.

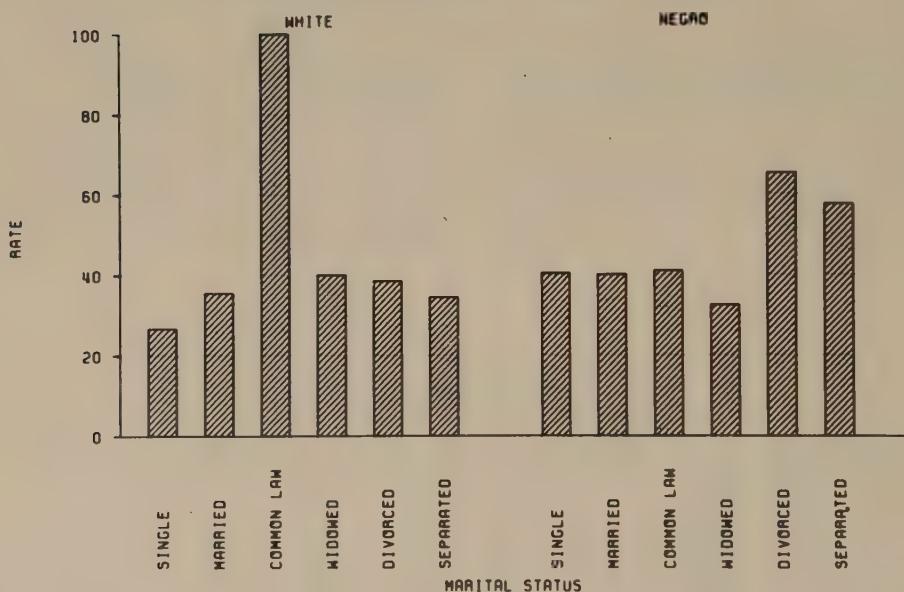
Rather unexpectedly, these data do not support the generally prevailing impression that pregnancy in unmarried women is associated with increased risk of adverse perinatal outcome. It is difficult to assess the consequence of out-of-wedlock pregnancy because the single gravidas differ greatly from those who are married in their age, parity, socioeconomic status, gestation at registration, etc.



MARITAL STATUS OF GRAVIDA BY RACE

MARITAL STATUS	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
SINGLE	1125	5.91	5679	28.16
MARRIED	16494	86.61	12174	60.37
COMMON LAW	30	0.16	268	1.33
WIDOWED	50	0.26	123	0.61
DIVORCED	390	2.05	184	0.91
SEPARATED	956	5.02	1739	8.62
TOTAL	19045	100.00	20167	100.00
UNKNOWN	3	0.02	0	0
GRAND TOTAL	19048	100.00	20167	100.00

PERINATAL DEATHS BY MARITAL STATUS OF GRAVIDA BY RACE

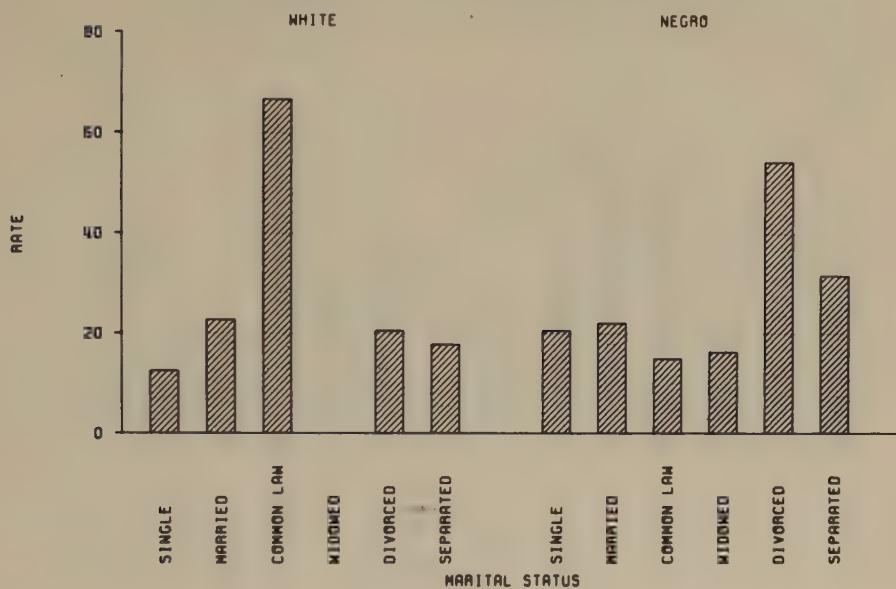


PERINATAL DEATHS BY MARITAL STATUS OF GRAVIDA BY RACE

MARITAL STATUS	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
SINGLE	1125	30	26.67	5679	230	40.50
MARRIED	16494	585	35.47	12174	488	40.09
COMMON LAW	30	3	100.00	268	11	41.04
WIDOWED	50	2	40.00	123	4	32.52
DIVORCED	390	15	38.46	184	12	65.22
SEPARATED	956	33	34.52	1739	100	57.50
TOTAL	19045	668	35.07	20167	845	41.90
UNKNOWN	3	0	0 *	0	0	-
GRAND TOTAL	19048	668	35.07	20167	845	41.90

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY MARITAL STATUS OF GRAVIDA BY RACE

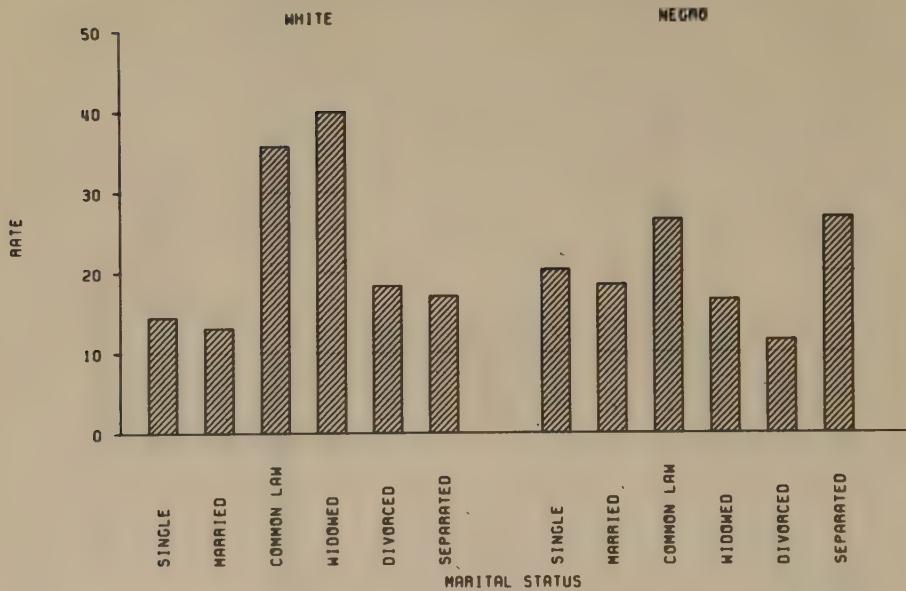


STILLBIRTHS BY MARITAL STATUS OF GRAVIDA BY RACE

MARITAL STATUS	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
SINGLE	1125	14	12.44	5679	117	20.60
MARRIED	1694	374	22.67	12174	269	22.10
COMMON LAW	30	2	66.67	268	4	14.93
WIDOWED	50	0	0	123	2	16.26
DIVORCED	390	8	20.51	184	10	54.35
SEPARATED	956	17	17.78	1739	55	31.63
TOTAL	19045	415	21.79	20167	457	22.66
UNKNOWN	3	0	0 *	0	0	-
GRAND TOTAL	19048	415	21.79	20167	457	22.66

* RATE BASED ON LESS THAN 20 CASES.

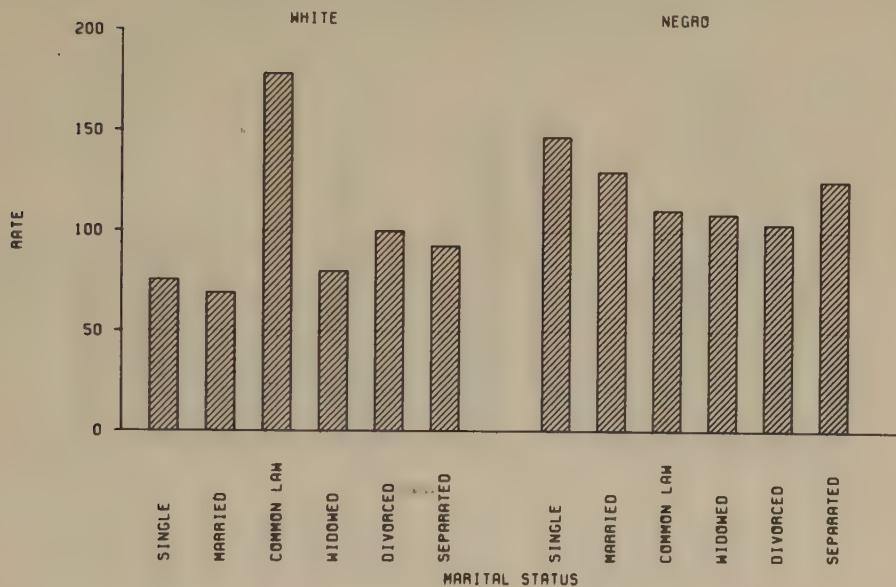
NEONATAL DEATHS BY MARITAL STATUS OF GRAVIDA BY RACE



NEONATAL DEATHS BY MARITAL STATUS OF GRAVIDA BY RACE

Marital Status	WHITE		NEGRO			
	Livebirths	Neonatal Deaths	Rate	Livebirths	Neonatal Deaths	Rate
SINGLE	1111	16	14.40	5562	113	20.32
MARRIED	16120	211	13.09	11905	219	18.40
COMMON LAW	28	1	35.71	264	7	26.52
WIDOWED	50	2	40.00	121	2	16.53
DIVORCED	382	7	18.32	174	2	11.49
SEPARATED	939	16	17.04	1684	45	26.72
TOTAL	18630	253	13.58	19710	388	19.69
UNKNOWN	3	0	0 *	0	0	-
GRAND TOTAL	18633	253	13.58	19710	388	19.69

BIRTHWEIGHTS UNDER 2501 GM BY MARITAL STATUS OF GRAVIDA BY RACE

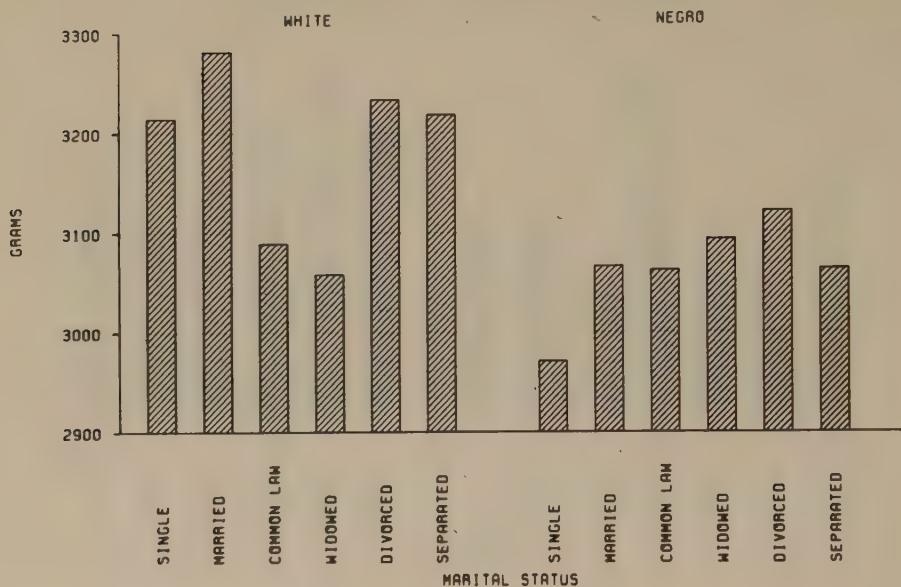


BIRTHWEIGHTS UNDER 2501 GM BY MARITAL STATUS OF GRAVIDA BY RACE

Marital Status	WHITE			NEGRO		
	Livebirths	Birthweights With Known Birthweight	Rate	Livebirths	Birthweights With Known Birthweight	Rate
SINGLE	1100	83	75.45	5489	811	147.75
MARRIED	15994	1103	68.96	11798	1537	130.28
COMMON LAW	28	5	178.57	261	29	111.11
WIDOWED	50	4	80.00	119	13	109.24
DIVORCED	379	38	100.26	173	18	104.05
SEPARATED	927	86	92.77	1664	209	125.60
TOTAL	18478	1319	71.38	19504	2617	134.18
UNKNOWN	3	0	0 *	0	0	-
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

* RATE BASED ON LESS THAN 20 CASES.

MEAN BIRTHWEIGHT BY MARITAL STATUS OF GRAVIDA BY RACE

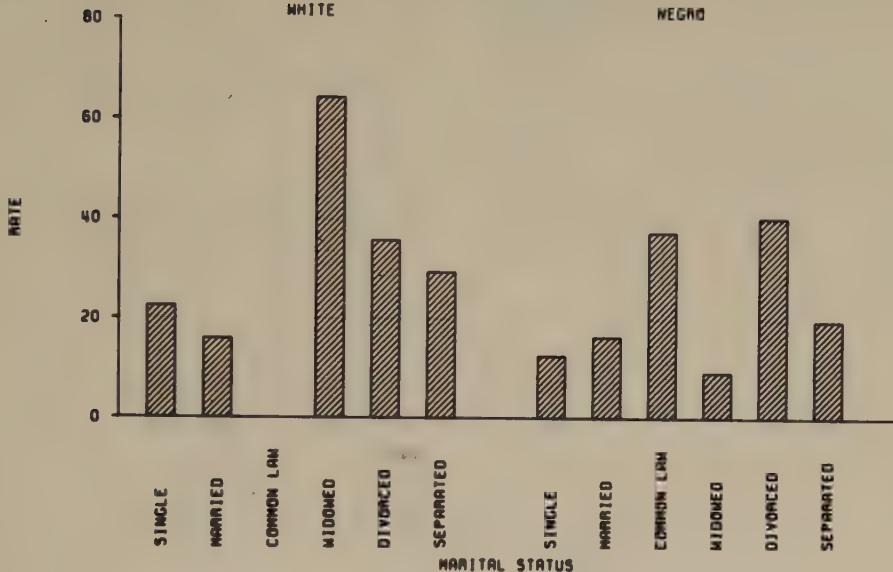


MEAN BIRTHWEIGHT BY MARITAL STATUS OF GRAVIDA BY RACE

MARITAL STATUS	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
SINGLE	1100	3214	5489	2971
MARRIED	15994	3281	11798	3066
COMMON LAW	28	3089	261	3062
WIDOWED	50	3058	119	3093
DIVORCED	379	3233	173	3121
SEPARATED	927	3218	1664	3063
TOTAL	18478	3272	19504	3039
UNKNOWN	3	3686X	0	-
GRAND TOTAL	18481	3272	19504	3039

X MEAN BASED ON LESS THAN 5 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY MARITAL STATUS OF GRAVIDA BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY MARITAL STATUS OF GRAVIDA BY RACE

Marital Status	White			Negro		
	One Year Exams	Abnormals	Rate	One Year Exams	Abnormals	Rate
SINGLE	668	15	22.46	4800	60	12.50
MARRIED	13011	207	15.91	10424	171	16.40
COMMON LAW	22	0	0	213	8	37.56
WIDOWED	31	2	64.52	109	1	9.17
DIVORCED	251	9	35.86	148	6	40.54
SEPARATED	679	20	29.46	1429	28	19.59
TOTAL	14662	253	17.26	17123	274	16.00
UNKNOWN	0	0	-	0	0	-
GRAND TOTAL	14662	253	17.26	17123	274	16.00

* RATE BASED ON LESS THAN 20 CASES.

SECTION 1. DEMOGRAPHIC CHARACTERISTICS

(Continued)

AGE OF GRAVIDA

Age of mother has long been recognized to be significantly associated with pregnancy outcome. Butler and Bonham⁶ have reported that in Great Britain, the optimal age for child-bearing is between 20 and 24 years, with a steadily increasing risk of perinatal mortality above 30 years of age; they found the risk for women over 40 years to be double the average for the 20 through 24 year age group. Similarly, an increased risk was observed for young mothers; those under 20 years of age during pregnancy had a risk of perinatal death 23 per cent greater than the optimal group aged 20 through 24 years.

In the Collaborative Perinatal Study it was possible to examine the fetal outcome for the young mothers, those below 20 years of age, in greater detail. Three groups were evaluated: under 16, 16-17, and 18-19. There were 157 (0.8 per cent) White and 1049 (5.2 per cent) Negro patients under 16 years of age.

In the oldest age group (40 years and over), there were 337 (1.8 per cent) White and 301 (1.5 per cent) Negro patients. In excess of 50 per cent of both Negro and White gravidas were between 20 and 29 years of age when they registered for prenatal care. ("Age" was reported by the gravida when she registered as number of years completed.)

While the distribution curves of both Negro and White women peaked in the 20-24 age group, there is a difference in the height of these curves; a larger proportion of the Negro women were in the younger age brackets, and correspondingly fewer in the middle groups, than the White women. Five per cent of the Negroes were under 16 years, and 16 per cent were under 18 years of age, as compared with 0.8 per cent and 6 per cent, respectively, of the White gravidas. The relative frequency of women in age groups above 29 was similar for Whites and Negroes.

The proportion of young gravidas differs by hospital, as already indicated pages 8 and 9.

In general, the perinatal death rates show a progressive increase in risk with advancing maternal age. In contrast with other studies (Butler and Bonham, for example) the age categories below 20 years do not show a particularly high rate. For Whites, the rates for the three age groups below 20 are less than the rate at 20-24 years; for Negroes, the rates for groups below 20 are about the same as that for the 20-24 year group.

Stillbirth rates, like the perinatal death rates of which they are a part, show an increasing trend with age. The rates for Negroes are higher than for Whites below age 30 and are lower above those ages, reflecting a more sharply increasing rate for Whites. When

stillbirth rates are examined separately by birthweight group, the rates are much higher for the low weight babies of both races, as is to be expected. The tendency for stillbirth rates to increase with age of gravida holds for both weight groups in both races. Low weight Negro babies, at any maternal age group, are at less risk than low weight White babies. The reverse is true for heavier babies; that is, the heavy Negro babies are at greater risk than the Whites.

The neonatal death rates are higher for Negro infants than for Whites at all maternal ages, except in the group between 30 and 34 years. The White death rate for this age group makes an unexpected and erratic jump.

Negro infants, as expected, show a much higher rate of low birthweight for each maternal age group than do White infants. The optimal maternal age for delivery, if avoiding low birthweight were the sole criterion, would be 18 to 29 years for the White women and 25 to 34 years for the Negro women. The highest risk of delivering a low weight baby is in the age group of 15 years and below.

The picture is different, however, when one examines the distribution of mean birthweight by maternal age. The difference between White and Negro infants is still striking; the mean birthweight for the total group of 18,481 liveborn White infants is 3272 gm (approx. 7 $\frac{1}{4}$ lb) as compared with 3039 gm (6 lb 11 oz) for the 19,504 Negro infants, a difference of 233 grams. The mean birthweights for infants of each race increases progressively with maternal age. The birthweight-age association observed is influenced by many other factors, such as parity, non-pregnant weight, and weight gain in pregnancy.

The rates of definite neurologic abnormalities observed at one year of age show, for Negroes, an increase with advancing maternal age. The rate at maternal ages above 39 years is 27.3 as compared with a rate of 9.7 for the youngest age group. The findings for the White infants are generally similar except that the neurologic abnormality rate of 35.4 in the infants of the very young mothers is quite high, as compared with the rate of 11.0 for the infants of 18- and 19-year-old women. From this low level of 11.0 the rate rises progressively with advancing age to a rate of 38.2 for infants of women of 40 and over.

In summary, a consistent relationship between race and adverse fetal outcome is observed; across age groups Negro women generally show higher rates than Whites with respect to perinatal deaths and increased rates of low birthweight (below 2501 grams). The mean birthweights for Negroes are consistently lower than those for Whites at each maternal age.

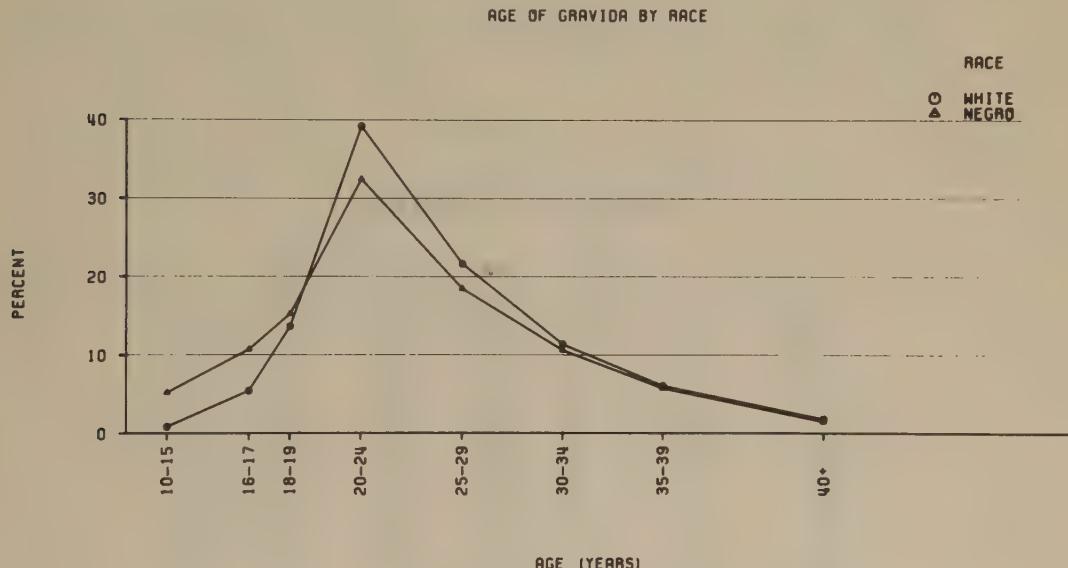
In general, for women of both races, on the basis of the important criterion of perinatal death rate, the optimal time for child-bearing for women in this Study is ages 18 and 19 years. These maternal ages are also optimal with respect to the lowest risk of neurologic abnormality in the White infants at age one year. For Negro infants these risks of neurologic abnormality were minimal where the mother was in the youngest

⁶ Butler, Neville R., and Bonham, Dennis G. *Perinatal Mortality*. E. & S. Livingstone Ltd., Edinburgh and London, 1963.

age bracket, under 16 years. However, when birthweight is used as the criterion, mothers in the older age brackets have a better outcome; White mothers between 18 and 29, and Negro mothers between 25 and 29 years, have the lowest frequency of babies weighing less than 2501 grams ($5\frac{1}{2}$ lb) at birth, and those over 35 years of age have babies with the highest mean birthweight.

While the associations between maternal age and

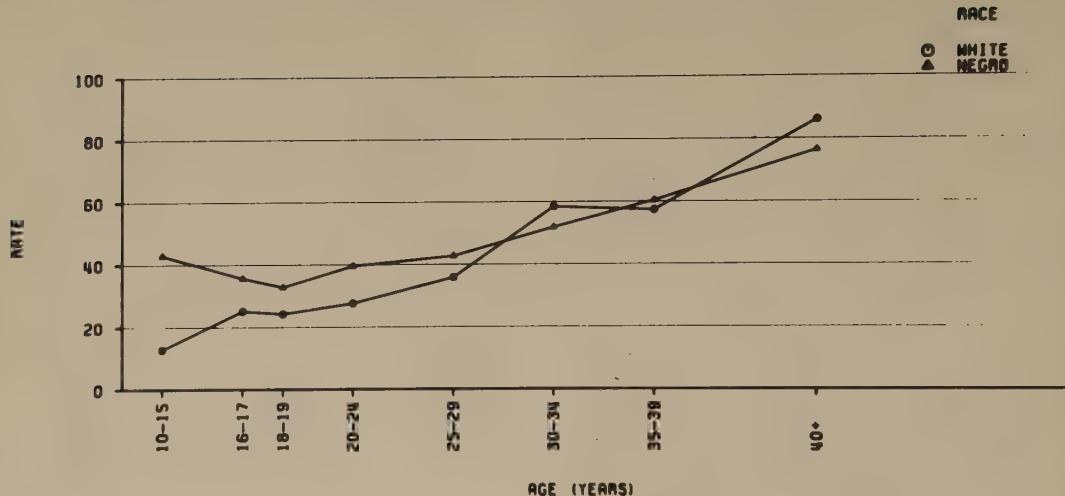
race, and fetal risk, are important, the interactions involved are undoubtedly highly complex; for example, the findings reported here with respect to birthweight reflect the relationships of birthweight with parity and birthweight with prepregnant weight and weight gain. Further analysis is required to identify the strengths of the relationships involved and to indicate leads for identifying the mechanisms mediating the effects observed.



AGE OF GRAVIDA BY RACE

AGE (YEARS)	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
10-15	157	0.82	0.82	1049	5.20	5.20
16-17	1035	5.43	6.26	2162	10.72	15.92
18-19	2600	13.65	19.91	3080	15.27	31.20
20-24	7169	39.21	59.12	6551	32.49	63.68
25-29	4127	21.67	80.79	3722	18.46	82.14
30-34	2171	11.40	92.19	2142	10.62	92.76
35-39	1151	6.04	98.23	1159	5.75	98.51
40+	337	1.77	100.00	301	1.49	100.00
TOTAL	19047	100.00	100.00	20166	100.00	100.00
UNKNOWN	1	0.01		1	0.00	
GRAND TOTAL	19048	100.00		20167	100.00	

PERINATAL DEATHS BY AGE OF GRAVIDA BY RACE

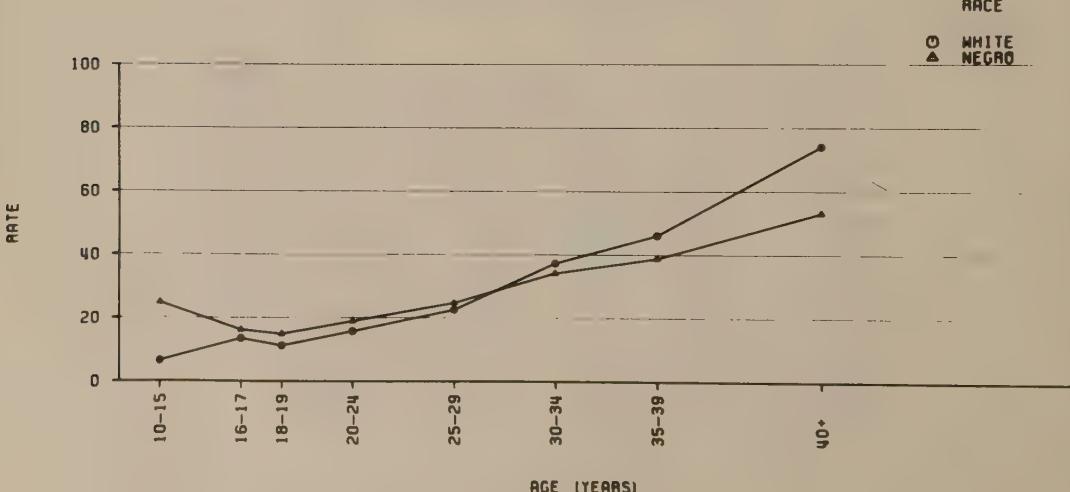


PERINATAL DEATHS BY AGE OF GRAVIDA BY RACE

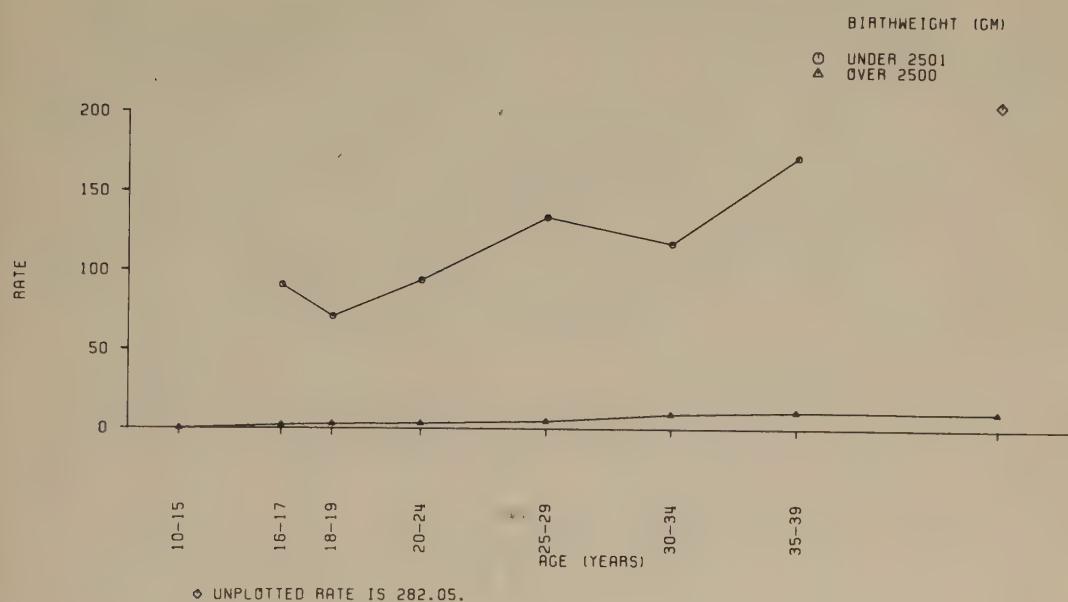
AGE (YEARS)	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
10-15	157	2	12.74	1049	45	42.90
16-17	1035	26	25.12	2162	77	35.62
18-19	2600	63	24.23	3080	101	32.79
20-24	7469	206	27.58	6551	259	39.54
25-29	4127	148	35.86	3722	159	42.72
30-34	2171	127	58.50	2142	111	51.82
35-39	1151	66	57.34	1159	70	60.40
40+	337	29	86.05	301	23	76.41
TOTAL	19048	667	35.02	20166	845	41.90
UNKNOWN	1	1	1000.00*	1	0	0 *
GRAND TOTAL	19048	668	35.07	20167	845	41.90

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY AGE OF GRAVIDA BY RACE



STILLBIRTHS BY AGE OF GRAVIDA BY BIRTHWEIGHT - WHITE



STILLBIRTHS BY AGE OF GRAVIDA BY BIRTHWEIGHT - WHITE

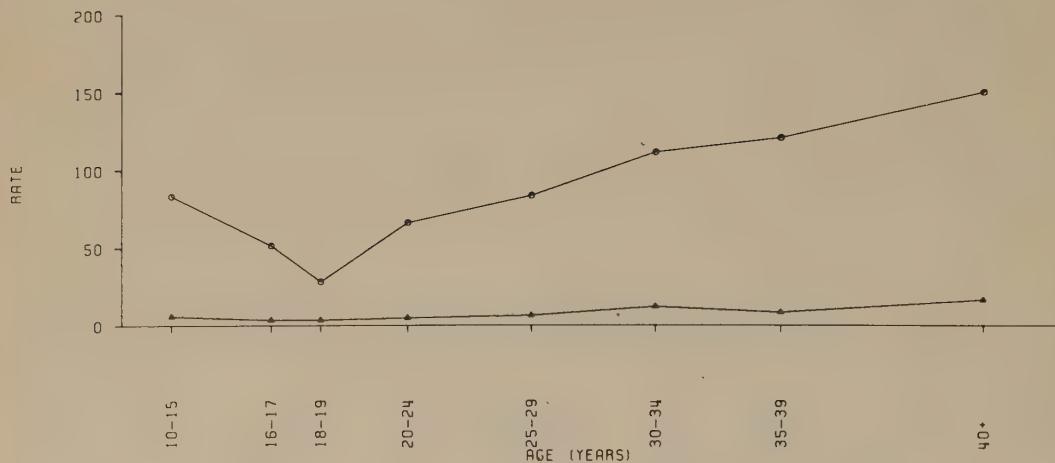
AGE (YEARS)	UNDER 2501 GM		OVER 2500 GM		TOTAL (I)	
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
10-15	16	1	62.50*	139	0	0
16-17	88	8	90.91	931	2	2.15
18-19	183	13	71.04	2389	7	2.93
20-24	541	51	94.27	6821	22	3.23
25-29	311	42	135.05	3749	18	4.80
30-34	211	25	118.48	1910	18	9.42
35-39	98	17	173.47	1020	11	10.78
40+	39	11	282.05	284	3	10.56
TOTAL	1487	168	112.98	17243	81	4.70
UNKNOWN	0	0	-	0	0	-
GRAND TOTAL	1487	168	112.98	17243	81	4.70

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.
* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY AGE OF GRAVIDA BY BIRTHWEIGHT - NEGRO

BIRTHWEIGHT (GM)

○ UNDER 2501
△ OVER 2500



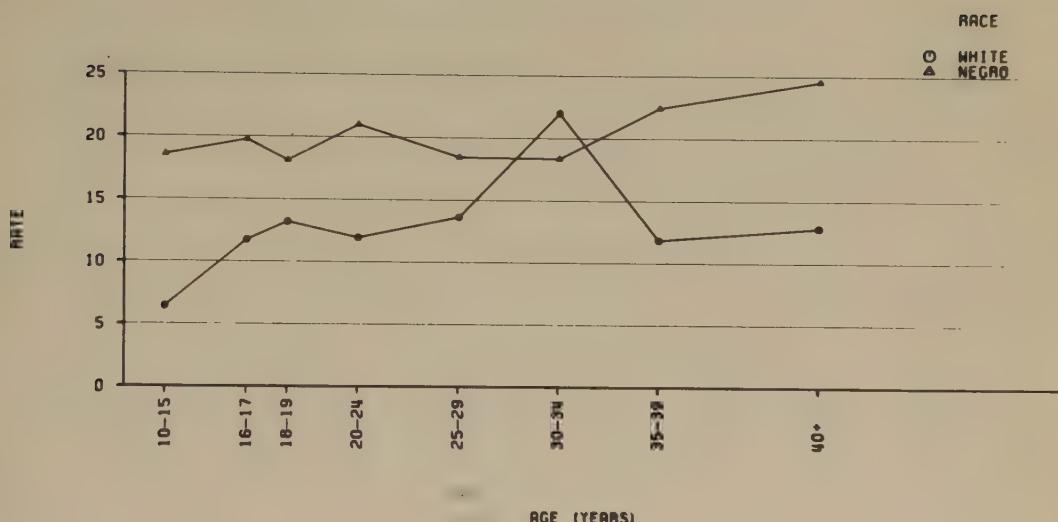
STILLBIRTHS BY AGE OF GRAVIDA BY BIRTHWEIGHT - NEGRO

AGE (YEARS)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
10-15	192	16	83.33	844	5	5.92	1049	26	24.79
16-17	350	18	51.43	1778	6	3.37	2162	35	16.19
18-19	461	13	28.20	2562	9	3.51	3080	46	14.94
20-24	889	59	66.37	5557	26	4.68	6551	124	18.93
25-29	442	37	83.71	3205	20	6.24	3722	92	24.72
30-34	269	30	111.52	1836	22	11.98	2142	73	34.08
35-39	166	20	120.48	959	8	8.34	1159	45	38.83
40+	47	7	148.94	246	4	16.26	301	16	53.16
TOTAL	2816	200	71.02	16987	100	5.89	20166	457	22.66
UNKNOWN	1	0	0	*	0	-	1	0	0
GRAND TOTAL	2817	200	71.00	16987	100	5.89	20167	457	22.66

(1) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY AGE OF GRAVIDA BY RACE

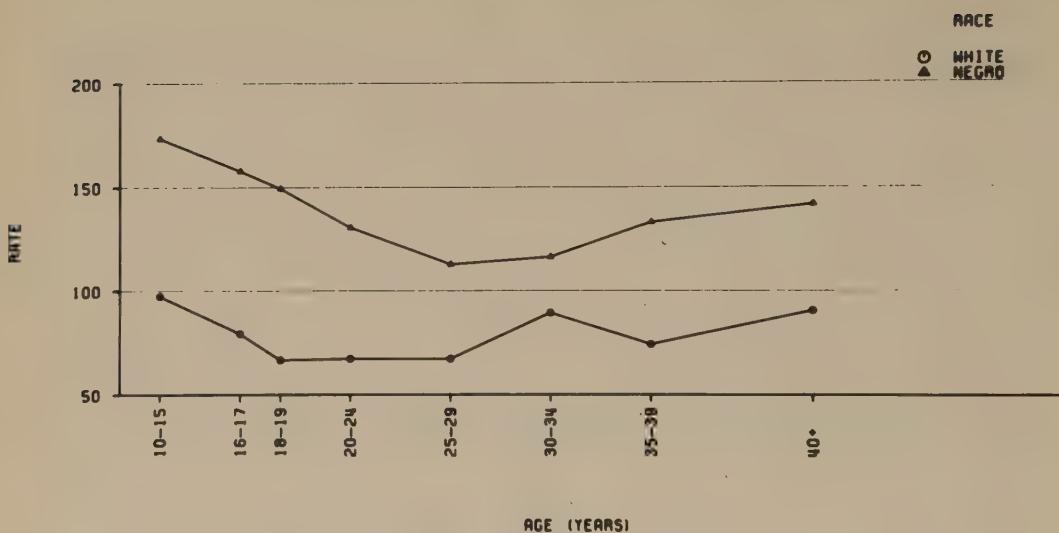


NEONATAL DEATHS BY AGE OF GRAVIDA BY RACE

AGE (YEARS)	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
10-15	156	1	6.41	1023	19	18.57
16-17	1021	12	11.75	2127	42	19.75
18-19	2571	34	13.22	3034	55	18.13
20-24	7351	88	11.97	6427	135	21.01
25-29	4034	55	13.63	3630	67	18.46
30-34	2090	46	22.01	2069	38	18.37
35-39	1098	13	11.89	1111	25	22.44
40+	312	4	12.82	285	7	21.56
TOTAL	18633	253	13.58	19709	388	19.69
UNKNOWN	0	0	-	1	0	0
GRAND TOTAL	18633	253	13.58	19710	388	19.69

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. BY AGE OF GRAVIDA BY RACE

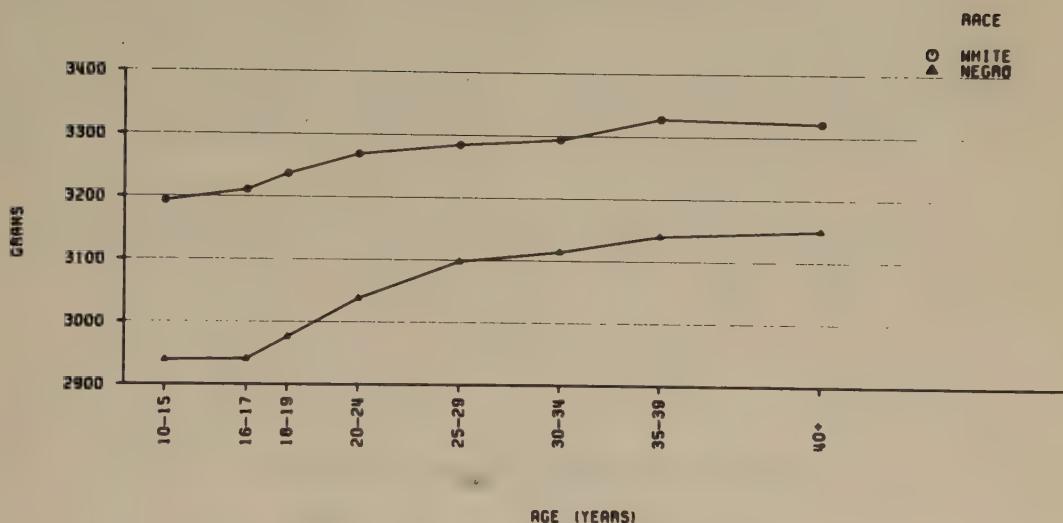


BIRTHWEIGHTS UNDER 2501 GM. BY AGE OF GRAVIDA BY RACE

AGE (YEARS)	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
10-15	154	15	97.40	1015	176	173.40
16-17	1009	80	79.29	2104	332	157.79
18-19	2552	170	66.61	3001	448	149.28
20-24	7289	490	67.22	6360	830	130.50
25-29	4000	269	67.25	3591	405	112.78
30-34	2078	186	89.51	2053	239	116.42
35-39	1090	81	74.31	1097	146	133.09
40+	309	28	90.61	282	40	141.84
TOTAL	18481	1319	71.37	19503	2616	134.13
UNKNOWN	0	0	-	1	1	1000.00*
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

* RATE BASED ON LESS THAN 20 CASES.

MEAN BIRTHWEIGHT BY AGE OF GRAVIDA BY RACE

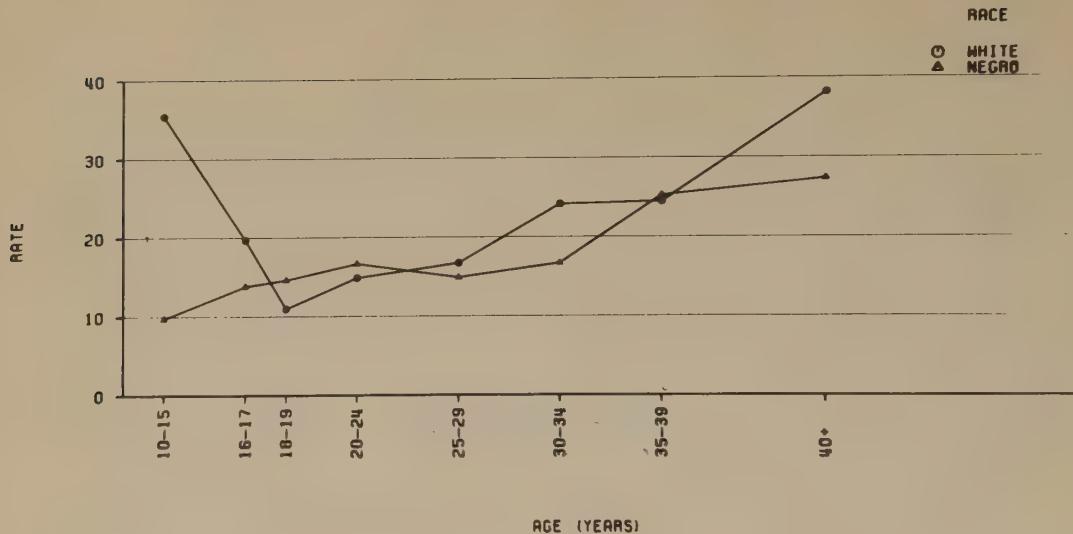


MEAN BIRTHWEIGHT BY AGE OF GRAVIDA BY RACE

AGE (YEARS)	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
10-15	154	3193	1015	2939
16-17	1009	3211	2104	2941
18-19	2552	3237	3001	2976
20-24	7289	3269	6360	3038
25-29	4000	3285	3591	3098
30-34	2078	3294	2053	3114
35-39	1090	3328	1097	3140
40+	309	3322	282	3150
TOTAL	18481	3272	19503	3039
UNKNOWN	0	-	1	2495*
GRAND TOTAL	18481	3272	19504	3039

* MEAN BASED ON LESS THAN 5 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY AGE OF GRAVIDA BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY AGE OF GRAVIDA BY RACE

AGE (YEARS)	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
10-15	113	4	35.40	924	9	9.74
16-17	761	15	19.71	1878	26	13.84
18-19	2009	22	10.95	2604	38	14.59
20-24	5716	85	14.87	5465	91	16.65
25-29	3166	53	16.74	3148	47	14.93
30-34	1695	41	24.19	1857	31	16.69
35-39	940	23	24.47	990	25	25.25
40+	262	10	38.17	256	7	27.31
TOTAL	14662	253	17.26	17122	274	16.00
UNKNOWN	0	0	-	1	0	x
GRAND TOTAL	14662	253	17.26	17123	274	16.00

* RATE BASED ON LESS THAN 20 CASES.

SECTION 1. DEMOGRAPHIC CHARACTERISTICS (Continued)

EDUCATION OF GRAVIDA

Information pertaining to the duration and kind of maternal education was collected by the interview staff and reported on Form SE-1. The duration, in terms of years of school completed without reference to the type of education received, is presented in this book. This item by itself does not differentiate between regular academic training and other education. However, those women who received special schooling in un-

graded or other special classes have been included with those having less than five years of school completed.

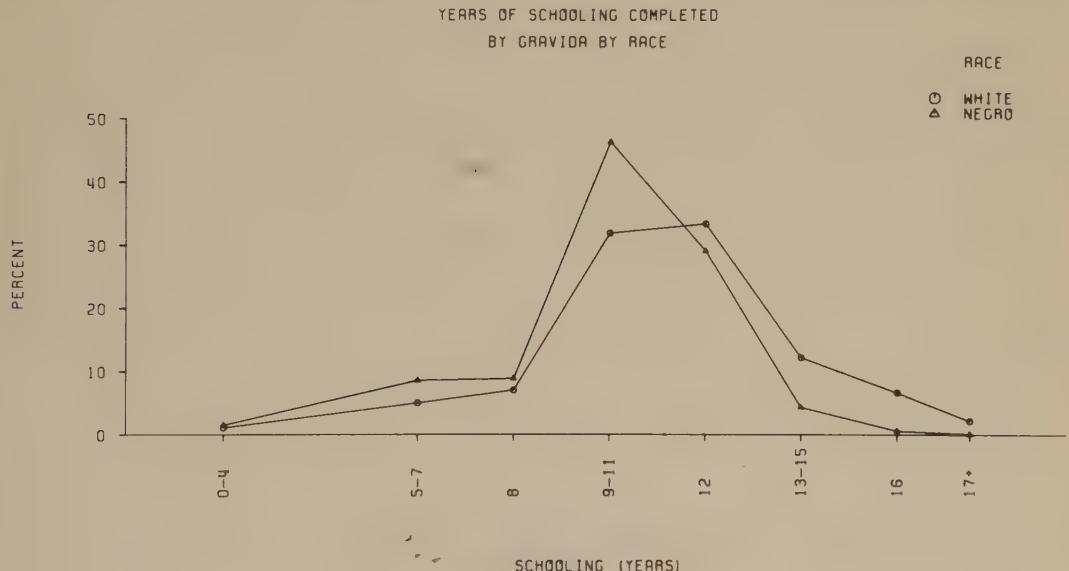
About 92 per cent of all gravidas completed the eighth grade and 44 per cent completed twelfth grade. Among White women, 21 per cent had some education beyond the high school level (twelve years). However, approximately 45 per cent had not completed high school. Among Negroes, 5 per cent had any educational experience beyond, and 65 per cent had not finished, high school. There are marked differences in educational level by institution; almost 50 per cent of the White gravidas at Buffalo had more than 12 years of formal education, as had more than 25 per cent of the women in the Boston and Minnesota Centers. For

the remaining institutions, less than ten per cent of the White women had education beyond the high school level. About eighteen per cent of Negro women at Boston, and thirteen per cent of those at Columbia Presbyterian, had an education beyond high school; the rate of advanced education for Negroes was about five per cent at all other institutions. There is a slightly decreasing perinatal mortality rate with increasing education. This downward trend is also found in stillbirth rates, but not in neonatal death rates. The low birthweight rate drops with increased education of both White and Negro gravidas (with a comparable trend in the mean birthweights).

For gravidas of both races, there is a marked reduction in the rate of neurologic abnormalities at one year with increased education of gravida.

Although cases with unknown education form only a small proportion of the total cases, they have high mortality rates, low birthweight, and high neurologic abnormality rates.

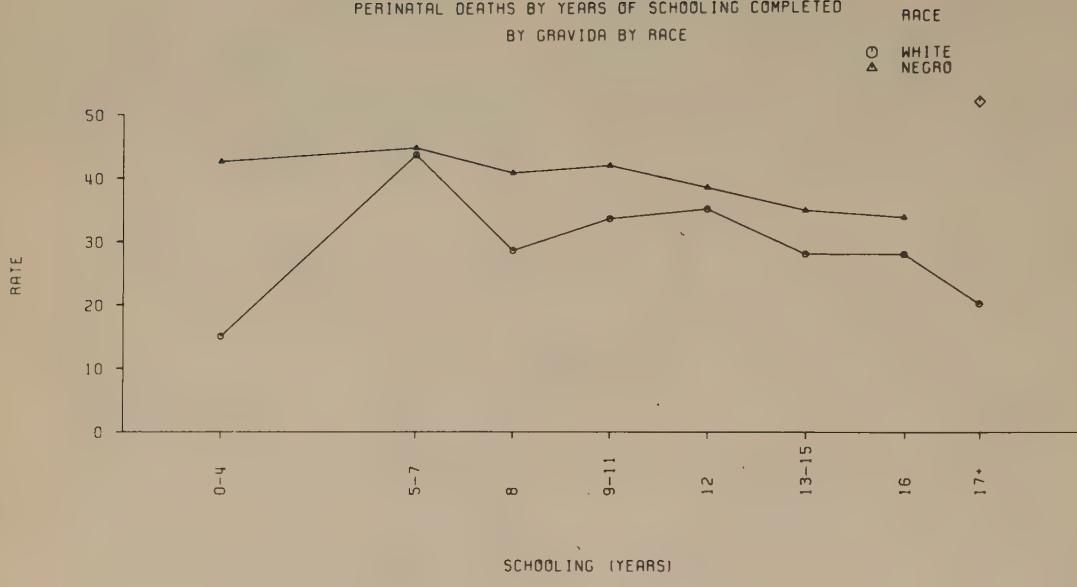
The possible drop in perinatal death rate, the observed reduction in low birthweight rate and in the rate of neurologic abnormalities at one year associated with increased education have made education of the gravida a useful index of socio-economic status in studies of the Collaborative data.



YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE

YEARS	WHITE		NEGRO			
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	
0-4	199	1.09	1.09	305	1.54	1.54
5-7	915	4.99	6.09	1698	8.56	10.10
8	1295	7.06	13.15	1764	8.90	19.00
9-11	5893	32.14	45.29	9251	46.65	65.65
12	6161	33.60	78.89	5806	29.28	94.93
13-15	2253	12.29	91.18	862	4.35	99.28
16	1222	6.66	97.84	119	0.60	99.88
17+	399	2.18	100.00	24	0.12	100.00
TOTAL	18337	100.00		19829	100.00	
UNKNOWN	711	3.73		338	1.68	
GRAND TOTAL	19048	100.00		20167	100.00	

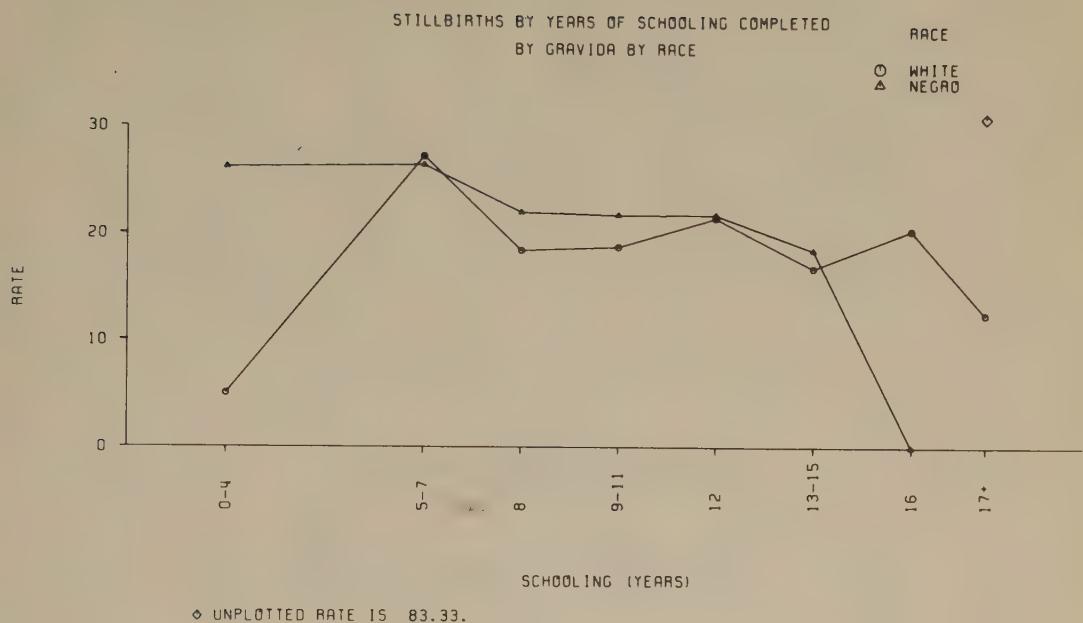
PERINATAL DEATHS BY YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE



◊ UNPLOTTED RATE IS 125.00.

PERINATAL DEATHS BY YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE

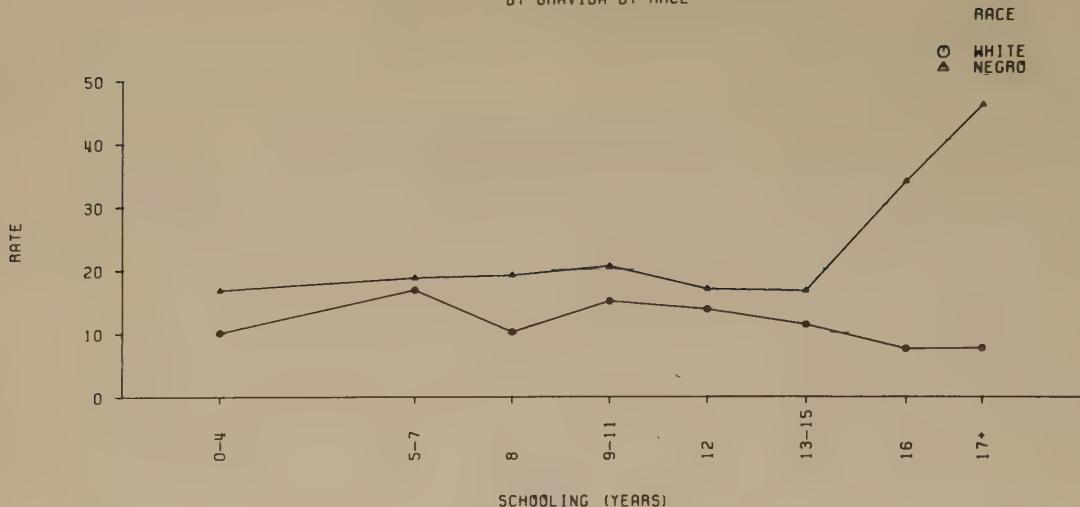
YEARS	WHITE BIRTHS	WHITE PERINATAL DEATHS	WHITE RATE	NEGRO BIRTHS	NEGRO PERINATAL DEATHS	NEGRO RATE
0-4	199	3	15.08	305	13	42.62
5-7	915	40	43.72	1698	76	44.76
8	1295	37	28.57	1764	72	40.82
9-11	5893	198	33.60	9251	388	41.94
12	6161	216	35.06	5806	223	38.41
13-15	2253	63	27.96	862	30	34.80
16	1222	34	27.82	119	4	33.61
17+	399	8	20.05	24	3	125.00
TOTAL	18337	599	32.67	19829	809	40.80
UNKNOWN	711	69	97.05	338	36	106.51
GRAND TOTAL	19048	668	35.07	20167	845	41.90



STILLBIRTHS BY YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE

YEARS	BIRTHS	WHITE STILLBIRTHS	RATE	BIRTHS	NEGRO STILLBIRTHS	RATE
0-4	199	1	5.03	305	8	26.23
5-7	915	25	27.32	1698	45	26.50
8	1295	24	18.53	1764	39	22.11
9-11	5893	111	18.84	9251	202	21.84
12	6161	133	21.59	5806	127	21.87
13-15	2253	38	16.87	862	16	18.56
16	1222	25	20.46	119	0	0
17+	399	5	12.53	24	2	83.33
TOTAL	18337	362	19.74	19829	439	22.14
UNKNOWN	711	53	74.54	338	18	53.25
GRAND TOTAL	19048	415	21.79	20167	457	22.66

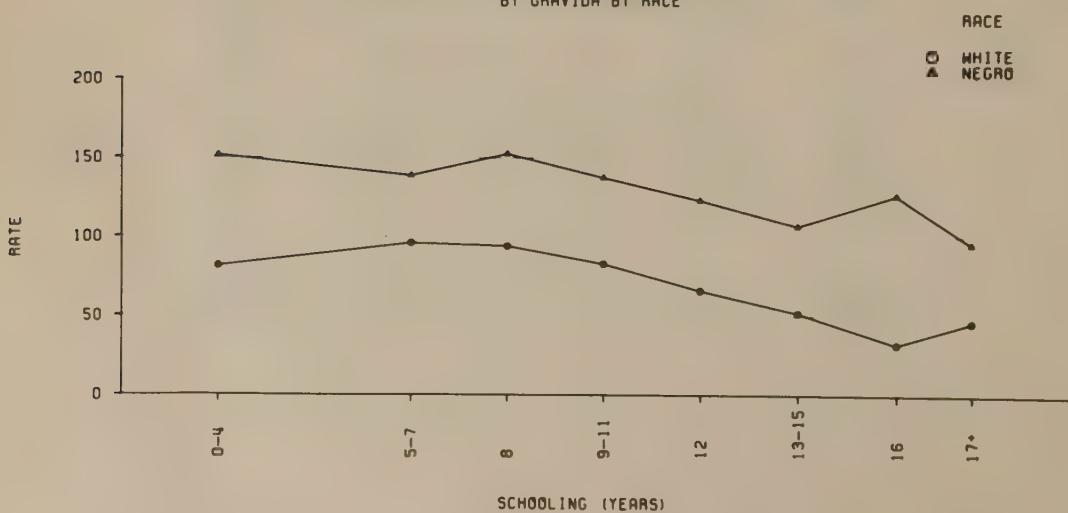
NEONATAL DEATHS BY YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE



NEONATAL DEATHS BY YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE

YEARS	WHITE LIVEBIRTHS	WHITE NEONATAL DEATHS	WHITE RATE	NEGRO LIVEBIRTHS	NEGRO NEONATAL DEATHS	NEGRO RATE
0-4	198	2	10.10	297	5	16.84
5-7	890	15	16.85	1653	31	18.75
8	1271	13	10.23	1725	33	19.13
9-11	5782	87	15.05	9049	186	20.55
12	6028	83	13.77	5679	96	16.90
13-15	2215	25	11.29	846	14	16.55
16	1197	9	7.52	119	4	33.61
17+	394	3	7.61	22	1	45.45
TOTAL	17975	237	13.18	19390	370	19.08
UNKNOWN	658	16	24.32	320	18	56.25
GRAND TOTAL	18633	253	13.58	19710	388	19.69

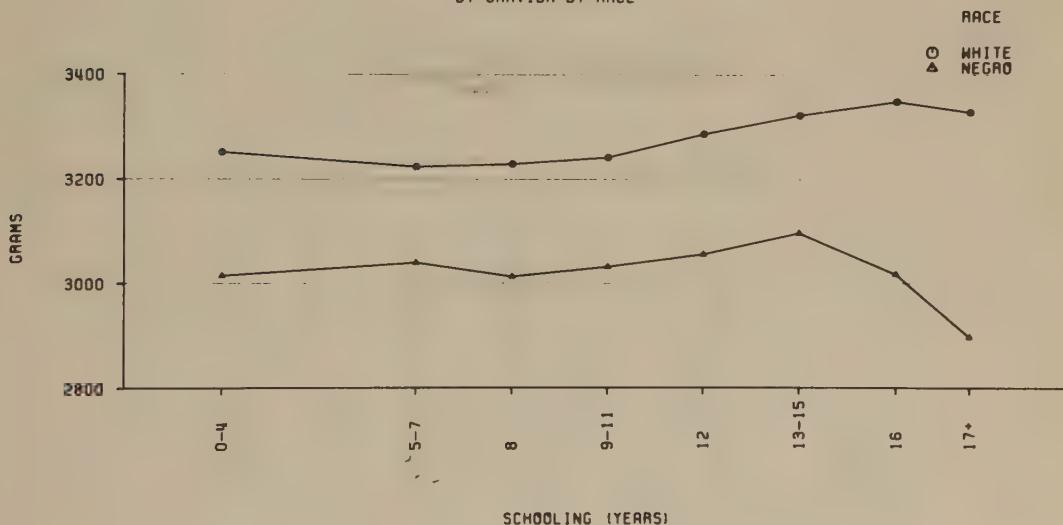
BIRTHWEIGHT UNDER 2501 GM BY YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE



BIRTHWEIGHT UNDER 2501 GM BY YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE

YEARS	WHITE			NEGRO		
	LIVEBIRTHS	BIRTHWEIGHTS		LIVEBIRTHS	BIRTHWEIGHTS	
	WITH KNOWN BIRTHWEIGHT	UNDER 2501 GM.	RATE	WITH KNOWN BIRTHWEIGHT	UNDER 2501 GM.	RATE
0-4	196	16	81.63	290	44	151.72
5-7	885	85	96.05	1634	227	138.92
8	1265	119	94.07	1710	261	152.63
9-11	5731	475	82.88	8961	1234	137.71
12	5998	395	65.86	5626	693	123.18
13-15	2203	114	51.75	843	90	106.76
16	1188	38	31.99	119	15	126.05
17+	392	18	45.92	21	2	95.24
TOTAL	17858	1260	70.56	19204	2566	133.62
UNKNOWN	623	59	94.70	300	51	170.00
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

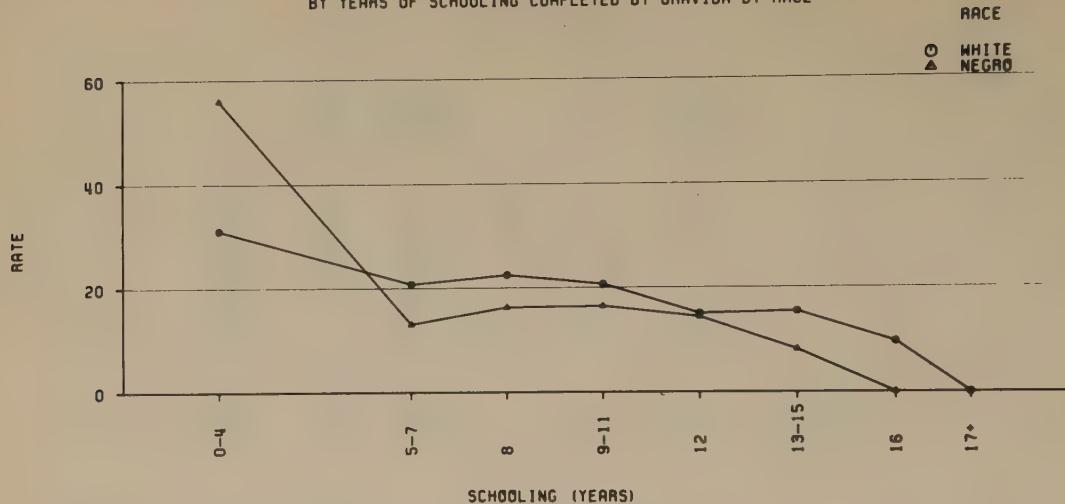
MEAN BIRTHWEIGHT BY YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE



MEAN BIRTHWEIGHT BY YEARS OF SCHOOLING COMPLETED
BY GRAVIDA BY RACE

YEARS	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BWT.	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BWT.	MEAN BIRTHWEIGHT
0-4	196	3251	290	3015
5-7	885	3224	1634	3040
8	1265	3229	1710	3013
9-11	5731	3242	8961	3032
12	5998	3287	5626	3056
13-15	2203	3323	843	3097
16	1188	3349	119	3018
17+	392	3329	21	2997
TOTAL	17858	3271	19204	3040
UNKNOWN	623	3201	300	2970
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY YEARS OF SCHOOLING COMPLETED BY GRAVIDA BY RACE



* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY YEARS OF SCHOOLING COMPLETED BY GRAVIDA BY RACE

YEARS	WHITE			NEGRO		
	ONE YEAR EXAM	ABNORMALS	RATE	ONE YEAR EXAM	ABNORMALS	RATE
0-4	161	5	31.06	268	15	55.97
5-7	672	14	20.83	1449	19	13.11
8	977	22	22.52	1532	25	16.32
9-11	4528	94	20.76	7820	129	16.50
12	5047	76	15.06	9900	72	14.13
13-15	1748	27	15.45	734	6	8.17
16	933	9	9.65	104	0	0
17+	312	0	0	19	1	52.63*
TOTAL	14378	247	17.18	16916	267	15.78
UNKNOWN	284	6	21.13	207	7	33.82
GRAND TOTAL	14662	253	17.26	17123	274	16.00

* RATE BASED ON LESS THAN 20 CASES.

SECTION 1. DEMOGRAPHIC CHARACTERISTICS (Continued)

CIGARETTE SMOKING

In recent years, cigarette smoking has been implicated in an increasing number of morbid conditions—heart disease, lung cancer, and emphysema, among others. In the Collaborative Perinatal Study, information regarding the gravida's smoking habits was obtained at her initial interview and at each prenatal visit. This report presents the data on the usual number of cigarettes smoked per day at registration, as reported by the gravida.

Smoking is more common among White women than among Negroes, and of those who smoke, Whites

on the average smoke more cigarettes per day. It should be emphasized that there are many non-smokers, 46 per cent of Whites and 58 per cent of Negroes. The number of gravidas smoking over 30 cigarettes per day is small, particularly among Negroes (only 0.6 per cent of Negroes, as compared with 2.8 per cent of White women).

As has been shown in data from many other sources, there is a strong inverse association between maternal smoking and mean birthweight of offspring. In this Study the mean birthweight decreases over 400 grams in Whites and over 250 grams in Negroes, and the low birthweight rate more than doubles between babies of non-smokers and those smoking over 30 cigarettes per day.

Perinatal death rates among Negroes are lowest for non-smokers and those smoking about a cigarette a

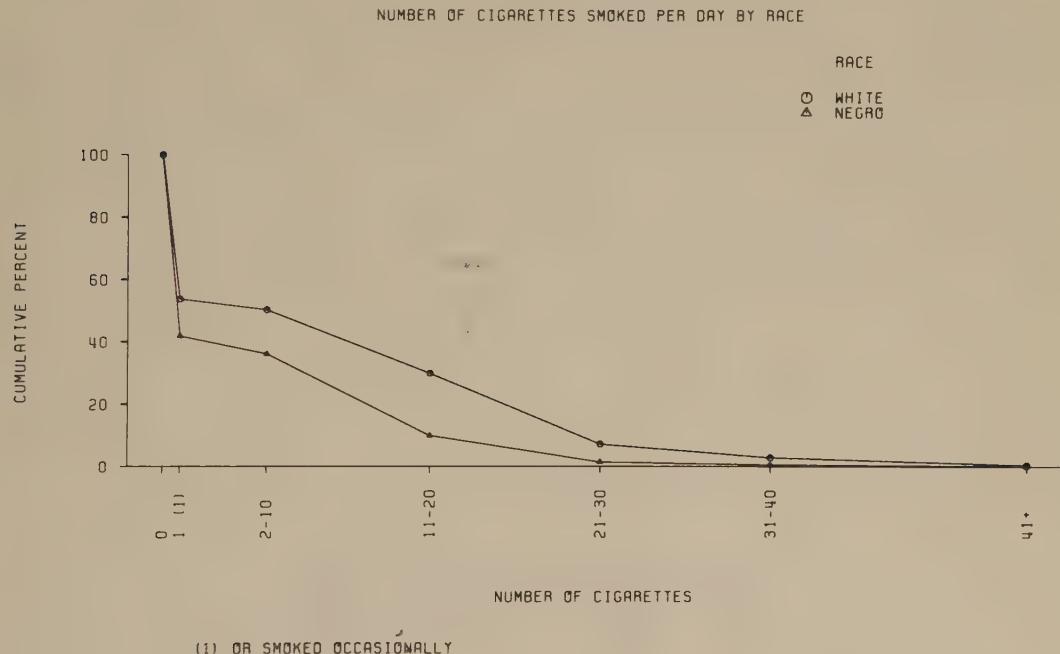
day; the rate increases consistently with increasing numbers of cigarettes above this amount. This relationship is not observed for Whites. Upon examination of the components of the Negro perinatal death rate, the stillbirth and neonatal death rates show a similar trend. The finding of an increased rate of neonatal mortality with heavy cigarette smoking is consistent with the findings of the British Perinatal Mortality Survey.⁹

⁹Butler, Neville, R., and Bonham, Dennis G. *Perinatal Mortality*. E. & S. Livingstone, Ltd., Edinburgh and London, 1963.

The number of gravidae for whom smoking information was unknown is relatively small (less than two per cent), but the death rates and neurological abnormality rates are high.

It is of interest that the most dramatic change in birthweight occurred among the infants of light smokers, while there was no observed increase in neonatal mortality except among the heavy smokers.

It is important to recognize that the relationship between maternal smoking and outcome is undoubtedly affected by such other factors as age, prepregnant weight, weight gain during pregnancy, gestational age at delivery, and socio-economic status.

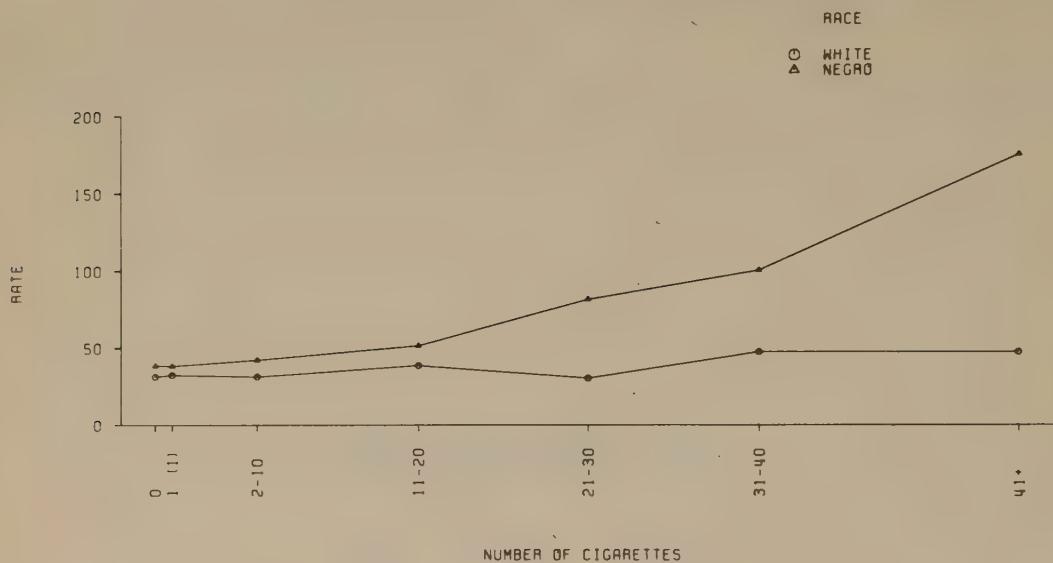


NUMBER OF CIGARETTES SMOKED PER DAY BY RACE

CIGARETTES SMOKED PER DAY	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
0	8696	46.35	100.00	11615	58.15	100.00
1 (1)	618	3.29	53.65	1125	5.63	41.85
2-10	3825	20.39	50.36	5264	26.36	36.21
11-20	4279	22.81	29.97	1696	8.49	9.86
21-30	814	4.34	7.17	160	0.80	1.37
31-40	446	2.38	2.83	90	0.45	0.57
41+	85	0.45	0.45	23	0.12	0.12
TOTAL	18763	100.00		19973	100.00	
UNKNOWN	285	1.50		194	0.96	
GRAND TOTAL	19048	100.00		20167	100.00	

(1) OR SMOKED OCCASIONALLY.

PERINATAL DEATHS BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE

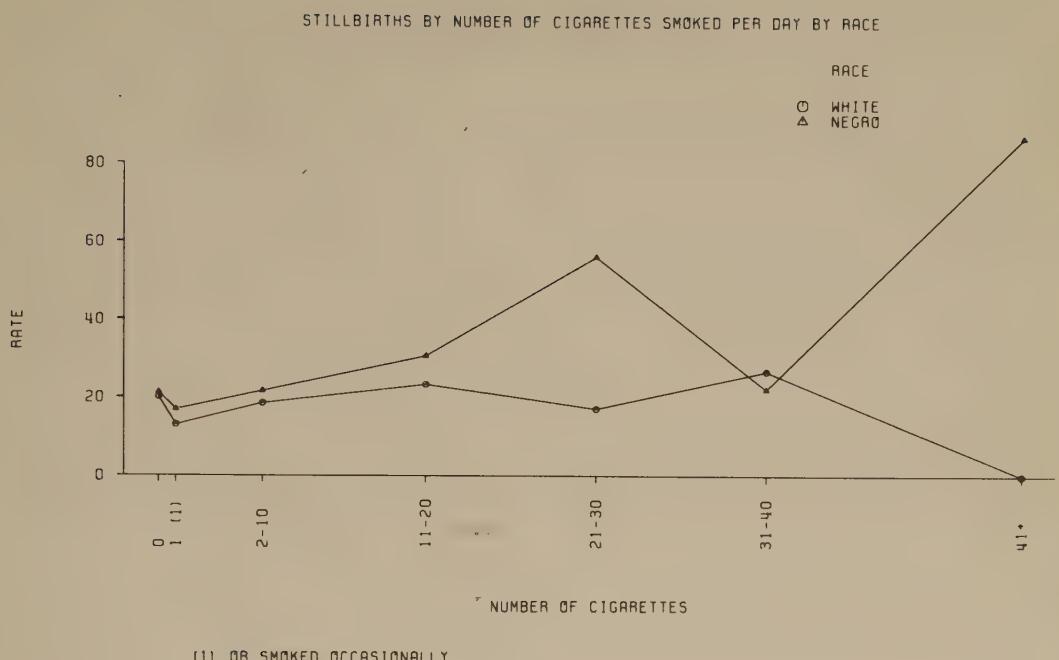


(1) OR SMOKED OCCASIONALLY

PERINATAL DEATHS BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE

CIGARETTES SMOKED PER DAY	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
0	8696	273	31.39	11615	447	38.48
1 (1)	618	20	32.36	1125	43	38.22
2-10	3825	120	31.37	5264	222	42.17
11-20	4279	165	38.56	1696	87	51.30
21-30	814	25	30.17	160	13	81.25
31-40	446	21	47.09	90	9	100.00
41+	85	4	47.06	23	4	173.91
TOTAL	18763	628	33.47	19973	825	41.31
UNKNOWN	285	40	140.35	194	20	103.09
GRAND TOTAL	19048	668	35.07	20167	845	41.90

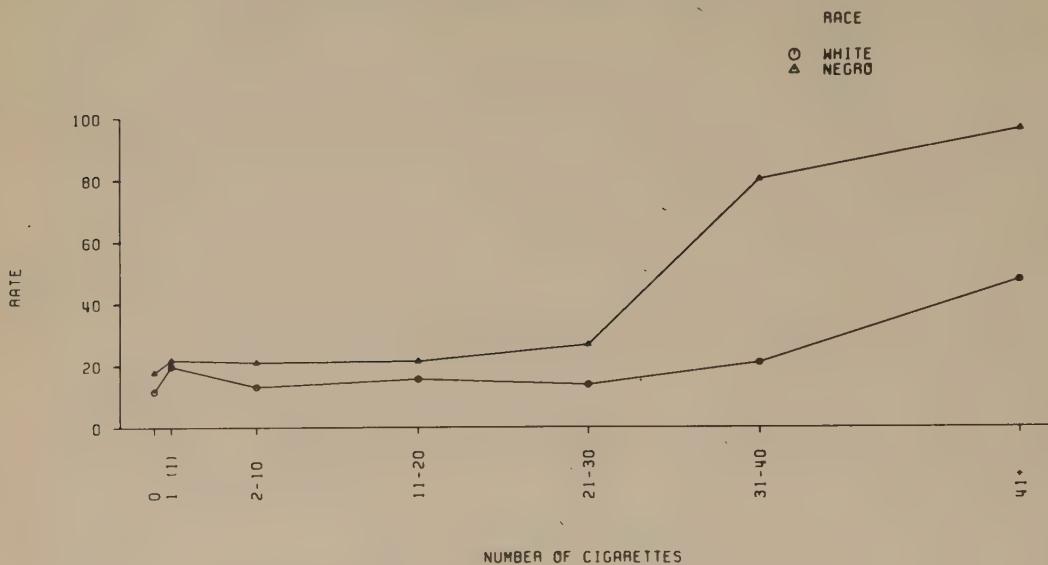
(1) OR SMOKED OCCASIONALLY.



STILLBIRTHS BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE

CIGARETTES SMOKED PER DAY	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
0	8696	175	20.12	11615	246	21.18
1 (1)	618	8	12.94	1125	19	16.89
2-10	3825	71	18.56	5264	114	21.66
11-20	4279	100	23.37	1696	52	30.66
21-30	814	14	17.20	160	9	56.25
31-40	446	12	26.91	90	2	22.22
41+	85	0	0	23	2	86.96
TOTAL	18763	380	20.25	19973	444	22.23
UNKNOWN	285	35	122.81	194	13	67.01
GRAND TOTAL	19048	415	21.79	20167	457	22.66

NEONATAL DEATHS BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE



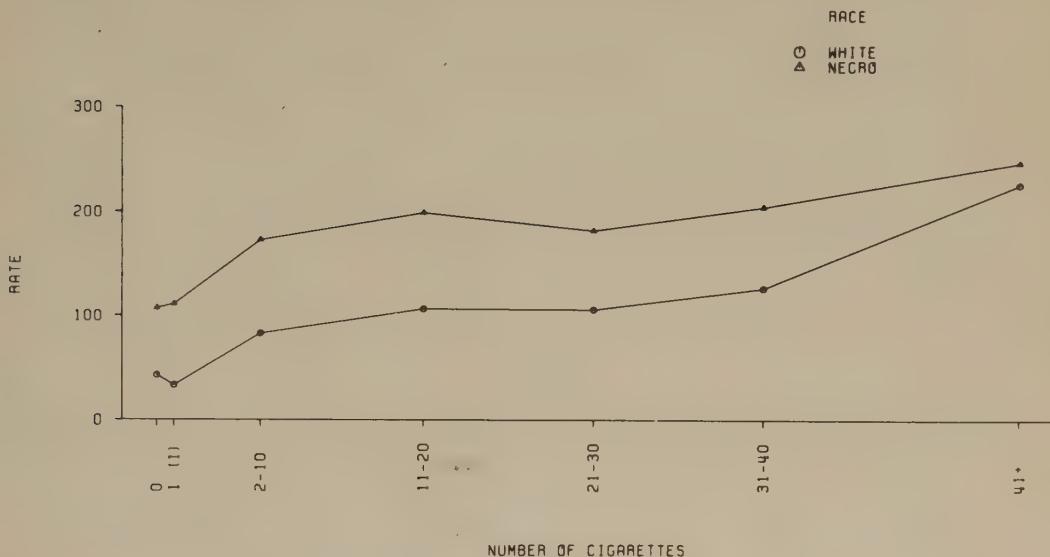
(1) OR SMOKED OCCASIONALLY

NEONATAL DEATHS BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE

CIGARETTES SMOKED PER DAY	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
0	8521	98	11.50	11369	201	17.68
1 (1)	610	12	19.67	1106	24	21.70
2-10	3754	49	13.05	5150	108	20.97
11-20	4179	65	15.55	1644	35	21.29
21-30	800	11	13.75	151	4	26.49
31-40	434	9	20.74	88	7	79.55
41+	85	4	47.06	21	2	95.24
TOTAL	18383	248	13.49	19529	381	19.51
UNKNOWN	250	5	20.00	181	7	38.67
GRAND TOTAL	18633	253	13.58	19710	388	19.69

(1) OR SMOKED OCCASIONALLY.

BIRTHWEIGHTS UNDER 2501 GM. BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE

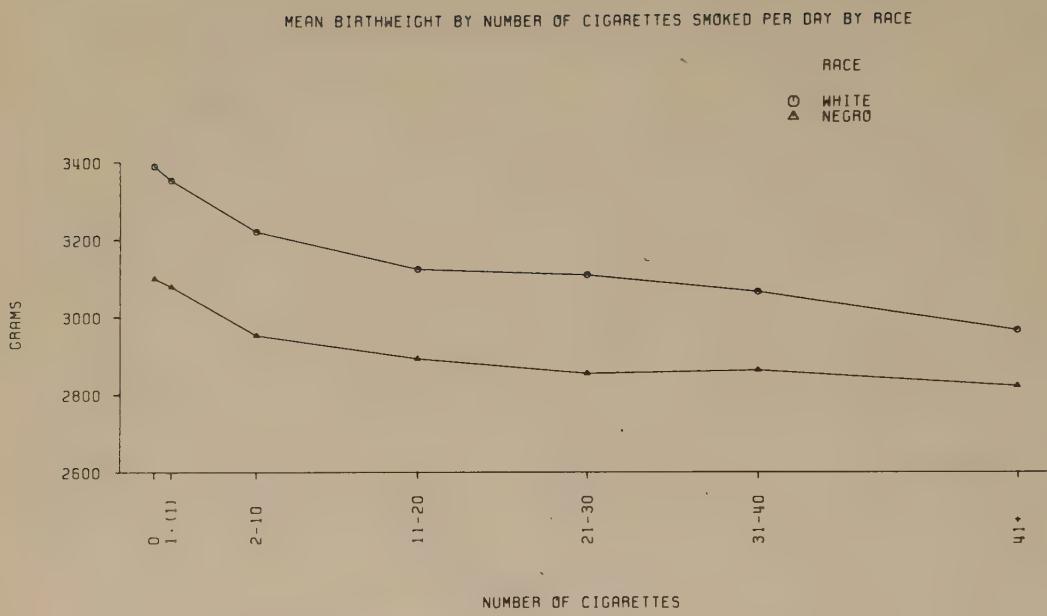


(1) OR SMOKED OCCASIONALLY

BIRTHWEIGHTS UNDER 2501 GM. BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE

CIGARETTES SMOKED PER DAY	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
0	8466	363	42.88	11252	1206	107.18
1 (1)	606	20	33.00	1098	122	111.11
2-10	3725	310	83.22	5096	883	173.27
11-20	4142	444	107.19	1629	326	200.12
21-30	795	85	106.92	147	27	183.67
31-40	430	55	127.91	87	18	206.90
41+	83	19	228.92	20	5	250.00
TOTAL	18247	1296	71.03	19329	2587	133.84
UNKNOWN	234	23	98.29	175	30	171.43
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

(1) OR SMOKED OCCASIONALLY.



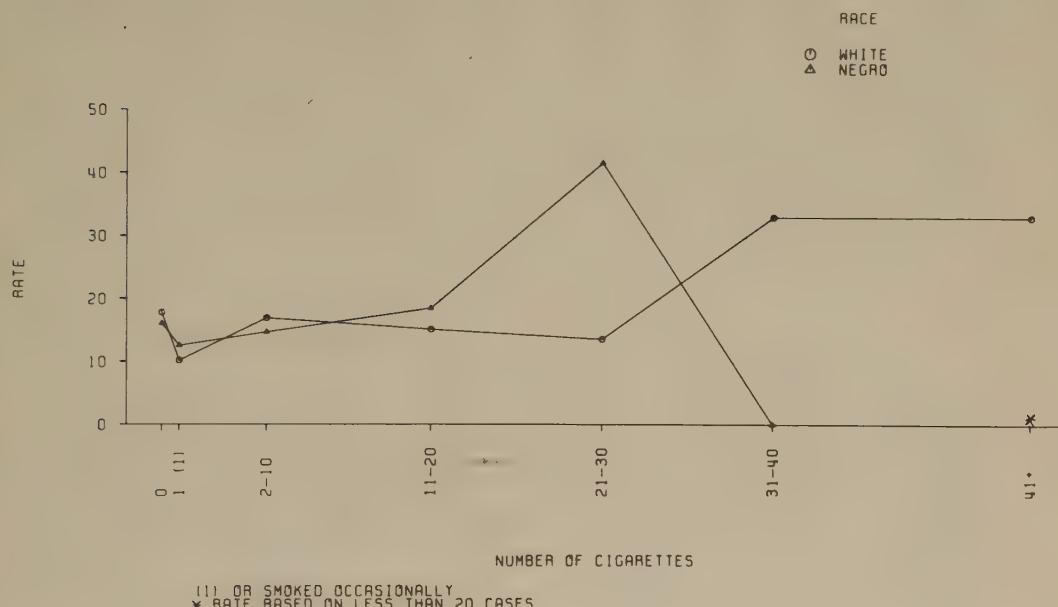
(1) OR SMOKED OCCASIONALLY

MEAN BIRTHWEIGHT BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE

CIGARETTES SMOKED PER DAY	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
0	8466	3390	11252	3100
1 (1)	606	3353	1098	3079
2-10	3725	3221	5096	2953
11-20	4142	3124	1629	2893
21-30	795	3110	147	2855
31-40	430	3065	87	2863
41+	83	2964	20	2821
TOTAL	18247	3272	19329	3039
UNKNOWN	234	3233	175	3006
GRAND TOTAL	18481	3272	19504	3039

(1) OR SMOKED OCCASIONALLY.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY NUMBER OF CIGARETTES SMOKED PER DAY BY RACE

CIGARETTES SMOKED PER DAY	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
0	6865	122	17.77	10026	161	16.06
1 (1)	492	5	10.16	956	12	12.55
2-10	2946	50	16.97	4418	65	14.71
11-20	3289	50	15.20	1397	26	18.61
21-30	583	8	13.72	119	5	42.02
31-40	330	11	33.33	68	0	0
41+	60	2	33.33	18	1	55.56*
TOTAL	14565	248	17.03	17002	270	15.88
UNKNOWN	97	5	51.55	121	4	33.06
GRAND TOTAL	14662	253	17.26	17123	274	16.00

(1) OR SMOKED OCCASIONALLY.

* RATE BASED ON LESS THAN 20 CASES.

SUMMARY DATA FOR WHITE

ITEM	PERINATAL DEATHS				STILLBIRTHS		NEONATAL DEATHS	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL		
	BIRTHS NO.	%	NO.	RATE	NO.	RATE		LIVE-BIRTHS NO.	NO.	RATE	UNDER 2501 GM. NO.	1 YR EXAMS NO.	MEAN BWT. RATE	
MARITAL STATUS														
SINGLE	1125	5.9	30	26.7	14	12.4	1111	16	14.4	1100	83	75.5	668	
MARRIED	16494	86.6	585	35.5	374	22.7	16120	211	13.1	15994	1103	69.0	13011	
COMMON LAW	30	0.2	3	100.0	2	66.7	28	1	35.7	28	5	178.6	22	
WIDOWED	50	0.3	2	40.0	0	0	50	2	40.0	50	4	80.0	31	
DIVORCED	390	2.1	15	38.5	8	20.5	382	7	18.3	379	38	100.3	251	
SEPARATED	956	5.0	33	34.5	17	17.8	939	16	17.0	927	86	92.8	679	
EMPLOYMENT STATUS OF GRAVIDA AT REGIS:														
EMPLOYED	3616	19.7	105	29.0	67	18.5	3549	38	10.7	3521	212	60.2	2928	
GRAVIDA WITH TWIN SIBLING	341	1.9	14	41.1	9	26.4	332	5	15.1	331	30	90.6	247	
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	

SUMMARY DATA FOR NEGRO

ITEM	PERINATAL DEATHS				STILLBIRTHS		NEONATAL DEATHS	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL		
	BIRTHS NO.	%	NO.	RATE	NO.	RATE		LIVE-BIRTHS NO.	NO.	RATE	UNDER 2501 GM. NO.	1 YR EXAMS NO.	MEAN BWT. RATE	
MARITAL STATUS														
SINGLE	5679	28.2	230	40.5	117	20.6	5562	113	20.3	5489	811	147.8	4800	
MARRIED	12174	60.4	488	40.1	269	22.1	11905	219	18.4	11798	1537	130.3	10924	
COMMON LAW	268	1.3	11	41.0	4	14.9	264	7	26.5	261	29	111.1	213	
WIDOWED	123	0.6	4	32.5	2	16.3	121	2	16.5	119	13	109.2	109	
DIVORCED	184	0.9	12	65.2	10	54.3	174	2	11.5	173	18	104.0	148	
SEPARATED	1739	8.6	100	57.5	55	31.6	1684	45	26.7	1664	209	125.6	1429	
EMPLOYMENT STATUS OF GRAVIDA AT REGIS:														
EMPLOYED	2859	14.4	151	52.8	91	31.8	2768	60	21.7	2735	333	121.8	2420	
GRAVIDA WITH TWIN SIBLING	419	2.2	16	38.2	6	14.3	413	10	24.2	412	54	131.1	358	
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	

SECTION 2. PHYSICAL CHARACTERISTICS OF THE GRAVIDA

The physical dimensions of the mother are recognized determinants of birthweight and later stature of the child. While genetic factors undoubtedly are influential here, environmental circumstances are also important. Sir Dugald Baird^o was among the first to suggest a possible relationship between poor physique of the mother, inadequate diet during pregnancy, and other adverse socio-economic factors and increased rates of stillbirth, prematurity, and neonatal death. In 1962^{oo} he published the results of an extensive analysis of data collected in Aberdeen, Scotland, in which he weighed the effect of environmental and obstetrical factors leading to premature delivery. He assessed,

among other factors, the possible importance of maternal height (considered to be a useful index of long-term maternal well-being), prepregnant weight, and weight gain during pregnancy. His data show that the young wives of unskilled workers had poor physique and a high rate of prematurity (on the basis of infant birthweight), while tall women in the upper social classes had very low rates of prematurity. When both the height of the mother and her gestation period were considered, a higher rate of prematurity was found in short than tall women for each period of gestation. He also showed that, at each level of height, the per cent of "premature" infants delivered decreased as the prepregnant weight of the mother increased. The incidence of "premature" delivery decreased as the mother's weight gain in pregnancy increased, except for those mothers whose gain was very large as a result of pre-eclampsia. He commented on the difficulty of "disentangling" and quantifying the effect of obstetrical factors, such as pre-eclampsia, from those of the more general characteristics of maternal height and weight.

Investigators associated with the Collaborative Study have produced a number of publications de-

^oBaird, Dugald. The influence of social and economic factors on stillbirths and neonatal deaths. *J. Obstet. & Gynaec. British Empire*, 52:217, 1945.

^{oo}Baird, Dugald. Environmental factors in prematurity. *Bull. Wld. Health Org.*, 26:291, 1962.

scribing the physical characteristics of the gravidas and the association of these with birthweight.⁶

In this Study, information pertaining to maternal height, prepregnant weight, and weight at each clinic visit and at the time of admission to the hospital was collected.

The gravida's height was measured and recorded to the nearest inch at the time of her admission to the prenatal clinic. Prepregnant weight was reported by the gravida at the same time. Maternal weight gain was computed as the difference between the reported prepregnant weight and the weight measured at delivery. Where no delivery weight was available the weight at the last prenatal visit (within several weeks of delivery) was used in the computation.

As the length of the period of gestation strongly affects the maternal weight gain, the data reported here include only those pregnancies of 37 or more weeks of gestation. The data for women of gestations less than 37 weeks have been examined and are not inconsistent in their results with the findings of women at term and with those of Baird mentioned above.

A large body of information is available within the Study concerning the relationships between the maternal characteristics of race, height, prepregnant weight, weight gain during pregnancy, and fetal outcome. The information is presented here in terms of simple descriptive relationships between the maternal characteristics and fetal outcome. Because these characteristics are themselves related, it is difficult, in simple analyses such as these, to assess the strength of their individual relationships with fetal outcome.

The findings with respect to outcome are discussed under the following headings:

1. Height of gravida
2. Prepregnant weight
3. Prepregnant weight by height
4. Weight gain by prepregnant weight
5. Summary

HEIGHT OF GRAVIDA

It is of interest that the height distribution curves for White and Negro women almost coincide, suggesting that the height of the mother does not account for a

⁶Weiss, William and Jackson, Esther C. "Maternal factors affecting birthweight." *Perinatal factors affecting human development*, p. 54, Pan American Health Organization, Washington, D.C., 1969.

Singer, J. E., Westphal, M., and Niswander, K. "Relationship of Weight Gain during Pregnancy to Birthweight and Infant Growth and Development in the First Year of Life." *Obstet. & Gynec.*, 31:417, 1968.

Eastman, Nicholson J., and Jackson, Esther. "Weight Relationships in Pregnancy." *Obstet. Gynec. Survey*, 23:1003, 1968.

Niswander, Kenneth R., Singer, Judith, Westphal, Milton Jr., and Weiss, William. "Weight Gain during Pregnancy and Prepregnancy Weight." *Obst. & Gynec.*, 33:482, 1969.

Weiss, William, Jackson, Esther C., Niswander, Kenneth, and Eastman, Nicholson J. "The Influence on Birthweight of Change in Maternal Weight Gain in Successive Pregnancies of the Same Woman." *Intern. J. Gyn. & Obst.*, 7:210, 1969.

significant part of the difference in birthweight observed between White and Negro infants. An examination of mean birthweight by height of mother, by race, substantiates this impression.

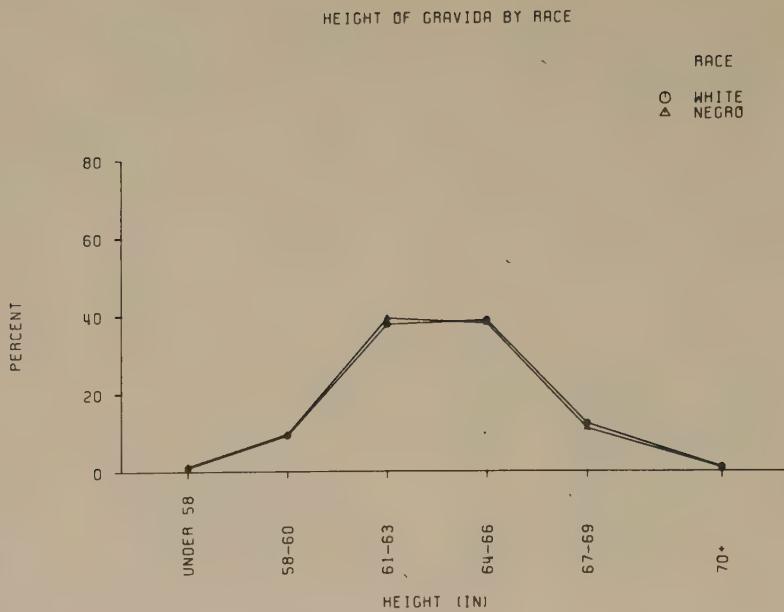
While the perinatal death rates, in general, are not strikingly affected by the height of mother, these rates for babies weighing less than 2501 grams at birth are more than doubled for White women measuring 67 inches or more. This increase in the perinatal mortality of the small White infants of taller mothers reflects substantial increases in both the stillbirth and neonatal death rates. The relationship for Negro infants tends to be similar to Whites for rates of perinatal mortality and stillbirths, but less marked. The neonatal death rates are inconsistent.

The steadily increasing mortality rates for White infants weighing below 2501 grams with each increase in maternal height above 60 inches raises the question of the maturity of these infants. Are the small babies of tall women less mature for a given birthweight than those of short women? Further analysis, by gestational age, is planned to answer this question. Among Negroes, there is a similar trend among low birthweight infants for stillbirths, but not for neonatal deaths.

An association between mean birthweight and height of mother is observed for both Negroes and Whites, with sharply increased birthweight as maternal height increases progressively above 60 inches. This increase in mean birthweight is almost 300 grams in Whites, from 3116 grams for mothers of 58 to 60 inches tall to 3409 grams for mothers of 67 inches and above. There is a comparable, though somewhat smaller, increase of 219 grams (2925 to 3144 grams) in Negroes. The nearly parallel lines on the chart showing mean birthweight by height of gravida suggest that the relationships between these variables are similar for both races. The difference in mean birthweight is approximately 200 grams in favor of the White infants for each level of maternal height. Some portion of this difference is undoubtedly due to the longer mean gestational age of White as compared with Negro infants, a difference of some eight days. In a subsample of this population,⁷ adjustment of the birthweight of White infants to facilitate comparison with that of Negroes included a compensation for this difference in gestational age. When this adjustment was made a large part of the birthweight difference disappeared.

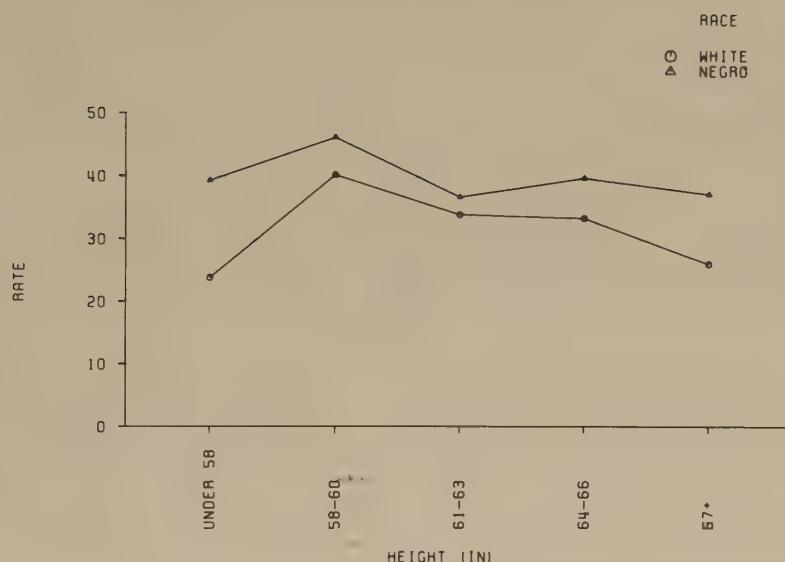
The data pertaining to rates of low birthweight infants are analogous for the two races, decreasing from a low birthweight rate of 128.8 for Whites less than 58 inches to 57.3 for those over 66 inches tall. The rates for Negro women decreased progressively with increasing height from 174 for those under 58 inches to 105 for those more than 66 inches tall.

⁷Penchaszadeh, V. B., Hardy, J. B., Mellits, E. D., Cohen, B. H., and McKusick, V. A. "Growth and Development in an Inner City Population: An Assessment of Possible Biologic and Environmental Influences. II. The Effect of Certain Maternal Characteristics on Birthweight, Gestational Age, and Intrauterine Growth." In press.



HEIGHT (INCHES)	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
UNDER 58	168	0.99	254	1.31
58-60	1560	9.21	1855	9.57
61-63	6398	37.76	7619	39.29
64-66	6565	38.74	7362	37.97
67-69	2077	12.26	2120	10.93
70+	177	1.04	181	0.93
TOTAL	16945	100.00	19391	100.00
UNKNOWN	2103	11.04	776	3.85
GRAND TOTAL	19048	100.00	20167	100.00

PERINATAL DEATHS BY HEIGHT OF GRAVIDA BY RACE



PERINATAL DEATHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - WHITE

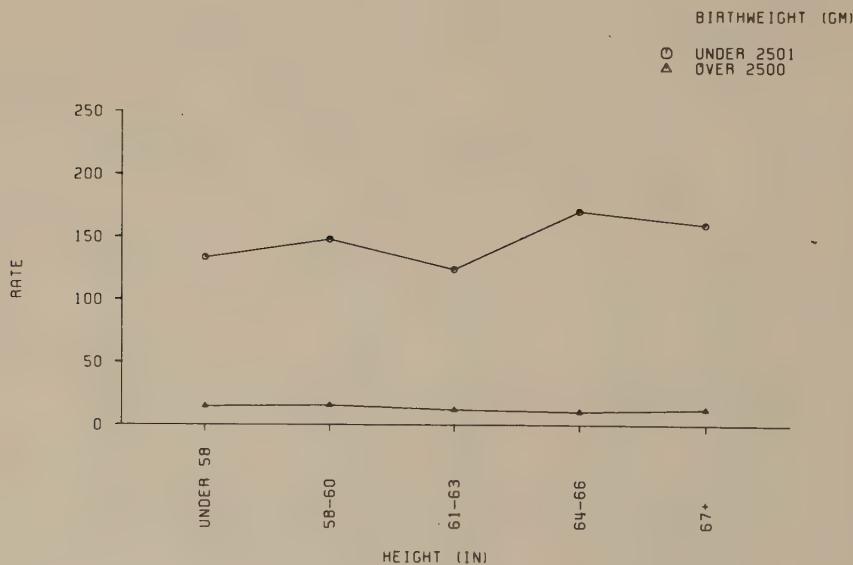


PERINATAL DEATHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - WHITE

HEIGHT (INCHES)	UNDER 2501 GM			OVER 2500 GM			TOTAL (1)	
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
UNDER 58	22	2	90.91	142	0	0	168	4
58-60	172	27	156.98	1361	19	13.96	1560	63
61-63	542	97	178.97	5751	55	9.56	6398	218
64-66	417	98	235.01	6060	59	9.74	6565	220
67+	145	32	220.69	2078	10	4.81	2254	59
TOTAL	1298	256	197.23	15392	143	9.29	16945	564
UNKNOWN	189	59	312.17	1851	14	7.56	2103	104
GRAND TOTAL	1487	315	211.84	17243	157	9.11	19048	668

(1) INCLUDES UNKNOWN BIRTHWEIGHTS.

PERINATAL DEATHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - NEGRO

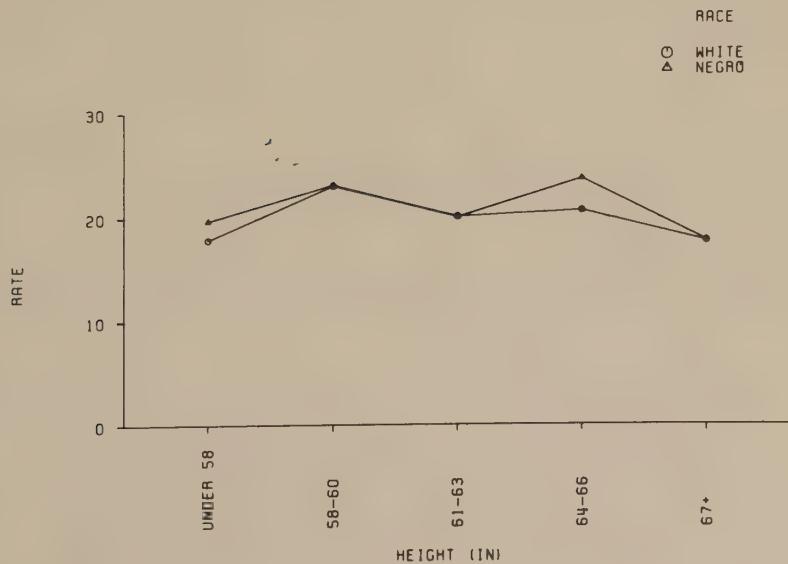


PERINATAL DEATHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - NEGRO

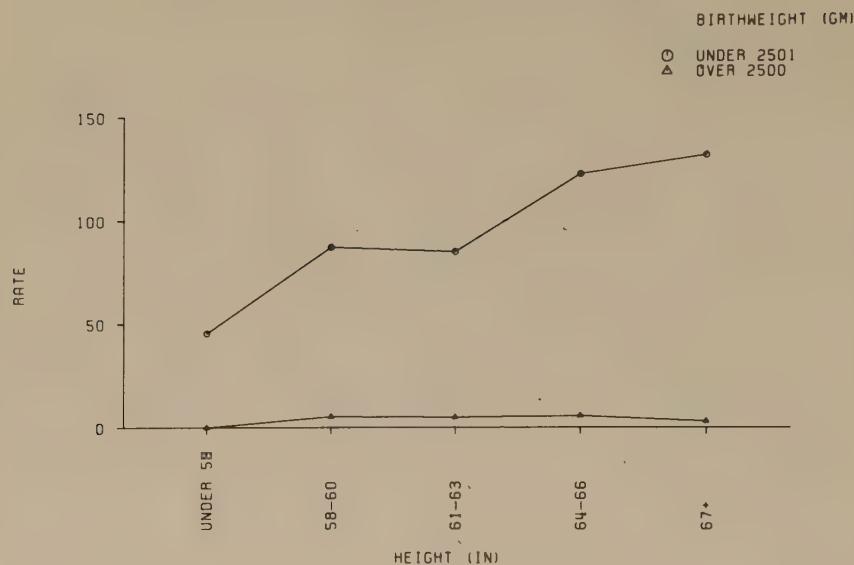
HEIGHT (INCHES)	UNDER 2501 GM			OVER 2500 GM			TOTAL (1)		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
UNDER 58	45	6	133.33	206	3	14.56	254	10	39.37
58-60	331	49	148.04	1497	23	15.36	1855	86	46.36
61-63	1111	138	124.21	6388	76	11.90	7619	281	36.88
64-66	936	160	170.94	6317	66	10.45	7362	294	39.93
67+	256	41	160.16	2010	25	12.44	2301	86	37.38
TOTAL	2679	394	147.07	16418	193	11.76	19391	757	39.04
UNKNOWN	138	44	318.84	569	5	8.79	776	88	113.40
GRAND TOTAL	2817	438	155.48	16987	198	11.66	20167	845	41.90

(1) INCLUDES UNKNOWN BIRTHWEIGHTS.

STILLBIRTHS BY HEIGHT OF GRAVIDA BY RACE



STILLBIRTHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - WHITE

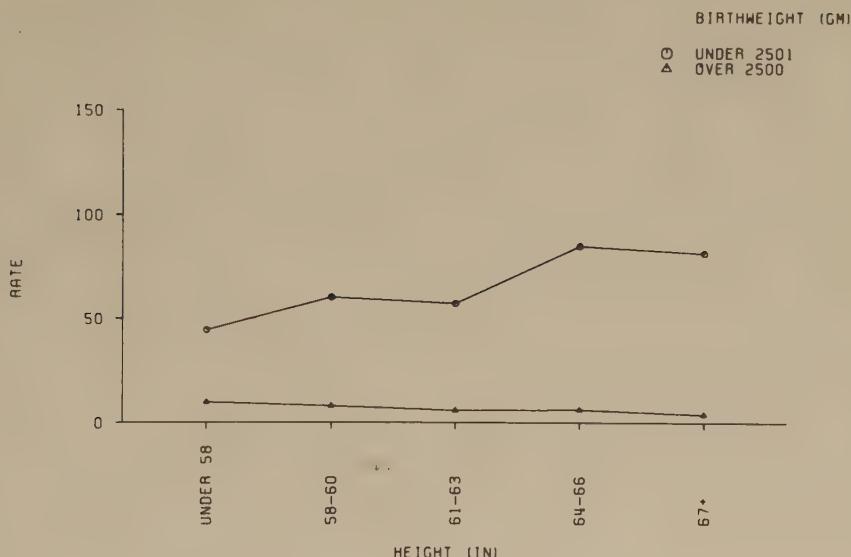


STILLBIRTHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - WHITE

HEIGHT (INCHES)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
UNDER 58	22	1	45.45	142	0	0	168	3	17.86
58-60	172	15	87.21	1361	7	5.14	1560	36	23.08
61-63	542	46	84.87	5751	28	4.87	6398	129	20.16
64-66	417	51	122.30	6060	34	5.61	6565	136	20.72
67+	145	19	131.03	2078	6	2.89	2254	40	17.75
TOTAL	1298	132	101.69	15392	75	4.87	16945	344	20.30
UNKNOWN	189	36	190.48	1851	6	3.24	2103	71	33.76
GRAND TOTAL	1487	168	112.98	17243	81	4.70	19048	415	21.79

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

STILLBIRTHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - NEGRO

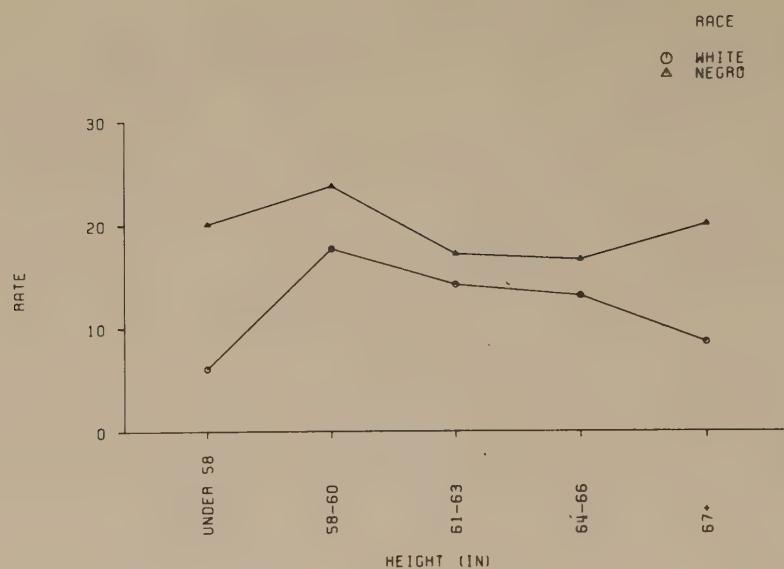


STILLBIRTHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - NEGRO

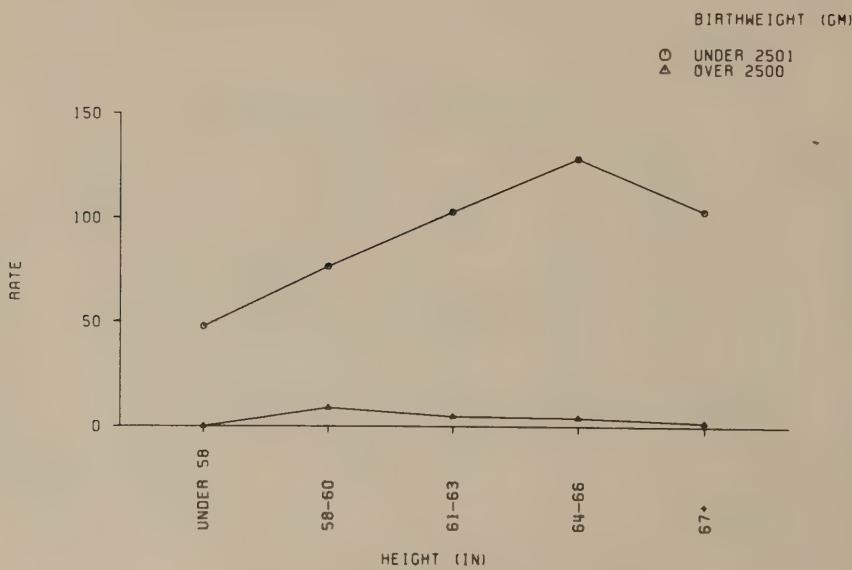
HEIGHT (INCHES)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
UNDER 58	45	2	44.44	206	2	9.71	254	5	19.69
58-60	331	20	60.42	1497	12	8.02	1855	43	23.18
61-63	1111	64	57.61	6388	37	5.79	7619	153	20.08
64-66	936	80	85.47	6317	39	6.17	7362	175	23.77
67+	256	21	82.03	2010	8	3.98	2301	41	17.82
TOTAL	2679	187	69.80	16418	98	5.97	19391	417	21.50
UNKNOWN	138	13	94.20	569	2	3.51	776	40	51.55
GRAND TOTAL	2817	200	71.00	16987	100	5.89	20167	457	22.66

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

NEONATAL DEATHS BY HEIGHT OF GRAVIDA BY RACE



NEONATAL DEATHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - WHITE

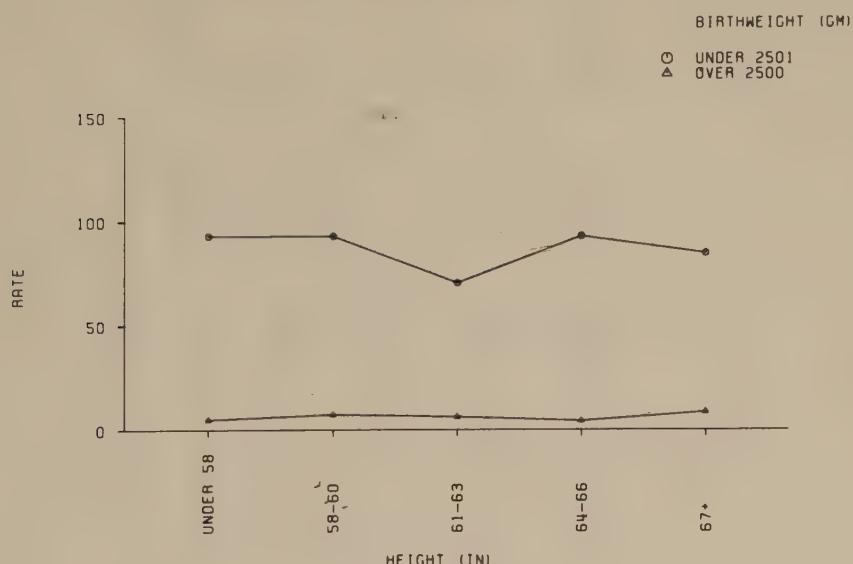


NEONATAL DEATHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - WHITE

HEIGHT (INCHES)	UNDER 2501 GM			OVER 2500 GM			TOTAL (1)		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
UNDER 58	21	1	47.62	142	0	0	165	1	6.06
58-60	157	12	76.43	1354	12	8.86	1524	27	17.72
61-63	496	51	102.82	5723	27	4.72	6269	89	14.20
64-66	366	47	128.42	6026	25	4.15	6429	84	13.07
67+	126	13	103.17	2072	4	1.93	2214	19	8.58
TOTAL	1166	124	106.35	15317	68	4.44	16601	220	13.25
UNKNOWN	153	23	150.33	1845	8	4.34	2032	33	16.24
GRAND TOTAL	1319	147	111.45	17162	76	4.43	18633	253	13.58

(1) INCLUDES UNKNOWN BIRTHWEIGHTS.

NEONATAL DEATHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - NEGRO

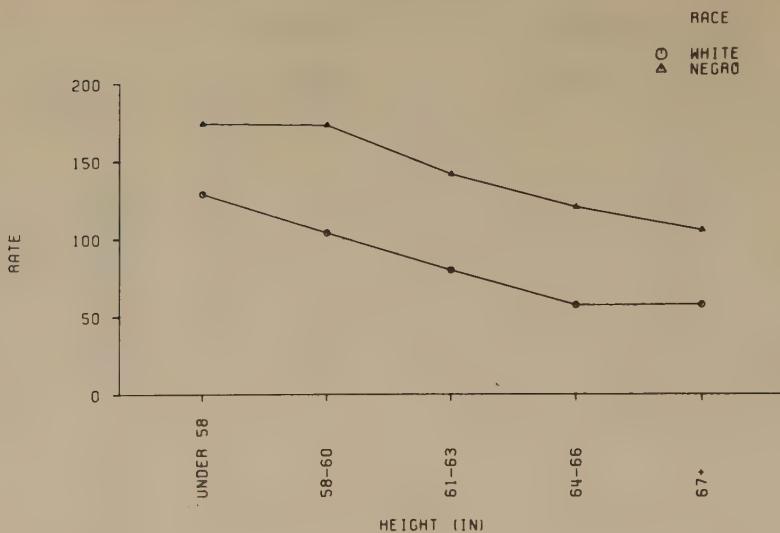


NEONATAL DEATHS BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - NEGRO

HEIGHT (INCHES)	UNDER 2501 GM			OVER 2500 GM			TOTAL (1)		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
UNDER 58	43	4	93.02	204	1	4.90	249	5	20.08
58-60	311	29	93.25	1485	11	7.41	1812	43	23.73
61-63	1047	74	70.68	6351	39	6.14	7466	128	17.14
64-66	856	80	93.46	6278	27	4.30	7187	119	16.56
67+	235	20	85.11	2002	17	8.49	2260	45	19.91
TOTAL	2492	207	83.07	16320	95	5.82	18974	340	17.92
UNKNOWN	125	31	248.00	567	3	5.29	736	48	65.22
GRAND TOTAL	2617	238	90.94	16887	98	5.80	19710	388	19.69

(1) INCLUDES UNKNOWN BIRTHWEIGHTS.

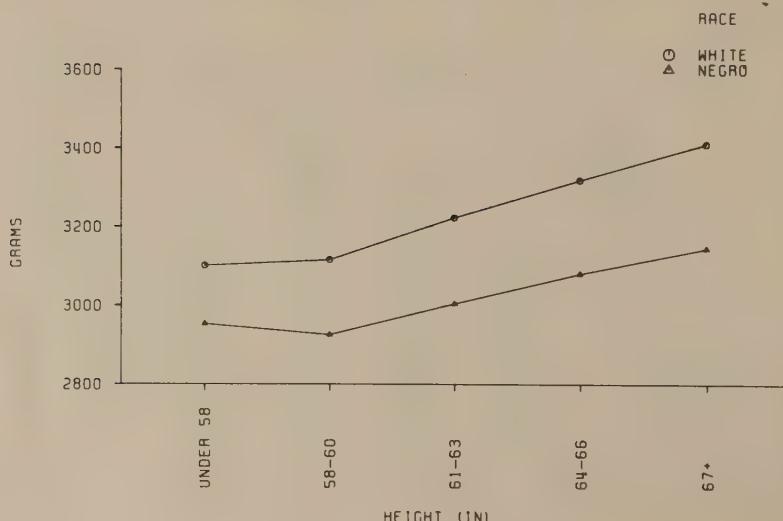
BIRTHWEIGHTS UNDER 2501 GM BY HEIGHT OF GRAVIDA BY RACE



BIRTHWEIGHTS UNDER 2501 GM BY HEIGHT OF GRAVIDA BY RACE

HEIGHT (INCHES)	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM	RATE
UNDER 58	163	21	128.83	247	43	174.09
58-60	1511	157	103.90	1796	311	173.16
61-63	6219	496	79.76	7398	1047	141.52
64-66	6392	366	57.26	7135	856	119.97
67+	2198	126	57.32	2237	235	105.05
TOTAL	16483	1166	70.74	18813	2492	132.46
UNKNOWN	1998	153	76.58	691	125	180.90
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

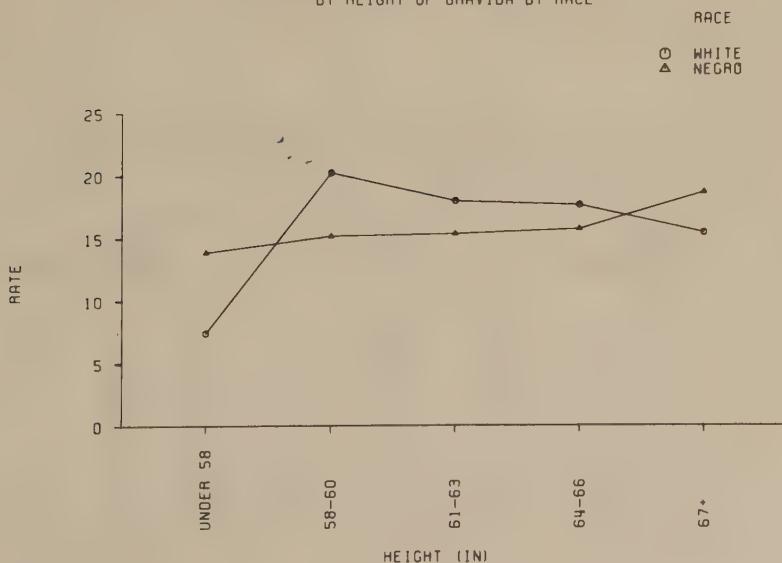
MEAN BIRTHWEIGHT BY HEIGHT OF GRAVIDA BY RACE

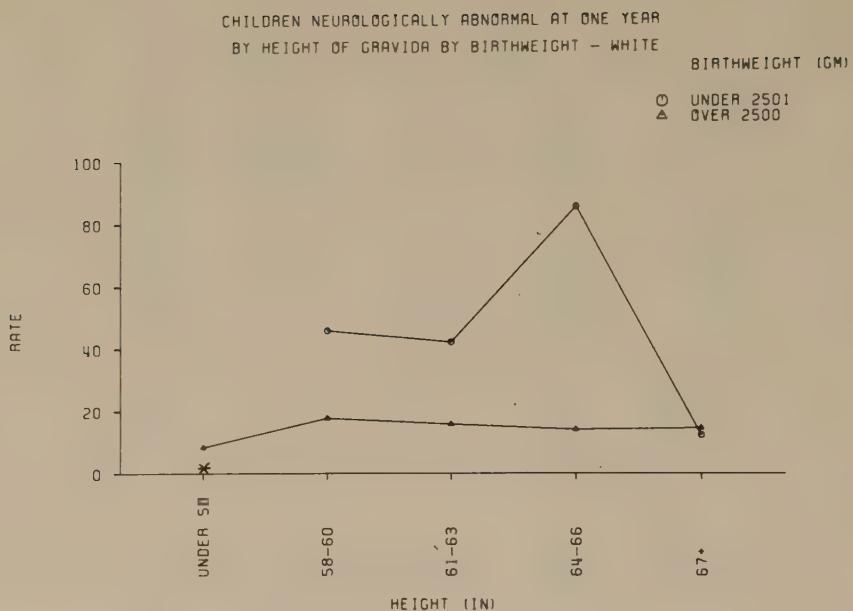


MEAN BIRTHWEIGHT BY HEIGHT OF GRAVIDA BY RACE

HEIGHT (INCHES)	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
UNDER 58	163	3101	247	2953
58-60	1511	3116	1796	2925
61-63	6219	3223	7398	3004
64-66	6392	3317	7135	3080
67+	2198	3409	2237	3144
TOTAL	16983	3274	18813	3041
UNKNOWN	1998	3256	691	2982
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY HEIGHT OF GRAVIDA BY RACE

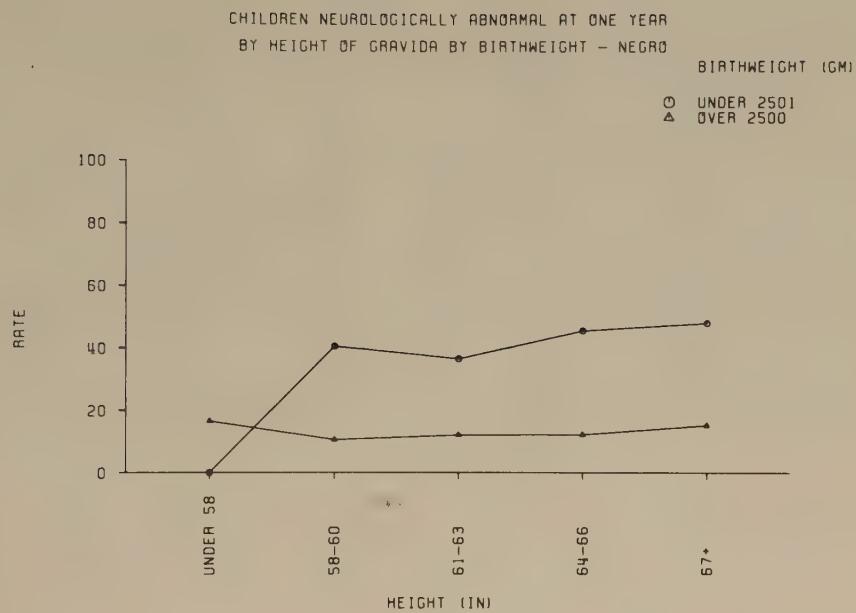




CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - WHITE

HEIGHT (INCHES)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 58	14	0	0 *	120	1	8.33	135	1	7.41
58-60	109	5	45.87	1070	19	17.76	1182	24	20.30
61-63	356	15	42.13	4561	72	15.79	4935	89	18.03
64-66	257	22	85.60	4869	68	13.97	5138	91	17.71
67+	82	1	12.20	1655	24	14.50	1743	27	15.49
TOTAL	818	43	52.57	12275	184	14.99	13133	232	17.67
UNKNOWN	103	5	48.54	1421	16	11.26	1529	21	13.73
GRAND TOTAL	921	48	52.12	13696	200	14.60	14662	253	17.26

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.
* RATE BASED ON LESS THAN 20 CASES.



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY HEIGHT OF GRAVIDA BY BIRTHWEIGHT - NEGRO

HEIGHT (INCHES)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 58	33	0	0	182	3	16.48	216	3	13.89
58-60	246	10	40.65	1325	14	10.57	1576	24	15.23
61-63	874	32	36.61	5642	68	12.05	6549	101	15.42
64-66	679	31	45.66	5570	68	12.21	6269	99	15.79
67+	187	9	48.13	1780	27	15.17	1976	37	18.72
TOTAL	2019	82	40.61	14499	180	12.41	16586	264	15.92
UNKNOWN	73	4	54.79	462	6	12.99	537	10	18.62
GRAND TOTAL	2092	86	41.11	14961	186	12.43	17123	274	16.00

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

SECTION 2. PHYSICAL CHARACTERISTICS OF THE GRAVIDA (Continued)

PREPREGNANT WEIGHT

Five per cent of the women, both White and Negro, reported prepregnant weights below 100 lb. One-third weighed between 100 and 119 lb., and slightly more than one-third between 120-139 lb. The remainder were distributed over the range from 140 to more than 260 lb, with four per cent of the Whites and seven per cent of the Negroes reporting weights over 180 lbs.

When the perinatal death rates are shown separately for babies above 2500 grams birthweight and those 2500 grams and below, there is a steady increase in mortality for each group with increasing prepregnant weight in both races. This trend also holds for stillbirth and neonatal death rates.

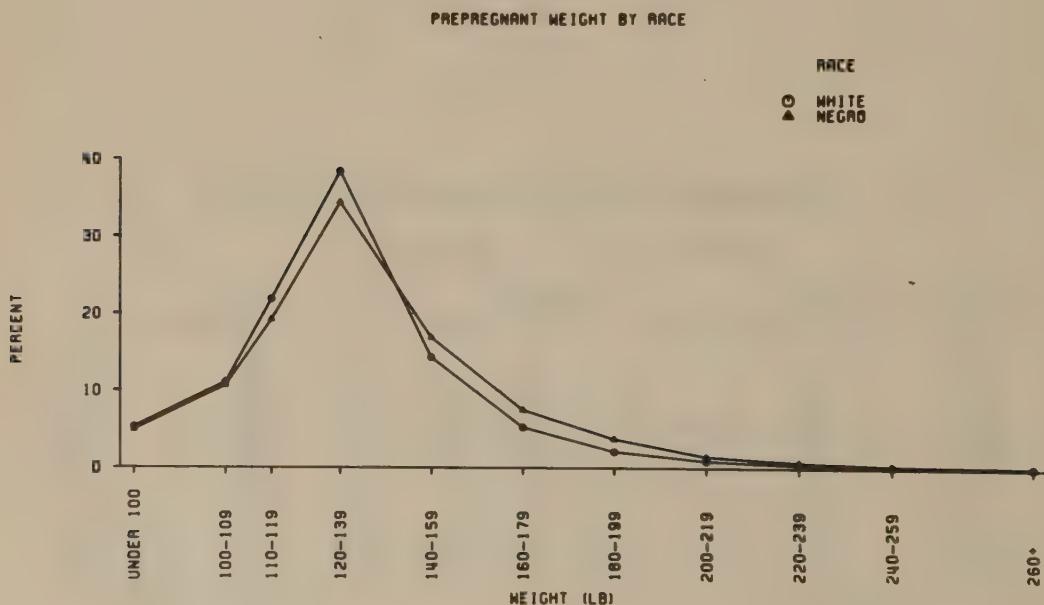
It may be that the low birthweight babies of heavier mothers are more frequently small because of a morbid condition (such as chronic hypertension, for

example) than are the babies of low birthweight of small mothers. The latter are more likely to be small as a genetic consequence. Indeed, examination of the birthweight tables shows that the light-weight mothers produce low birthweight babies at several times the rate of the heavy mothers. To put it another way, a small mother is much more likely to produce a small baby than is a heavier mother, but the risk of a perinatal death of the former's low birthweight baby is a fraction of that of the heavier mother.

Among women of each race, the mean birthweight increases and the proportion of low birthweight babies decreases with increasing prepregnant weight.

The associations of prepregnant weight with birthweight and with mortality differ in that the low birthweight rate is decreasing as the perinatal death rate is increasing.

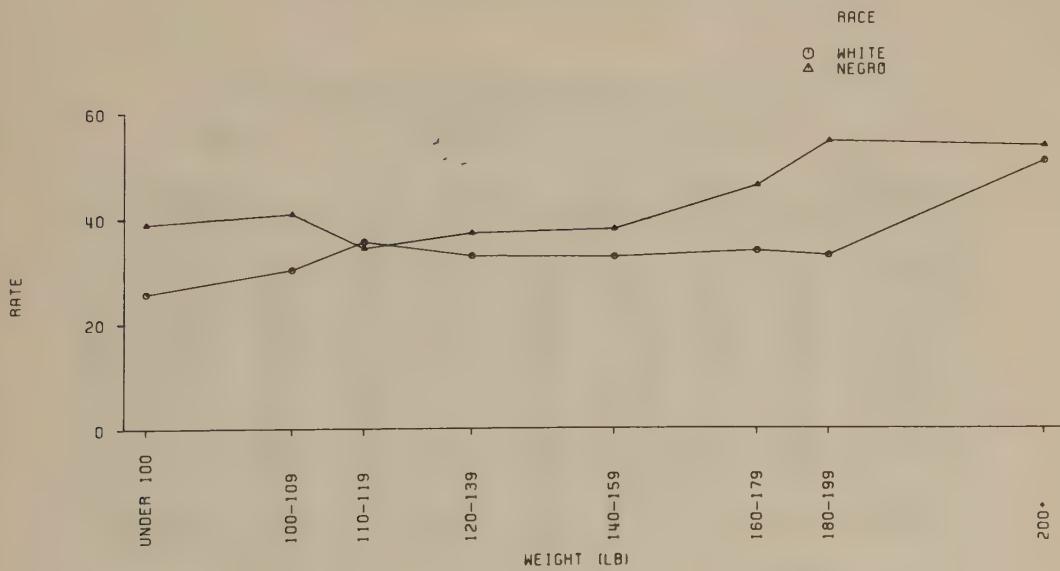
The mortality rates of babies of mothers of unknown prepregnant weight are considerably higher than expected. This is associated with a higher rate of low birthweight infants among the mothers with unknown prepregnant weight than is the case with the other mothers.



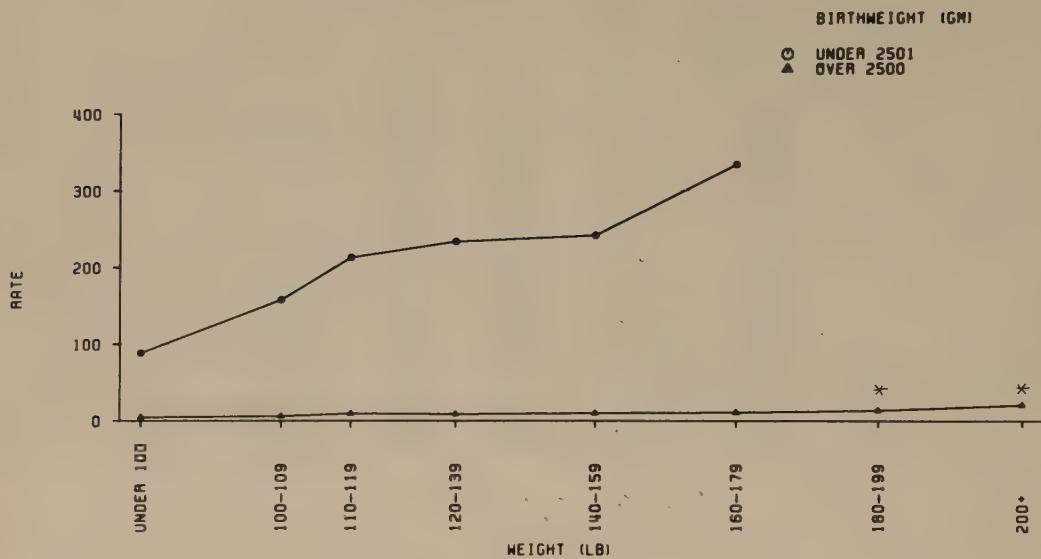
PREPREGNANT WEIGHT BY RACE

PREPREGNANT WEIGHT (LB)	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
UNDER 100	973	5.27	951	4.87
100-109	2045	11.07	2076	10.64
110-119	4038	21.85	3747	19.20
120-139	7096	38.40	6712	34.39
140-159	2649	14.34	3301	16.91
160-179	971	5.25	1465	7.51
180-199	393	2.13	729	3.74
200-219	170	0.92	284	1.46
220-239	79	0.43	145	0.74
240-259	37	0.20	64	0.33
260+	27	0.15	44	0.23
TOTAL	18478	100.00	19518	100.00
UNKNOWN	570	2.99	649	3.22
GRAND TOTAL	19048	100.00	20167	100.00

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY RACE



PERINATAL DEATHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - WHITE



* RATE BASED ON LESS THAN 20 CASES.

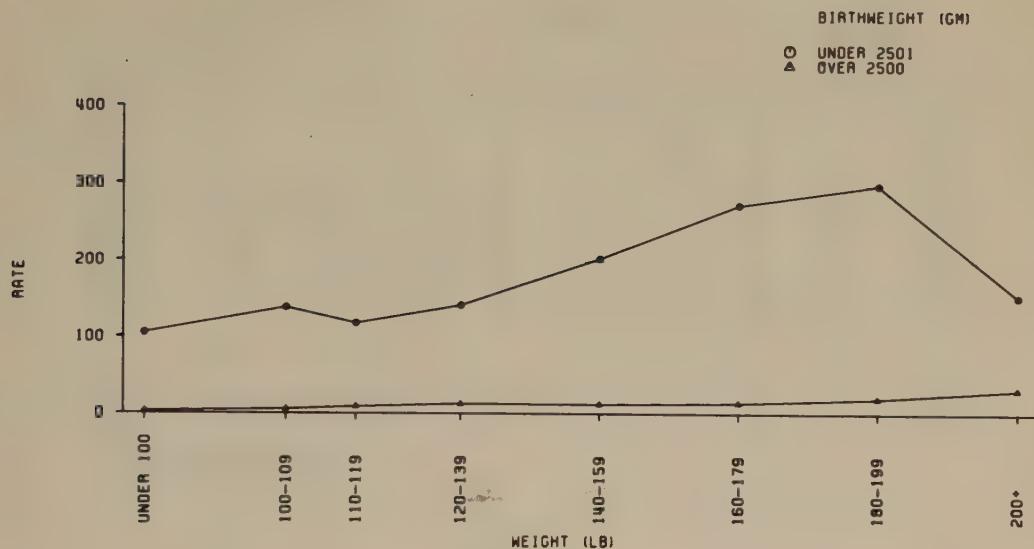
PERINATAL DEATHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - WHITE

PREPREGNANT WEIGHT (LB)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
UNDER 100	147	13	88.44	810	4	4.94	973	25	25.69
100-109	228	36	157.89	1797	11	6.12	2045	62	30.32
110-119	357	76	212.89	3619	34	9.39	4038	144	35.66
120-139	453	106	234.00	6537	57	8.72	7096	234	32.98
140-159	149	36	241.61	2464	25	10.15	2649	87	32.84
160-179	48	16	333.33	911	10	10.98	971	33	33.99
180-199	17	4	235.29*	369	5	13.55	393	13	33.08
200+	10	4	400.00*	295	6	20.34	313	16	51.12
TOTAL	1409	291	206.53	16802	152	9.05	18478	614	33.23
UNKNOWN	78	24	307.69	441	5	11.34	570	54	94.74
GRAND TOTAL	1487	315	211.84	17243	157	9.11	19048	668	35.07

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - NEGRO

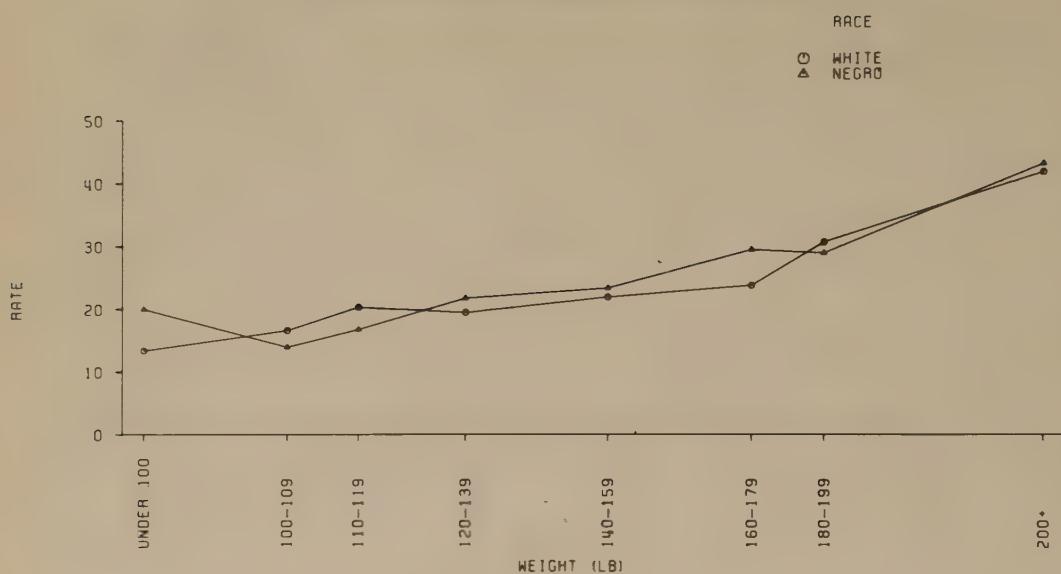


PERINATAL DEATHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - NEGRO

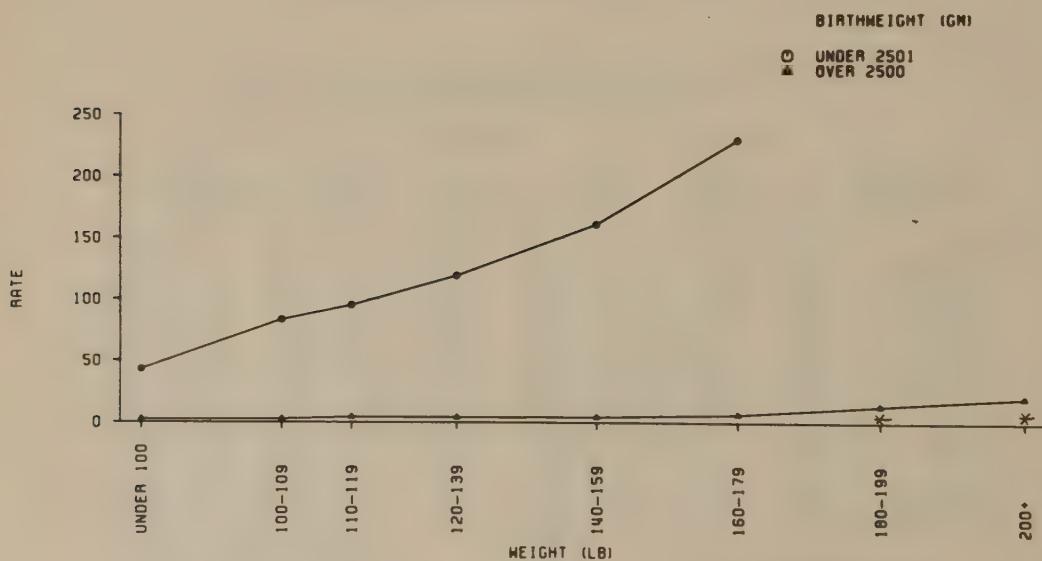
PREPREGNANT WEIGHT (LB)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
UNDER 100	247	26	105.26	683	2	2.93	951	37	38.91
100-109	432	60	138.89	1617	9	5.57	2076	85	40.94
110-119	625	74	118.40	3073	28	9.11	3747	129	34.43
120-139	844	120	142.18	5767	72	12.48	6712	251	37.40
140-159	309	63	203.88	2951	36	12.20	3301	126	38.17
160-179	124	34	274.19	1313	18	13.71	1465	68	46.42
180-199	60	18	300.00	655	13	19.85	729	40	54.87
200+	52	8	153.85	474	15	31.65	537	29	54.00
TOTAL	2693	403	149.65	16533	193	11.67	19518	765	39.19
UNKNOWN	124	35	282.26	454	5	11.01	649	80	123.27
GRAND TOTAL	2817	438	155.48	16987	198	11.66	20167	845	41.90

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

STILLBIRTHS BY PREPREGNANT WEIGHT BY RACE



STILLBIRTHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - WHITE



* RATE BASED ON LESS THAN 20 CASES.

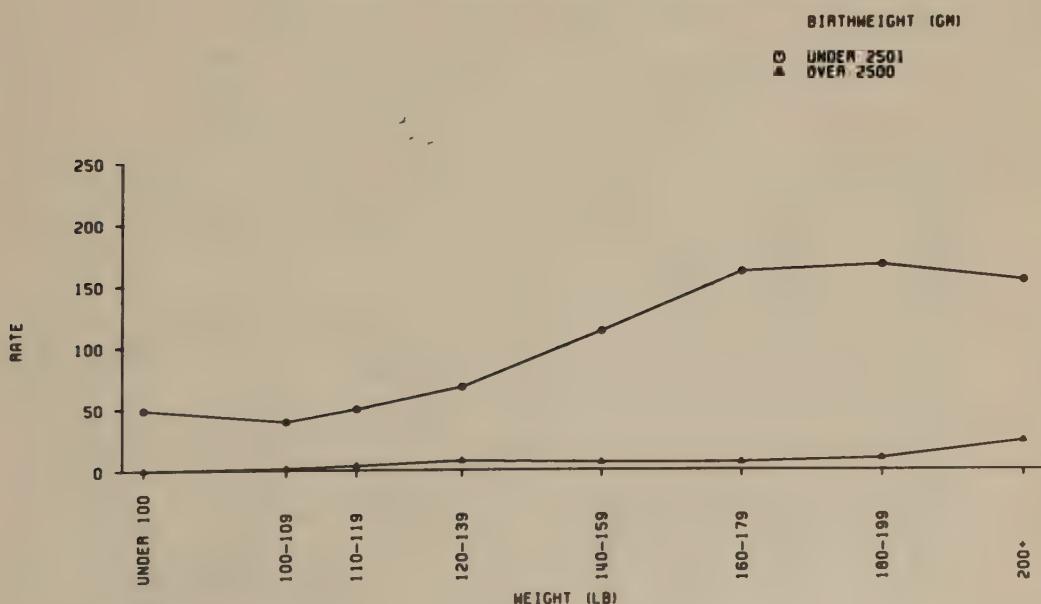
STILLBIRTHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - WHITE

PREPREGNANT WEIGHT (LB)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
UNDER 100	147	6	40.82	810	2	2.47	973	13	13.36
100-109	228	19	83.33	1797	5	2.78	2045	34	16.63
110-119	357	34	95.24	3619	16	4.42	4038	82	20.31
120-139	453	54	119.21	6537	26	3.98	7096	138	19.45
140-159	149	24	161.07	2164	11	4.16	2649	58	21.90
160-179	48	11	229.17	911	6	6.59	971	23	23.69
180-199	17	3	176.47*	369	5	13.55	393	12	30.53
200+	10	2	200.00*	295	6	20.34	313	13	41.53
TOTAL	1409	153	108.59	16802	77	4.58	18478	373	20.19
UNKNOWN	78	15	192.31	441	4	9.07	570	12	73.68
GRAND TOTAL	1487	168	112.98	17243	81	4.70	19048	415	21.79

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - NEGRO

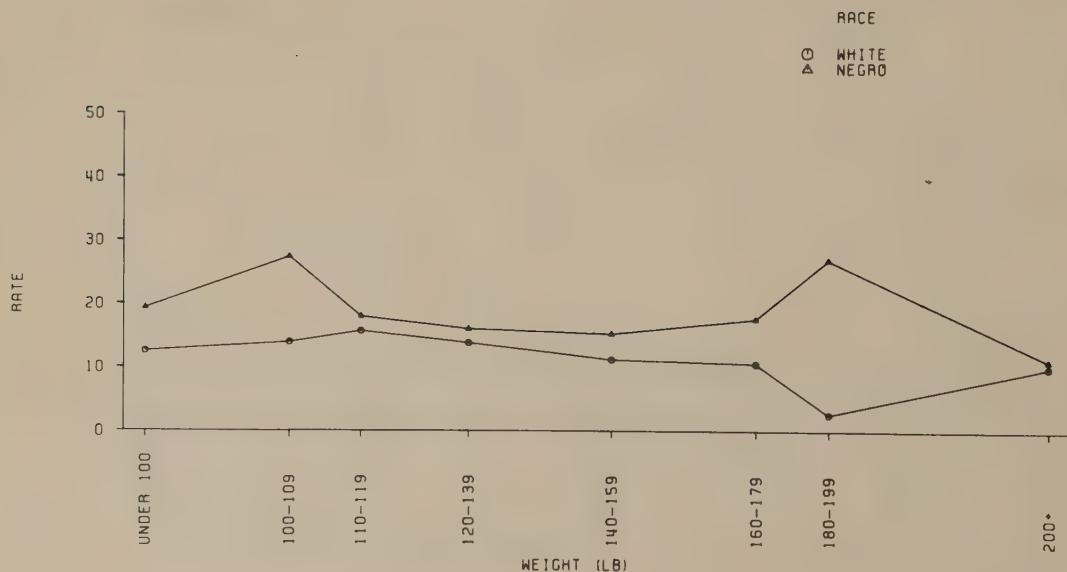


STILLBIRTHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - NEGRO

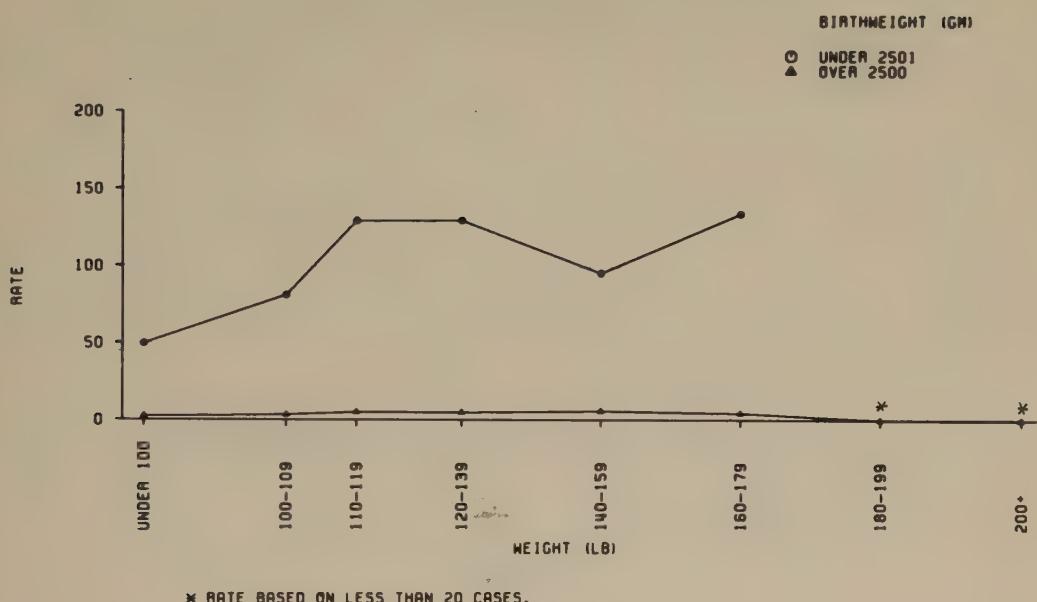
PREPREGNANT WEIGHT (LB)	UNDER 2501 GM			OVER 2500 GM			TOTAL (1)		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
UNDER 100	247	12	48.58	683	0	0	951	19	19.98
100-109	432	17	39.35	1617	2	1.24	2076	29	13.97
110-119	625	31	49.60	3073	11	3.58	3747	63	16.81
120-139	844	57	67.54	5767	43	7.46	6712	146	21.75
140-159	309	35	113.27	2951	18	6.10	3301	77	23.33
160-179	124	20	161.29	1313	8	6.09	1465	43	29.35
180-199	60	10	166.67	655	6	9.16	729	21	28.81
200+	52	8	153.85	474	11	23.21	537	23	42.83
TOTAL	2693	190	70.55	16533	99	5.99	19518	421	21.57
UNKNOWN	124	10	80.65	454	1	2.20	649	36	55.47
GRAND TOTAL	2817	200	71.00	16987	100	5.89	20167	457	22.66

(1) INCLUDES UNKNOWN BIRTHWEIGHTS.

NEONATAL DEATHS BY PREPREGNANT WEIGHT, BY RACE



NEONATAL DEATHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - WHITE



* RATE BASED ON LESS THAN 20 CASES.

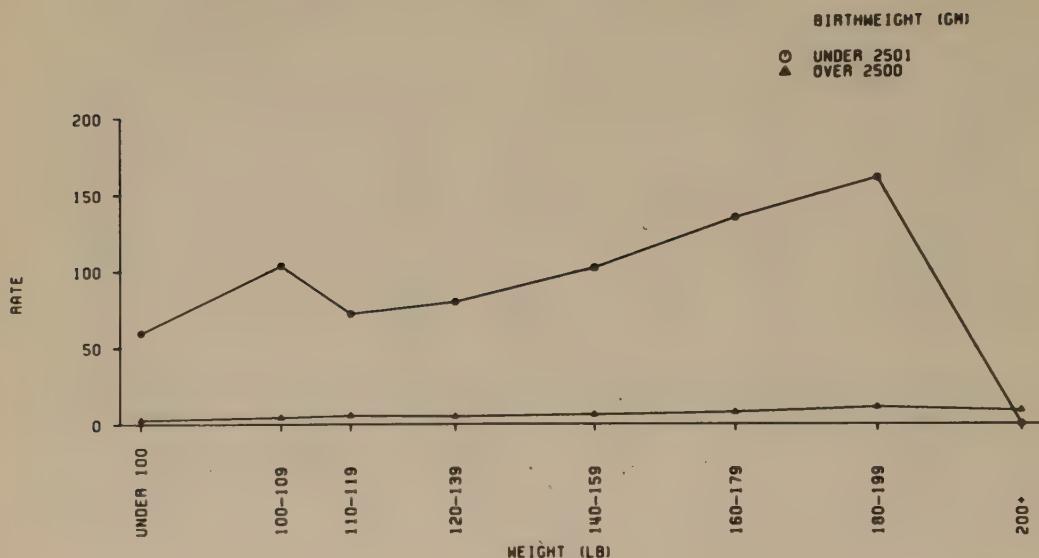
NEONATAL DEATHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - WHITE

PREPREGNANT WEIGHT (LB)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
UNDER 100	141	7	49.65	808	2	2.48	960	12	12.50
100-109	209	17	81.34	1792	6	3.35	2011	28	13.92
110-119	323	42	130.03	3603	18	5.00	3956	62	15.67
120-139	399	52	130.33	6511	31	4.76	6958	96	13.80
140-159	125	12	96.00	2453	14	5.71	2591	29	11.19
160-179	37	5	135.14	905	4	4.42	948	10	10.55
180-199	14	1	71.43*	364	0	0	381	1	2.62
200+	8	2	250.00*	289	0	0	300	3	10.00
TOTAL	1256	138	109.87	16725	75	4.48	18105	241	13.31
UNKNOWN	63	9	142.86	437	1	2.29	528	12	22.73
GRAND TOTAL	1319	147	111.45	17162	76	4.43	18633	253	13.58

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - NEGRO

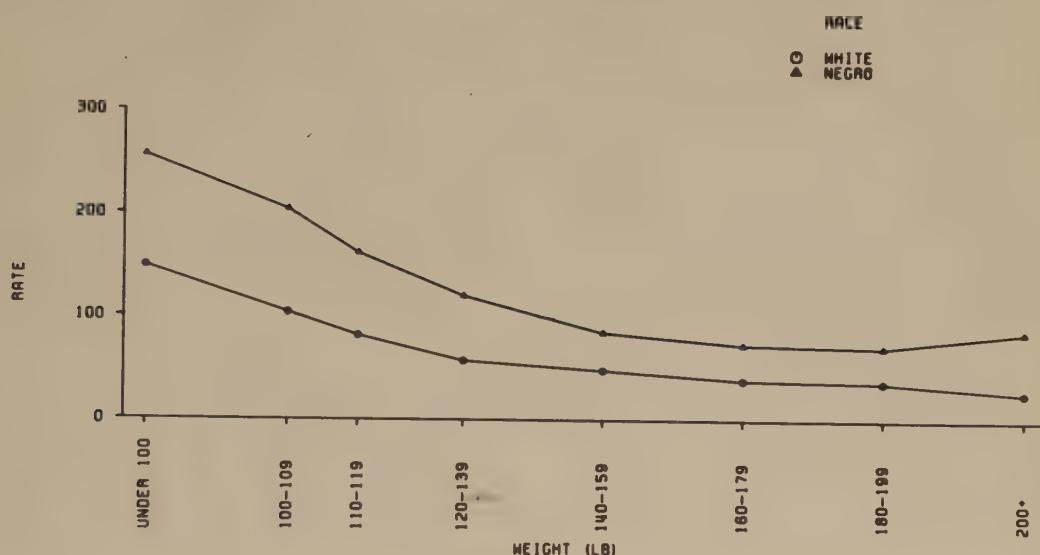


NEONATAL DEATHS BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - NEGRO

PREPREGNANT WEIGHT (LB)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
UNDER 100	235	14	59.57	683	2	2.93	932	18	19.31
100-109	415	43	103.61	1615	7	4.33	2047	56	27.36
110-119	594	43	72.39	3062	17	5.55	3684	66	17.92
120-139	787	63	80.05	5724	29	5.07	6566	105	15.99
140-159	274	28	102.19	2933	18	6.14	3224	49	15.20
160-179	104	14	134.62	1305	10	7.66	1422	25	17.58
180-199	50	8	160.00	649	7	10.79	708	19	26.04
200+	44	0	0	463	1	8.64	514	6	11.67
TOTAL	2503	213	85.10	16434	94	5.72	19097	344	18.01
UNKNOWN	114	25	219.30	453	4	8.83	613	44	71.78
GRAND TOTAL	2617	238	90.94	16887	98	5.80	19710	388	19.69

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

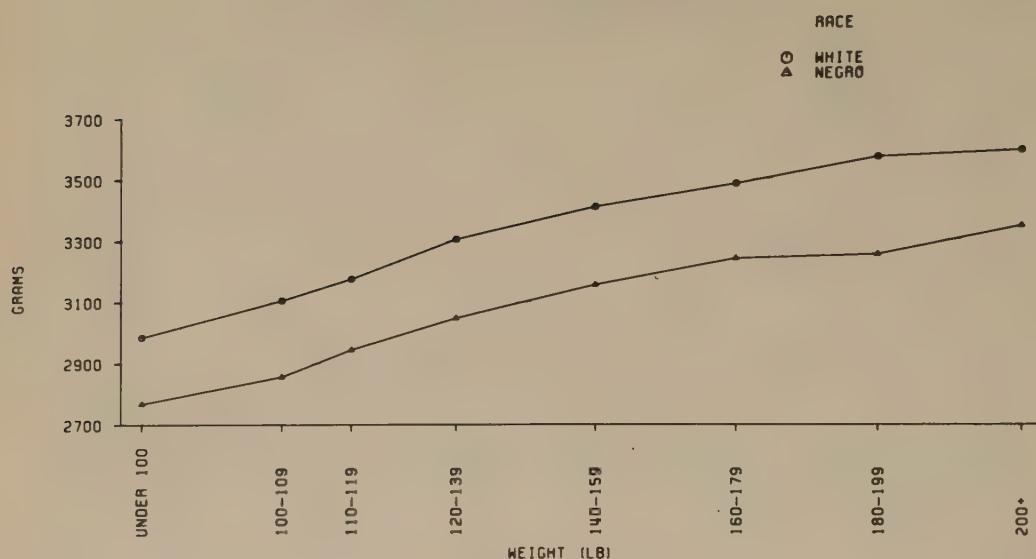
BIRTHWEIGHTS UNDER 2501 GM BY PREPREGNANT WEIGHT BY RACE



BIRTHWEIGHTS UNDER 2501 GM BY PREPREGNANT WEIGHT BY RACE

PREPREGNANT WEIGHT (LB)	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
UNDER 100	949	141	148.58	918	235	255.99
100-109	2001	209	104.45	2030	415	204.43
110-119	3926	323	82.27	3656	591	162.47
120-139	6910	399	57.74	6511	787	120.87
140-149	2578	125	48.49	3207	271	85.44
160-179	942	37	39.28	1109	104	73.81
180-199	378	14	37.04	700	50	71.43
200+	297	8	26.94	507	44	86.79
TOTAL	17981	1256	69.85	18938	2503	132.17
UNKNOWN	500	63	126.00	566	114	201.41
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

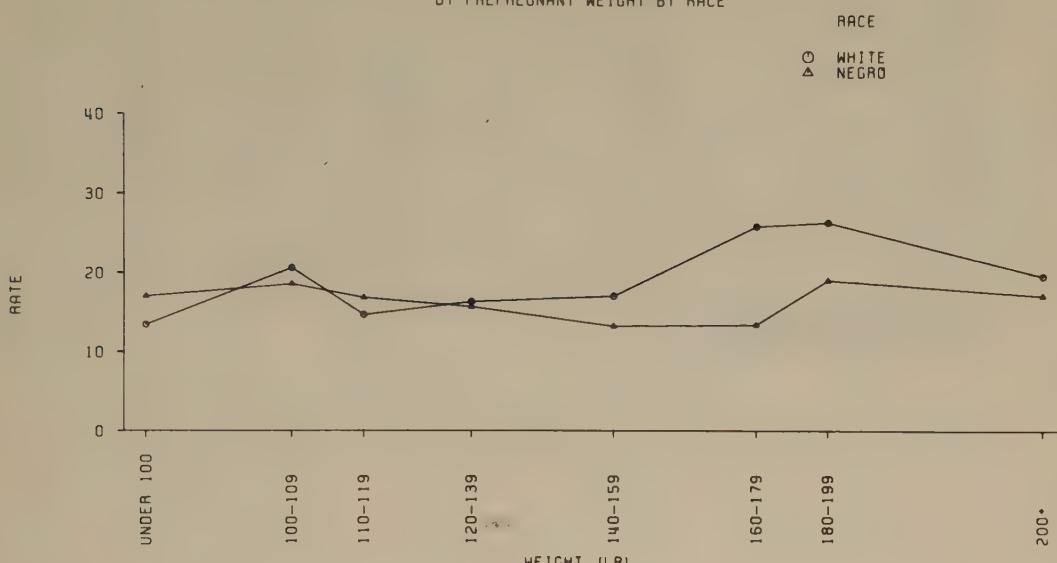
MEAN BIRTHWEIGHT BY PREPREGNANT WEIGHT BY RACE



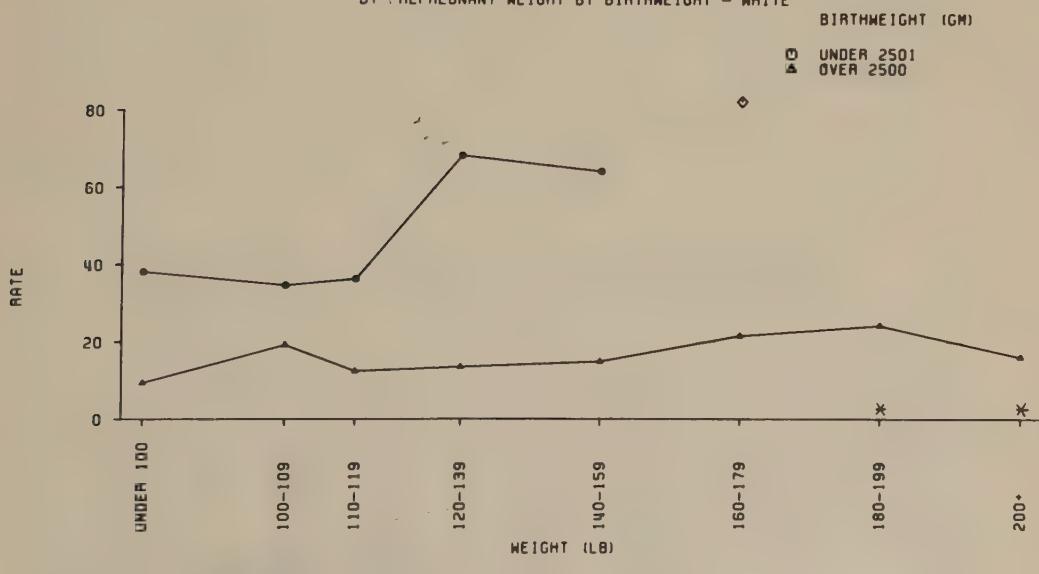
MEAN BIRTHWEIGHT BY PREPREGNANT WEIGHT BY RACE

PREPREGNANT WEIGHT (LB)	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
UNDER 100	949	2985	918	2769
100-109	2001	3105	2030	2856
110-119	3926	3176	3656	2945
120-139	6910	3307	6511	3048
140-159	2578	3412	3207	3157
160-179	942	3485	1409	3241
180-199	378	3570	700	3253
200+	297	3589	507	3345
TOTAL	17981	3274	18938	3042
UNKNOWN	500	3206	566	2936
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY PREPREGNANT WEIGHT BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - WHITE



* UNPLOTTED RATE IS 148.15.
X RATE BASED ON LESS THAN 20 CASES.

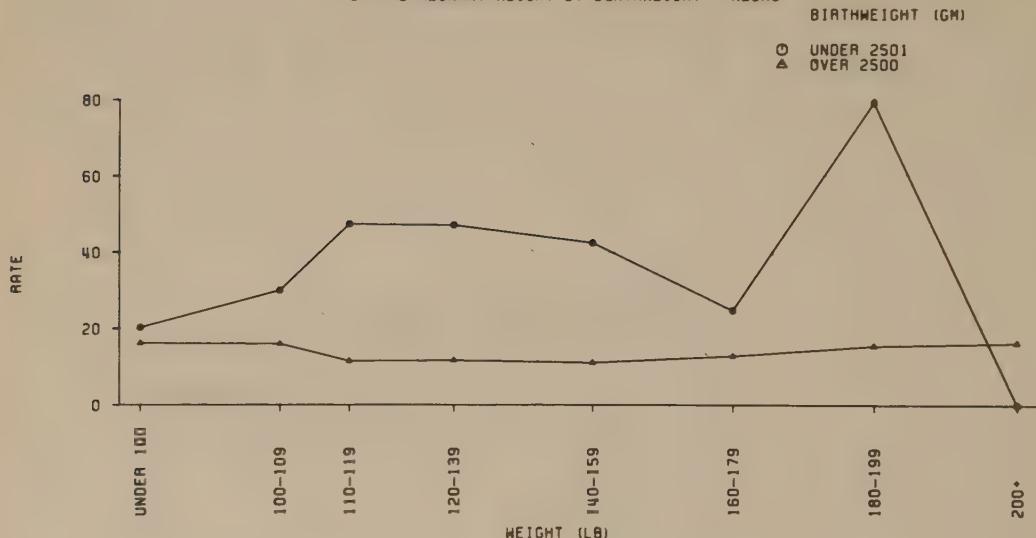
CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - WHITE

PREPREGNANT WEIGHT (LB)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 100	105	4	38.10	636	6	9.43	745	10	13.42
100-109	144	5	34.72	1404	27	19.23	1549	32	20.66
110-119	220	8	36.36	2817	35	12.42	3050	45	14.75
120-139	277	19	68.59	5246	71	13.53	5537	91	16.43
140-159	93	6	64.52	2001	30	14.99	2098	36	17.16
160-179	27	4	148.15	739	16	21.65	767	20	26.08
180-199	11	0	0 X	288	7	24.31	301	8	26.58
200+	5	0	0 X	247	4	16.19	253	5	19.76
TOTAL	882	46	52.15	13378	196	14.65	14300	217	17.27
UNKNOWN	39	2	51.28	318	4	12.58	362	6	16.57
GRAND TOTAL	921	48	52.12	13696	200	14.60	14662	253	17.26

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

X RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - NEGRO



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PREPREGNANT WEIGHT BY BIRTHWEIGHT - NEGRO

PREPREGNANT WEIGHT (LB)	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 100	197	4	20.30	617	10	16.21	821	14	17.05
100-109	333	10	30.03	1437	23	16.01	1774	33	18.60
110-119	485	23	47.42	2698	31	11.49	3195	54	16.90
120-139	637	30	47.10	5045	59	11.69	5708	90	15.77
140-159	212	9	42.45	2627	29	11.04	2845	38	13.36
160-179	81	2	24.69	1171	15	12.81	1258	17	13.51
180-199	38	3	78.95	585	9	15.38	625	12	19.20
200+	41	0	0	419	7	16.71	463	8	17.28
TOTAL	2024	81	40.02	14599	183	12.54	16689	266	15.94
UNKNOWN	68	5	73.53	362	3	8.29	434	8	18.43
GRAND TOTAL	2092	86	41.11	14961	186	12.43	17123	274	16.00

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

SECTION 2. PHYSICAL CHARACTERISTICS OF THE GRAVIDA (Continued)

PREPREGNANT WEIGHT BY HEIGHT

The associations of prepregnant weight with maternal height are consistent for Whites and Negroes, with Negro women in each height group, on the average, five pounds heavier than are comparable Whites. The Negro infants, nevertheless, average some 200 grams less in birthweight.

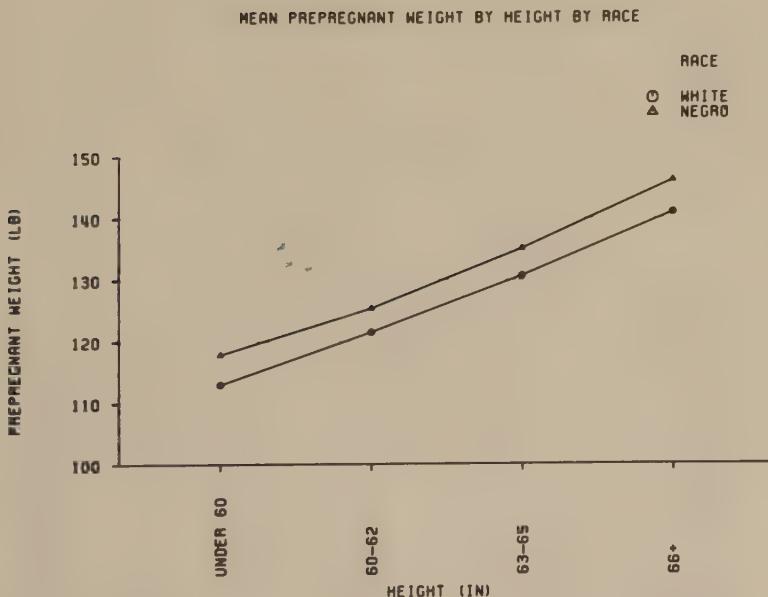
For both White and Negro gravidas, perinatal deaths increase with decreasing height and with increasing prepregnant weight. For women in a given height group, there is some evidence of a consistent relationship between perinatal death rate and prepregnant weight.

There is a consistent decrease in low birthweight

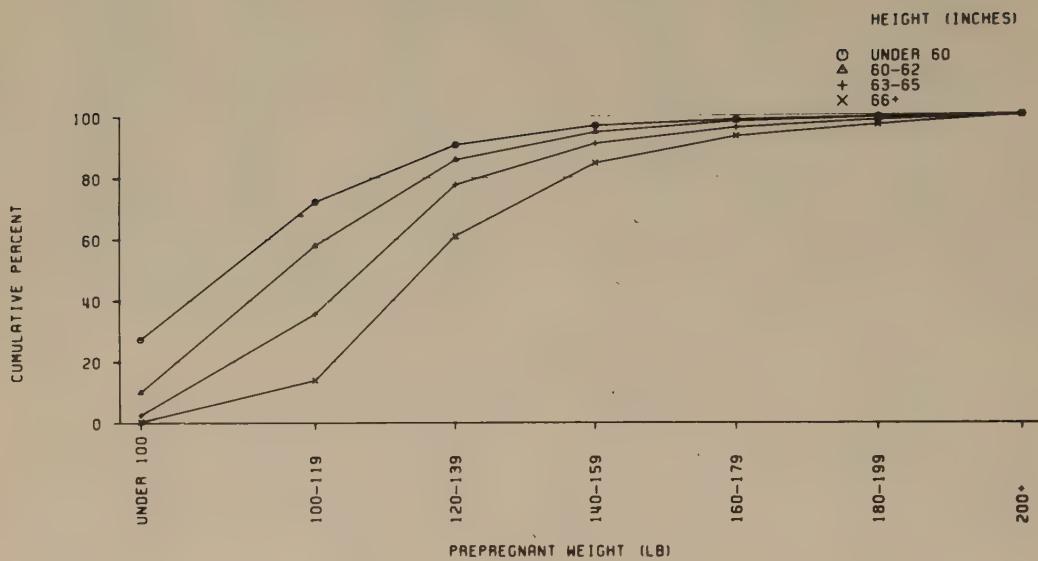
rate with increasing prepregnant weight, by individual maternal height group. From the lowest to the highest subgroups of prepregnant weights studied, there was a five-fold reduction in low birthweight rate among Whites and a three-fold reduction among Negroes. Across the range of maternal height groups studied, there was a two-fold reduction in low birthweight rate for women of both races.

The association of mean birthweight and maternal weight gain is consistent by maternal height group.

Over much of the range of prepregnant weight groups, there is an observed increase in the mean birthweights with increasing maternal height; that is, taller women can expect heavier babies even though their prepregnant weights are similar. While this characteristic is observed for women of both races, the increments added in mean birthweight with increase in maternal height is greater among Whites than among Negroes.



PREPREGNANT WEIGHT BY HEIGHT - WHITE



PREPREGNANT WEIGHT BY HEIGHT - WHITE

NUMBER OF CASES

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	195	495	192	16	898
100-119	322	2327	2391	534	5574
120-139	133	1365	3056	1864	6418
140-159	44	433	970	937	2384
160-179	13	165	359	340	877
180-199	4	56	165	141	366
200+	5	33	122	124	284
TOTAL	716	4874	7255	3956	16801
UNKNOWN	15	47	52	30	144
GRAND TOTAL	731	4921	7307	3986	16945
MEAN WEIGHT	113.0	121.5	130.7	141.0	129.7

(1) EXCLUDES UNKNOWN HEIGHT.

PREPREGNANT WEIGHT BY HEIGHT - WHITE

PERCENT

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	27.23	10.16	2.65	0.40	5.34
100-119	44.97	47.74	32.96	13.50	33.18
120-139	18.58	28.01	42.12	47.12	38.20
140-159	6.15	8.88	13.37	23.69	14.19
160-179	1.82	3.39	4.95	8.59	5.22
180-199	0.56	1.15	2.27	3.56	2.18
200+	0.70	0.68	1.68	3.13	1.69
TOTAL	100.00	100.00	100.00	100.00	100.00
UNKNOWN	2.05	0.96	0.71	0.75	0.85
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00

(I) EXCLUDES UNKNOWN HEIGHT.

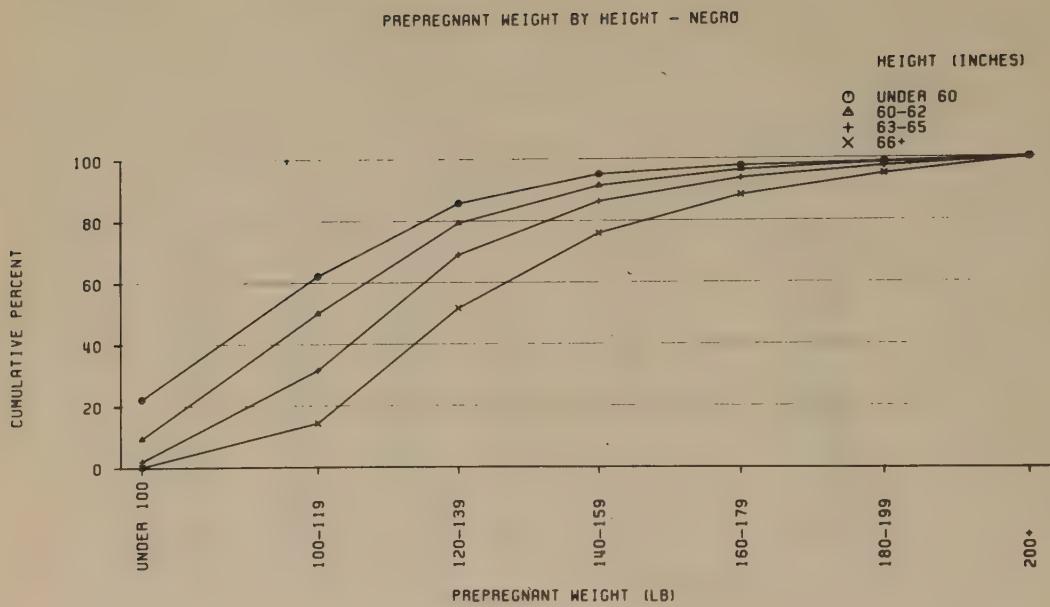
PREPREGNANT WEIGHT BY HEIGHT - WHITE

CUMULATIVE PERCENT

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	27.23	10.16	2.65	0.40	5.34
110-119	72.21	57.90	35.60	13.90	38.52
120-139	90.78	85.90	77.73	61.02	76.72
140-159	96.93	94.79	91.10	84.71	90.91
160-179	98.74	98.17	96.04	93.30	96.13
180-199	99.30	99.32	98.32	96.87	98.31
200+	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00

(I) EXCLUDES UNKNOWN HEIGHT.



PREPREGNANT WEIGHT BY HEIGHT - NEGRO

NUMBER OF CASES

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	219	531	170	14	934
100-119	395	2292	2486	575	5748
120-139	232	1652	3154	1534	6572
140-159	93	683	1454	1006	3236
160-179	26	277	624	503	1430
180-199	9	129	308	272	718
200+	13	77	224	212	526
TOTAL	987	5641	8420	4116	19164
UNKNOWN	14	72	97	44	227
GRAND TOTAL	1001	5713	8517	4160	19391
MEAN WEIGHT	117.9	125.4	135.1	146.2	133.7

(1) EXCLUDES UNKNOWN HEIGHT.

PREPREGNANT WEIGHT BY HEIGHT - NEGRO

PERCENT

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	22.19	9.41	2.02	0.34	4.87
100-119	40.02	40.63	29.52	13.97	29.99
120-139	23.51	29.29	37.46	37.27	34.29
140-159	9.42	12.11	17.27	24.44	16.89
160-179	2.63	4.91	7.41	12.22	7.46
180-199	0.91	2.29	3.66	6.61	3.75
200+	1.32	1.37	2.66	5.15	2.74
TOTAL	100.00	100.00	100.00	100.00	100.00
UNKNOWN	1.40	1.26	1.14	1.06	1.17
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00

(1) EXCLUDES UNKNOWN HEIGHT.

PREPREGNANT WEIGHT BY HEIGHT - NEGRO

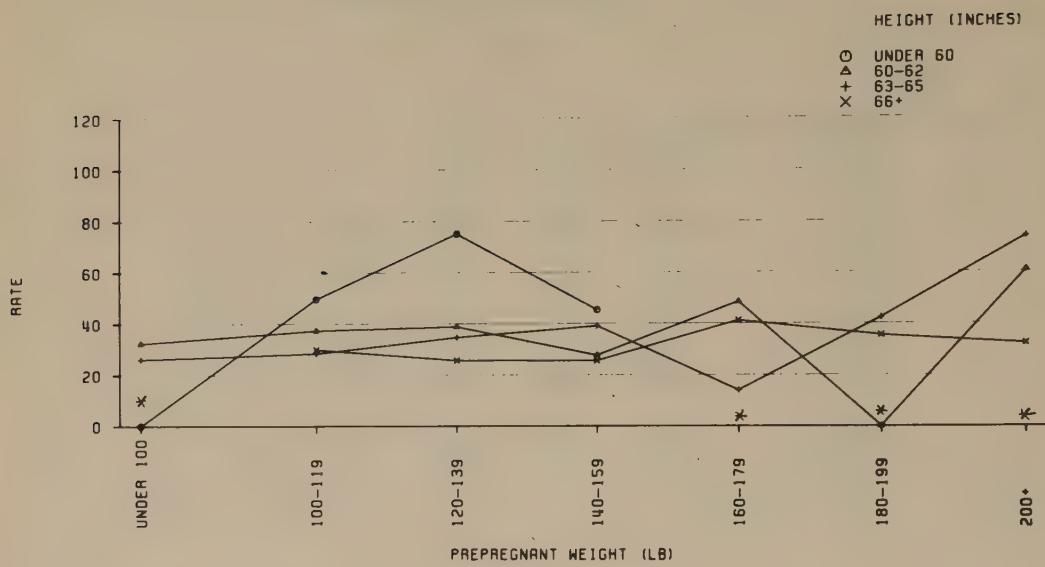
CUMULATIVE PERCENT

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	22.19	9.41	2.02	0.34	4.87
100-119	62.21	50.04	31.54	14.31	34.87
120-139	85.71	79.33	69.00	51.58	69.16
140-159	95.14	91.44	86.27	76.02	86.05
160-179	97.77	96.35	93.68	88.24	93.51
180-199	98.68	98.63	97.34	94.85	97.26
200+	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00

(1) EXCLUDES UNKNOWN HEIGHT.

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY HEIGHT - WHITE



* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY HEIGHT - WHITE

BIRTHS

HEIGHT (INCHES)

PREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	195	495	192	16	898
100-119	322	2327	2391	534	5574
120-139	133	1365	3056	1864	6418
140-159	44	433	970	937	2384
160-179	13	165	359	340	877
180-199	4	56	165	141	366
200+	5	33	122	124	284
TOTAL	716	4874	7255	3956	16801
UNKNOWN	15	47	52	30	144
GRAND TOTAL	731	4921	7307	3986	16945

(1) EXCLUDES UNKNOWN HEIGHT.

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY HEIGHT - WHITE

PERINATAL DEATHS

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	0	16	5	2	23
100-119	16	87	68	16	187
120-139	10	53	106	48	217
140-159	2	12	38	24	76
160-179	0	8	5	14	27
180-199	0	0	7	5	12
200+	0	2	9	4	15
TOTAL	28	178	238	113	557
UNKNOWN	0	2	3	2	7
GRAND TOTAL	28	180	241	115	564

(I) EXCLUDES UNKNOWN HEIGHT.

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY HEIGHT - WHITE

RATE

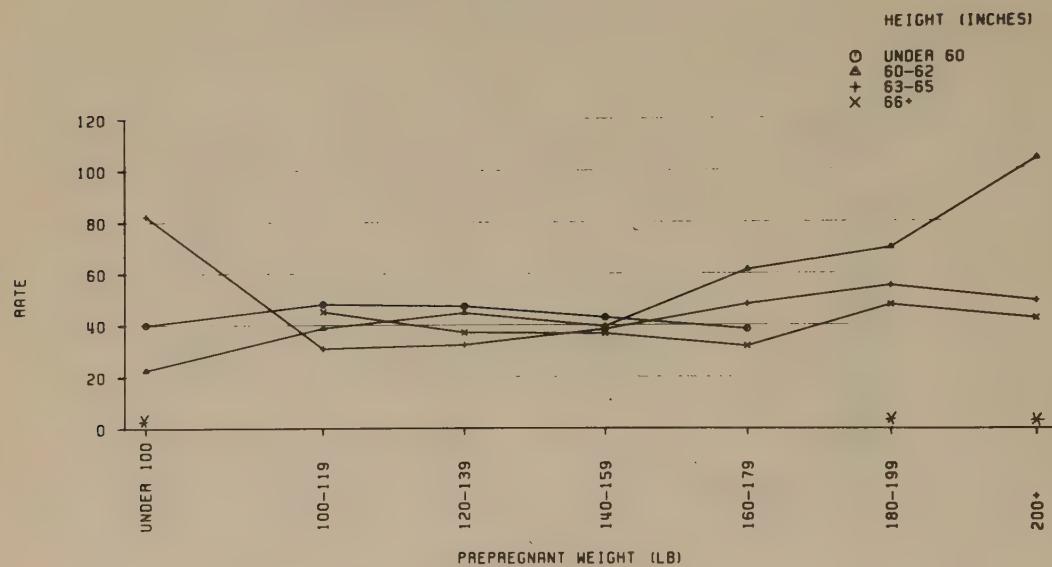
HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	0	32.32	26.04	125.00*	25.61
100-119	49.69	37.39	28.44	29.96	33.55
120-139	75.19	38.83	34.69	25.75	33.81
140-159	45.45	27.71	39.18	25.61	31.88
160-179	0 *	48.48	13.93	41.18	30.79
180-199	0 *	0	42.42	35.46	32.79
200+	0 *	60.61	73.77	32.26	52.82
TOTAL	39.11	36.52	32.80	28.56	33.15
UNKNOWN	0 *	42.55	57.69	66.67	48.61
GRAND TOTAL	38.30	36.58	32.98	28.85	33.28

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN HEIGHT.

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO



* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

BIRTHS

HEIGHT (INCHES)

PREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1) ^
UNDER 100	219	531	170	14	934
100-119	395	2292	2486	575	5748
120-139	232	1652	3154	1534	6572
140-159	93	683	1454	1006	3236
160-179	26	277	624	503	1430
180-199	9	129	308	272	718
200+	13	77	224	212	526
TOTAL	987	5641	8420	4116	19164
UNKNOWN	14	72	97	44	227
GRAND TOTAL	1001	5713	8517	4160	19391

(1) EXCLUDES UNKNOWN HEIGHT.

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

PERINATAL DEATHS

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	9	12	14	0	35
100-119	19	89	77	26	211
120-139	11	74	102	57	244
140-159	4	27	56	37	124
160-179	1	17	30	16	64
180-199	1	9	17	13	40
200+	0	8	11	9	28
TOTAL	45	236	307	158	746
UNKNOWN	1	2	4	4	11
GRAND TOTAL	46	238	311	162	757

(I) EXCLUDES UNKNOWN HEIGHT.

PERINATAL DEATHS BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

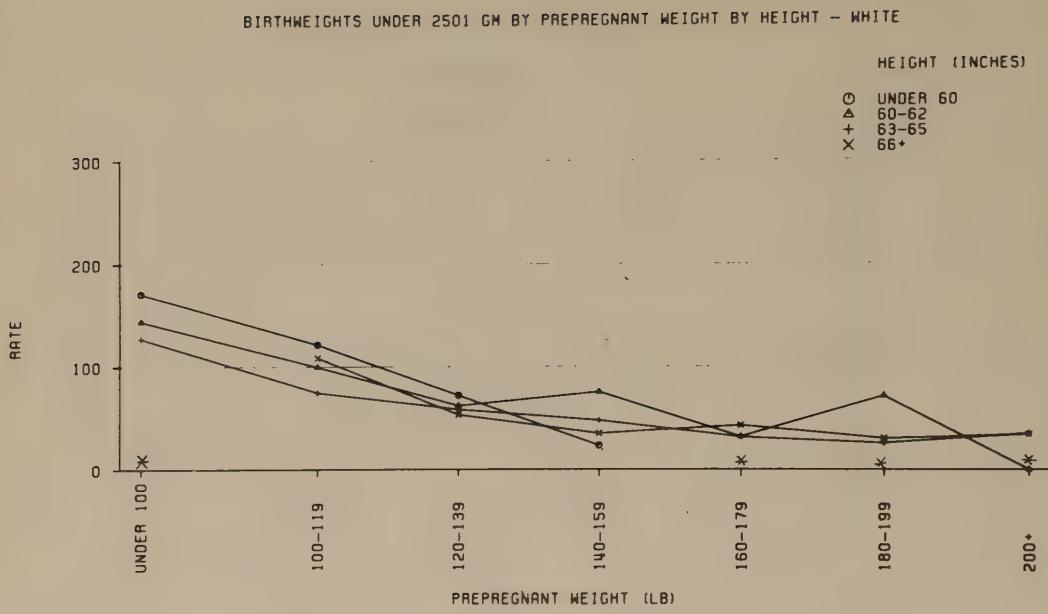
RATE

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	40.10	22.60	82.35	0 *	37.47
100-119	48.10	38.83	30.97	45.22	36.71
120-139	47.41	44.79	32.34	37.16	37.13
140-159	43.01	39.53	38.51	36.78	38.32
160-179	38.46	61.37	48.08	31.81	44.76
180-199	111.11*	69.77	55.19	47.79	55.71
200+	0 *	103.90	49.11	42.45	53.23
TOTAL	45.59	41.84	36.46	38.39	38.93
UNKNOWN	71.43*	27.78	41.24	90.91	48.46
GRAND TOTAL	45.95	41.66	36.52	38.94	39.04

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN HEIGHT.



* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY PREPREGNANT WEIGHT BY HEIGHT - WHITE

LIVEBIRTHS WITH KNOWN BIRTHWEIGHT

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	193	479	188	16	876
100-119	312	2263	2331	523	5429
120-139	125	1325	2967	1829	6246
140-159	43	425	942	913	2323
160-179	13	158	353	328	852
180-199	4	56	158	134	352
200+	5	31	115	118	269
TOTAL	695	4737	7054	3861	16347
UNKNOWN	15	44	49	28	136
GRAND TOTAL	710	4781	7103	3889	16483

(I) EXCLUDES UNKNOWN HEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY PREPREGNANT WEIGHT BY HEIGHT - WHITE

BIRTHWEIGHTS UNDER 2501 GM

HEIGHT (INCHES)

PREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	33	69	24	7	133
100-119	38	226	174	57	495
120-139	9	82	173	97	361
140-159	1	32	45	32	110
160-179	1	5	11	14	31
180-199	0	4	4	4	12
200+	0	0	4	4	8
TOTAL	82	418	435	215	1150
UNKNOWN	1	7	6	2	16
GRAND TOTAL	83	425	441	217	1166

(I) EXCLUDES UNKNOWN HEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY PREPREGNANT WEIGHT BY HEIGHT - WHITE

RATE

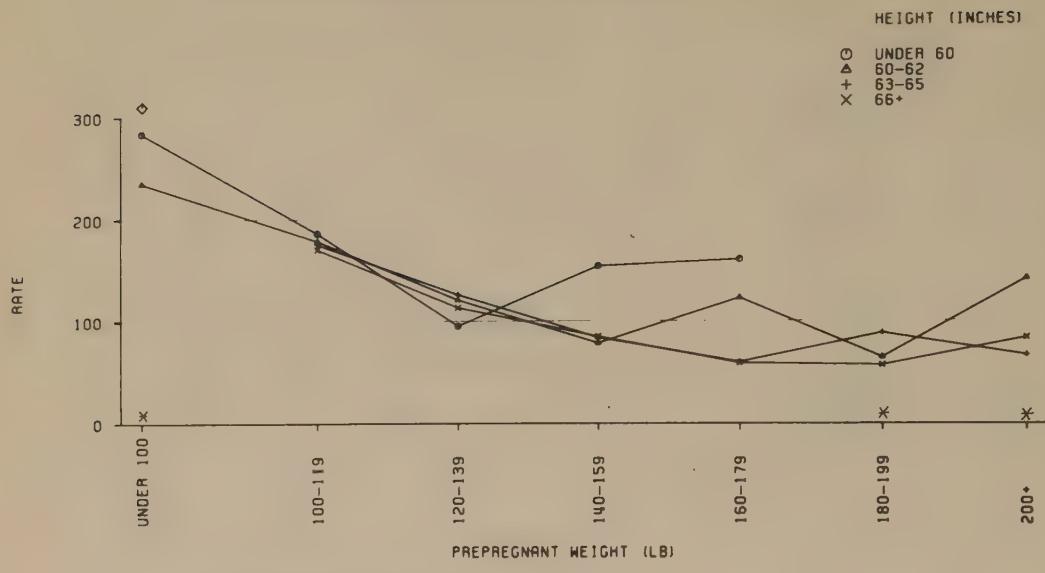
HEIGHT (INCHES)

PREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	170.98	144.05	127.66	437.50*	151.83
100-119	121.79	99.87	74.65	108.99	91.18
120-139	72.00	61.89	58.31	53.03	57.80
140-159	23.26	75.29	47.77	35.05	47.35
160-179	76.92*	31.65	31.16	42.68	36.38
180-199	0 *	71.43	25.32	29.85	34.09
200+	0 *	0	34.78	33.90	29.74
TOTAL	117.99	88.24	61.67	55.69	70.35
UNKNOWN	66.67*	159.09	122.45	71.43	117.65
GRAND TOTAL	116.90	88.89	62.09	55.80	70.74

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN HEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO



BIRTHWEIGHTS UNDER 2501 GM BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

LIVEBIRTHS WITH KNOWN BIRTHWEIGHT

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	215	515	159	14	903
100-119	381	2245	2430	557	5613
120-139	220	1596	3070	1489	6375
140-159	91	663	1413	976	3143
160-179	25	261	599	491	1376
180-199	8	124	294	263	689
200+	12	71	210	204	497
TOTAL	952	5475	8175	3994	18596
UNKNOWN	14	71	91	41	217
GRAND TOTAL	966	5546	8266	4035	18813

(1) EXCLUDES UNKNOWN HEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

BIRTHWEIGHTS UNDER 2501 GM

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	61	121	50	2	234
100-119	71	401	426	95	993
120-139	21	193	387	169	770
140-159	14	52	119	83	268
160-179	4	32	36	29	101
180-199	0	8	26	15	49
200+	2	10	14	17	43
TOTAL	173	817	1058	410	2458
UNKNOWN	4	16	11	3	34
GRAND TOTAL	177	833	1069	413	2492

(1) EXCLUDES UNKNOWN HEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

RATE

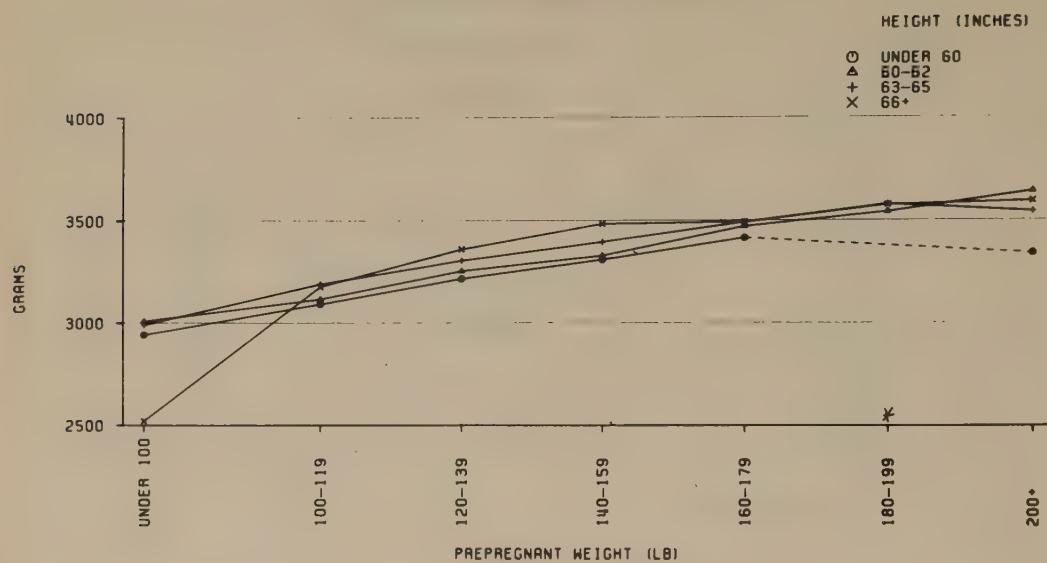
HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	283.72	234.95	314.47	142.86*	259.14
100-119	186.35	178.62	175.31	170.56	176.91
120-139	95.45	120.93	126.06	113.50	120.78
140-159	153.85	78.43	84.22	85.04	85.27
160-179	160.00	122.61	60.10	59.06	73.40
180-199	0 *	64.52	88.44	57.03	71.12
200+	166.67*	140.85	66.67	83.33	86.52
TOTAL	181.72	149.22	129.42	102.65	132.18
UNKNOWN	285.71*	225.35	120.88	73.17	156.68
GRAND TOTAL	183.23	150.20	129.32	102.35	132.46

* RATE BASED ON LESS THAN 20 CASES.

(1) EXCLUDES UNKNOWN HEIGHT.

MEAN BIRTHWEIGHT BY PREPREGNANT WEIGHT BY HEIGHT - WHITE



* MEAN BASED ON LESS THAN 5 CASES.

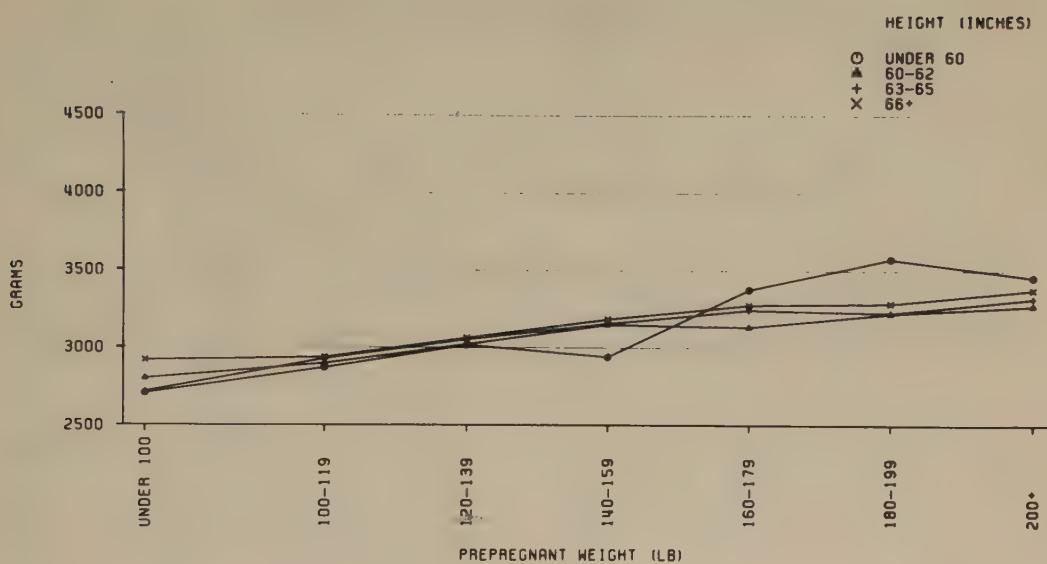
MEAN BIRTHWEIGHT BY PREPREGNANT WEIGHT BY HEIGHT BY RACE

WHITE

HEIGHT (INCHES): PREPREGNANT WEIGHT (LB.)	UNDER 60		60-62		63-65		66+	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BWT.						
UNDER 100	193	2942	479	3009	188	2991	16	2521
100-119	312	3092	2263	3116	2331	3189	523	3177
120-139	125	3216	1325	3254	2967	3303	1829	3359
140-159	43	3309	425	3329	942	3395	913	3483
160-179	13	3415	158	3470	353	3491	328	3492
180-199	4	3976*	56	3541	158	3577	134	3575
200+	5	3339	31	3640	115	3542	118	3593
TOTAL	695	3099	4737	3183	7054	3288	3861	3386
UNKNOWN	15	3177	44	3207	49	3403	28	3528
GRAND TOTAL	710	3101	4781	3183	7103	3289	3889	3387

* MEAN BASED ON LESS THAN 5 CASES.

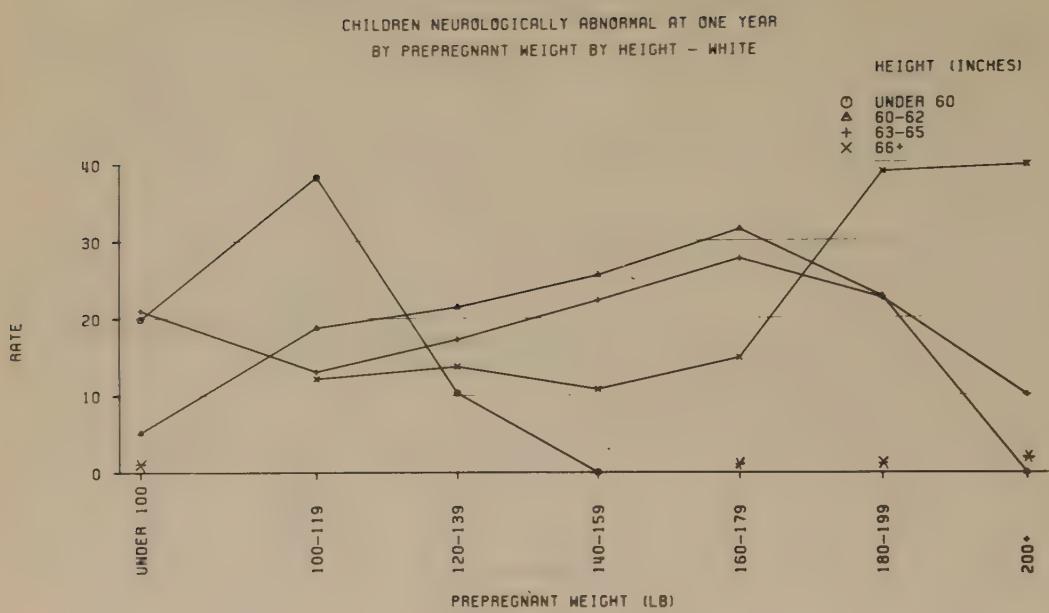
MEAN BIRTHWEIGHT BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO



MEAN BIRTHWEIGHT BY PREPREGNANT WEIGHT BY HEIGHT BY RACE

NEGRO

HEIGHT (INCHES):	UNDER 60		60-62		63-65		66+	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BWT.						
PREPREGNANT WEIGHT (LB.)								
UNDER 100	215	2705	515	2801	159	2715	14	2918
100-119	381	2869	2245	2898	2430	2929	557	2937
120-139	220	3018	1596	3021	3070	3055	1489	3063
140-159	91	2942	663	3150	1413	3156	976	3185
160-179	25	3378	261	3134	599	3246	491	3279
180-199	8	3576	124	3223	294	3229	263	3290
200+	12	3459	71	3274	210	3322	204	3378
TOTAL	952	2900	5475	2979	8175	3055	3994	3133
UNKNOWN	14	2738	71	2924	91	3117	41	3149
GRAND TOTAL	966	2899	5546	2978	8266	3056	4035	3133



* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL BY PREPREGNANT WEIGHT BY HEIGHT - WHITE

ONE YEAR EXAMS

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (I)
UNDER 100	151	385	143	9	688
100-119	235	1756	1832	411	4234
120-139	97	1073	2375	1455	5000
140-159	35	352	762	742	1891
160-179	11	127	289	269	696
180-199	3	44	133	103	283
200+	4	27	100	101	232
TOTAL	536	3764	5634	3090	13024
UNKNOWN	13	38	36	22	109
GRAND TOTAL	549	3802	5670	3112	13133

(I) EXCLUDES UNKNOWN HEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL BY PREPREGNANT WEIGHT BY HEIGHT - WHITE

ABNORMALS

HEIGHT (INCHES)

PREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	3	2	3	1	9
100-119	9	33	24	5	71
120-139	1	23	41	20	85
140-159	0	9	17	8	34
160-179	0	4	8	4	16
180-199	0	1	3	4	8
200+	0	0	1	4	5
TOTAL	13	72	97	46	228
UNKNOWN	0	2	2	0	4
GRAND TOTAL	13	74	99	46	232

(1) EXCLUDES UNKNOWN HEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL BY PREPREGNANT WEIGHT BY HEIGHT - WHITE

RATE

HEIGHT (INCHES)

PREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	19.87	5.19	20.98	111.11*	13.08
100-119	38.30	18.79	13.10	12.17	16.77
120-139	10.31	21.44	17.26	13.75	17.00
140-159	0	25.57	22.31	10.78	17.98
160-179	0 *	31.50	27.68	14.87	22.99
180-199	0 *	22.73	22.56	38.83	28.27
200+	0 *	0	10.00	39.60	21.55
TOTAL	24.25	19.13	17.22	14.89	17.51
UNKNOWN	0 *	52.63	55.56	0	36.70
GRAND TOTAL	23.68	19.46	17.46	14.78	17.67

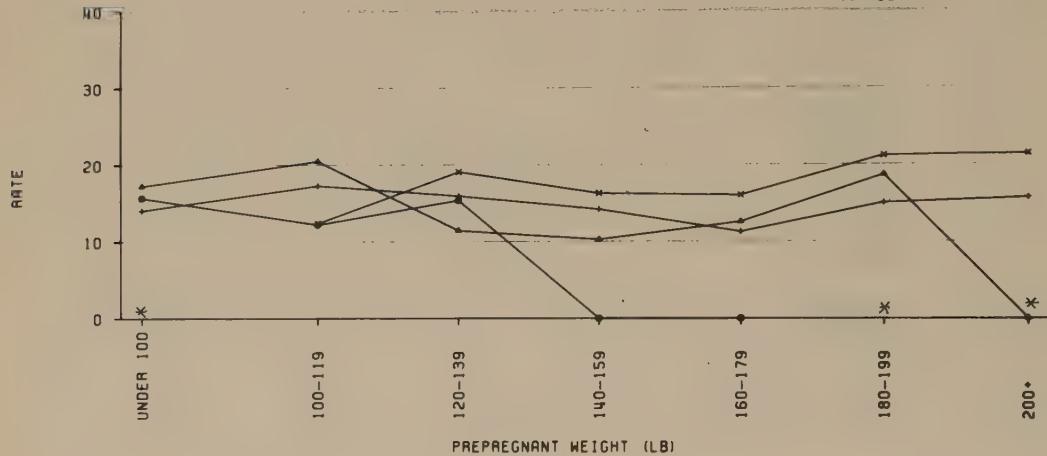
* RATE BASED ON LESS THAN 20 CASES.

(1) EXCLUDES UNKNOWN HEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

HEIGHT (INCHES)

○ UNDER 60
△ 60-62
+ 63-65
× 66+



* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

ONE YEAR EXAMS

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	191	463	142	12	808
100-119	327	1955	2137	484	4903
120-139	195	1397	2694	1310	5596
140-159	78	585	1267	858	2788
160-179	22	239	532	436	1229
180-199	8	107	266	236	617
200+	13	62	191	187	453
TOTAL	834	4808	7229	3523	16394
UNKNOWN	12	63	83	34	192
GRAND TOTAL	846	4871	7312	3557	16586

(1) EXCLUDES UNKNOWN HEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

ABNORMALS

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	3	8	2	0	13
100-119	4	40	37	6	87
120-139	3	16	43	25	87
140-159	0	6	18	14	38
160-179	0	3	6	7	16
180-199	0	2	4	5	11
200+	0	0	3	4	7
TOTAL	10	75	113	61	259
UNKNOWN	0	3	2	0	5
GRAND TOTAL	10	78	115	61	264

(1) EXCLUDES UNKNOWN HEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL BY PREPREGNANT WEIGHT BY HEIGHT - NEGRO

RATE

HEIGHT (INCHES)

PREPREGNANT WEIGHT (LB.)	UNDER 60	60-62	63-65	66+	TOTAL (1)
UNDER 100	15.71	17.28	14.08	0 *	16.09
100-119	12.23	20.46	17.31	12.40	17.74
120-139	15.38	11.45	15.96	19.08	15.55
140-159	0	10.26	14.21	16.32	13.63
160-179	0	12.55	11.28	16.06	13.02
180-199	0 *	18.69	15.04	21.19	17.83
200+	0 *	0	15.71	21.39	15.45
TOTAL	11.99	15.60	15.63	17.31	15.80
UNKNOWN	0 *	47.62	24.10	0	26.04
GRAND TOTAL	11.82	16.01	15.73	17.15	15.92

* RATE BASED ON LESS THAN 20 CASES.

(1) EXCLUDES UNKNOWN HEIGHT.

SECTION 2. PHYSICAL CHARACTERISTICS OF THE GRAVIDA (Continued)

WEIGHT GAIN BY PREPREGNANT WEIGHT

Maternal weight gain is computed as the difference between the reported prepregnant weight and the maternal weight measured at delivery. When weight at delivery was unknown, weight at the last prenatal visit (if within six weeks) was used. Since the length of the period of gestation strongly affects the maternal weight gain, the data reported here include only those gravidas of 37 or more weeks of gestation at delivery.

There is an inverse association between maternal weight gain and prepregnant weight; women of greater prepregnant weight have, on the average, a lesser maternal weight gain. This relationship is consistent for both White and Negro gravidas.

The authors have considered the possibility that the inverse association between maternal weight gain and prepregnant weight might be merely an artifact, since the maternal weight gain includes the prepregnant weight in its computation. If the gravida reported too high a prepregnant weight, the computation of her maternal weight gain would be too small, and vice versa. To test the possibility of a misreporting of the prepregnant weight, the gravida's measured weight at the time of her first visit was used for those gravidas who registered in the first trimester of their pregnancy. The assumption was that maternal weight gain would be small from conception to the first visit for this group. For those women, then, measured weights were available at both ends of the pregnancy. An inverse association between the prepregnant weight and maternal weight gain was found similar to that for the gravidas reported here.^o

The perinatal death rates for Whites and Negroes show a consistent downward trend with increasing maternal weight gain; among Whites, the minimum perinatal death rate is reached for maternal weight gains in the group 20–29 lb, with an observed upturn in those who gained 30 lb and more. Among Negroes, the identification of the most favorable maternal weight subgroup is less clear. Examination shows similar reduction in the perinatal death rates with increased maternal weight gain within each prepregnant weight subgroup for both Whites and Negroes, though

the variability (probably due to the reduced number of cases in each subgroup) is increased.

Among women of both races, the stillbirth and the neonatal death rates show trends which support those shown for the perinatal death rates.

The reduction in perinatal death rates may be a consequence of the increases in birthweight that accompany increased maternal weight gain. There are striking reductions in the low birthweight rate with increased maternal weight gain and increased prepregnant weight. For Whites and Negroes of all prepregnant weights, the optimum maternal weight gains (in terms of highest birthweights) are 30–34 lb or more.

Despite the wide variability in the association of neurological abnormality rates at one year with maternal weight gain, there is a reasonably clear diminution in the abnormality rate with increased maternal weight gain, for both Whites and Negroes.

SUMMARY

It is difficult to assess the consequences of the physical characteristics of the gravida on infant mortality and morbidity because of the interrelationships among them. The weight gained by the gravida during pregnancy has an apparent beneficial relationship to fetal outcome, which improves with each increment of weight gain up to the subgroup beginning with 30 lb. Additional support for these observations is provided by previously mentioned studies based on these data.

While the two weight variables, prepregnant weight and weight gain during pregnancy, are strongly associated with birthweight and fetal outcome, other investigations^o of the data would suggest that maternal height in itself bears little significance.

Other characteristics of the mother, such as her age, parity, nutrition, social background, and habits with respect to cigarette smoking, also have important relationships with fetal outcome, particularly birthweight.

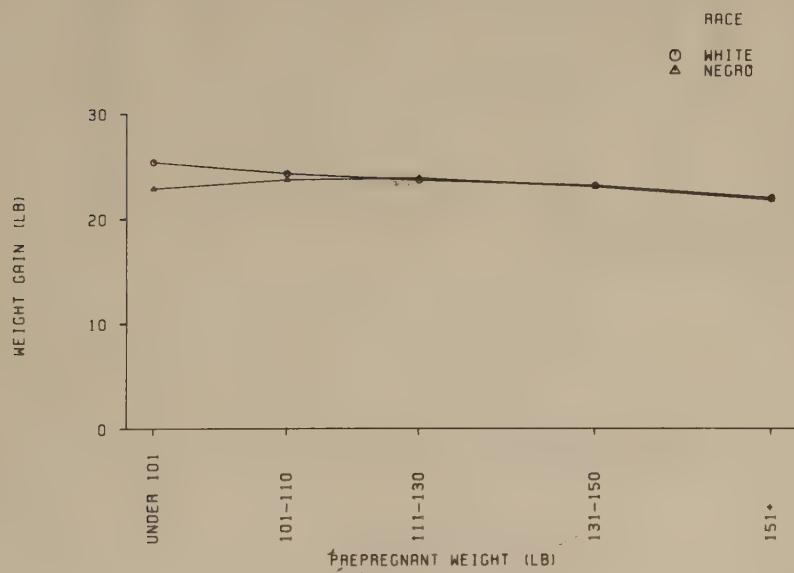
In their discussion of maternal weight gain, Hytten and Leitch, in 1963^{oo} made the statement that ". . . birthweight depends more on the environment provided by the mother than on any other single variable." However, over much of the United States, obstetric practice dictates that weight gain in pregnancy should be kept below twenty lb.

^oUnpublished data by Weiss, W.

^{oo}Hytten, Frank E., and Leitch, Isabella. *The Physiology of Human Pregnancy*. F. A. Davis Company, Philadelphia, Pa.

^oUnpublished data by Weiss, et al.

MEAN WEIGHT GAIN BY PREPREGNANT WEIGHT BY RACE - GESTATION 37+ WEEKS



WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

NUMBER OF CASES

PREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (1)
LOSS	0	2	26	48	197	273
0-4	7	21	74	88	116	306
5-9	17	73	243	186	245	764
10-14	91	229	720	507	279	1826
15-19	222	478	1537	681	298	3216
20-24	298	610	1837	784	291	3820
25-29	244	483	1353	612	201	2893
30-34	156	268	676	370	139	1609
35+	115	220	595	409	210	1549
TOTAL	1150	2384	7061	3685	1976	16256
UNKNOWN	40	79	258	129	75	581
GRAND TOTAL	1190	2463	7319	3814	2051	16837
MEAN GAIN	25.9	23.9	23.2	22.7	17.9	22.7

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

PERCENT

PREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (1)
LOSS	0	0.08	0.37	1.30	9.97	1.68
0-4	0.61	0.88	1.05	2.39	5.87	1.88
5-9	1.48	3.06	3.44	5.05	12.40	4.70
10-14	7.91	9.61	10.20	13.76	14.12	11.23
15-19	19.30	20.05	21.77	18.48	15.08	19.78
20-24	25.91	25.59	26.02	21.28	14.73	23.50
25-29	21.22	20.26	19.16	16.61	10.17	17.80
30-34	13.57	11.24	9.57	10.04	7.03	9.90
35+	10.00	9.23	8.43	11.10	10.63	9.53
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00
UNKNOWN	3.36	3.21	3.53	3.38	3.66	3.45
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

CUMULATIVE PERCENT

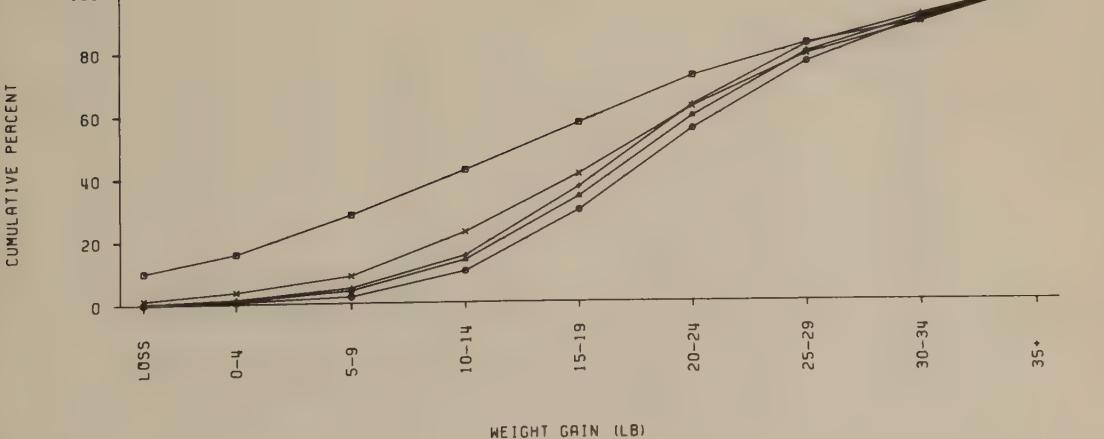
PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0	0.08	0.37	1.30	9.97	1.68
0-4	0.61	0.96	1.42	3.69	15.84	3.56
5-9	2.09	4.03	4.86	8.74	28.24	8.26
10-14	10.00	13.63	15.05	22.50	42.36	19.49
15-19	29.30	33.68	36.82	40.98	57.44	39.28
20-24	55.22	59.27	62.84	62.25	72.17	62.78
25-29	76.43	79.53	82.00	78.86	82.34	80.57
30-34	90.00	90.77	91.57	88.90	89.37	90.47
35+	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

PREPREGNANT WEIGHT (LB.)



WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

NUMBER OF CASES

PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (1)
LOSS	1	5	33	96	272	407
0-4	10	31	108	124	189	462
5-9	47	92	265	263	264	931
10-14	126	278	634	504	378	1920
15-19	201	478	1026	679	408	2792
20-24	221	518	1143	634	402	2918
25-29	169	412	962	563	294	2400
30-34	104	232	589	377	214	1516
35+	53	218	588	540	394	1793
TOTAL	932	2264	5348	3780	2815	15139
UNKNOWN	36	89	229	145	126	625
GRAND TOTAL	968	2353	5577	3925	2941	15764
MEAN GAIN	22.3	23.2	23.3	22.5	19.2	22.3

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

PERCENT

PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (1)
LOSS	0.11	0.22	0.62	2.54	9.66	2.69
0-4	1.07	1.37	2.01	3.28	6.71	3.05
5-9	5.04	4.06	4.96	6.96	9.38	6.15
10-14	13.52	12.28	11.85	13.33	13.43	12.68
15-19	21.57	21.11	19.18	17.96	14.49	18.44
20-24	23.71	22.88	21.37	16.77	14.28	19.27
25-29	18.13	18.20	17.99	14.89	10.44	15.85
30-34	11.16	10.25	11.01	9.97	7.60	10.01
35+	5.69	9.63	10.99	14.29	14.00	11.84
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00
UNKNOWN	3.72	3.78	4.11	3.69	4.28	3.96
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

CUMULATIVE PERCENT

PREPREGNANT WEIGHT (LB.)

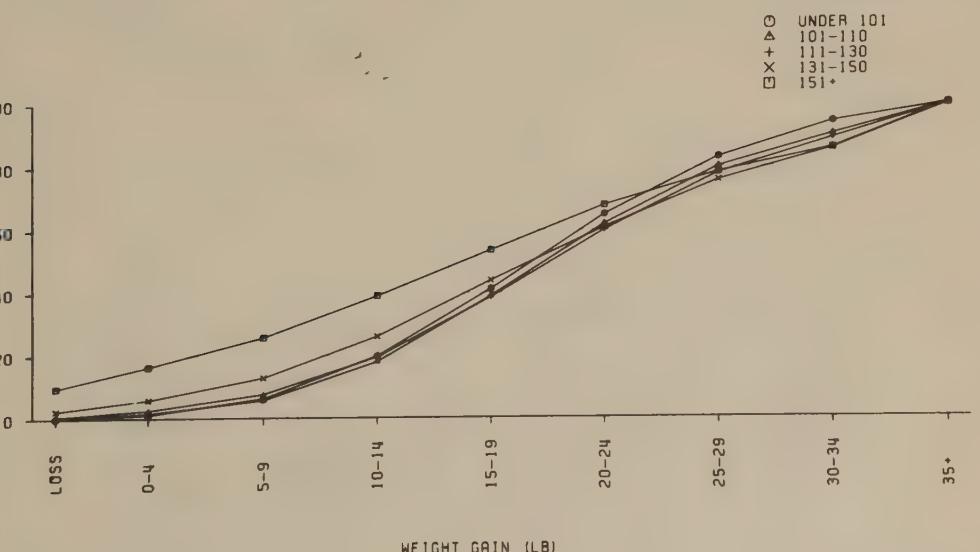
WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0.11	0.22	0.62	2.54	9.66	2.69
0-4	1.18	1.59	2.64	5.82	16.38	5.74
5-9	6.22	5.65	7.59	12.78	25.75	11.89
10-14	19.74	17.93	19.45	26.11	39.18	24.57
15-19	41.31	39.05	38.63	44.07	53.68	43.01
20-24	65.02	61.93	60.00	60.85	67.96	62.29
25-29	83.15	80.12	77.99	75.74	78.40	78.14
30-34	94.31	90.37	89.01	85.71	86.00	88.16
35+	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

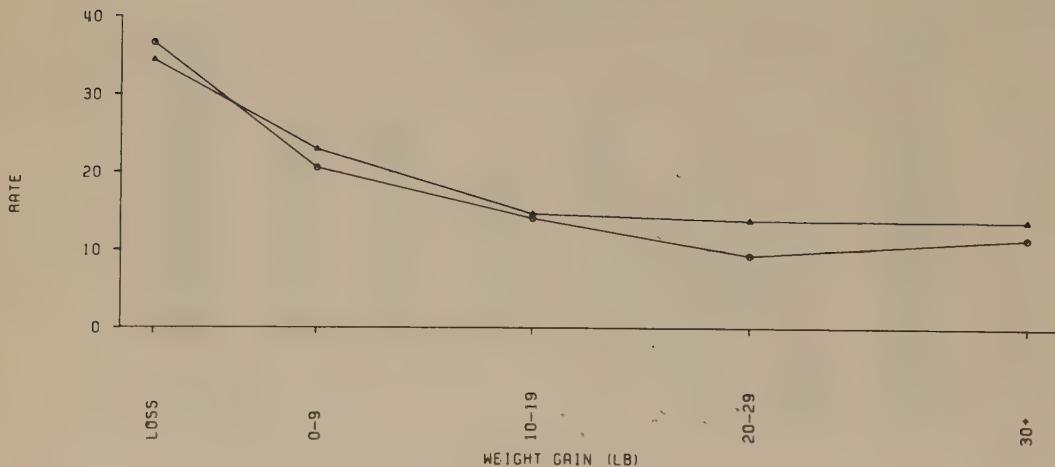
PREPREGNANT WEIGHT (LB.)

CUMULATIVE PERCENT



PERINATAL DEATHS BY WEIGHT GAIN BY RACE
GESTATION 37+ WEEKS

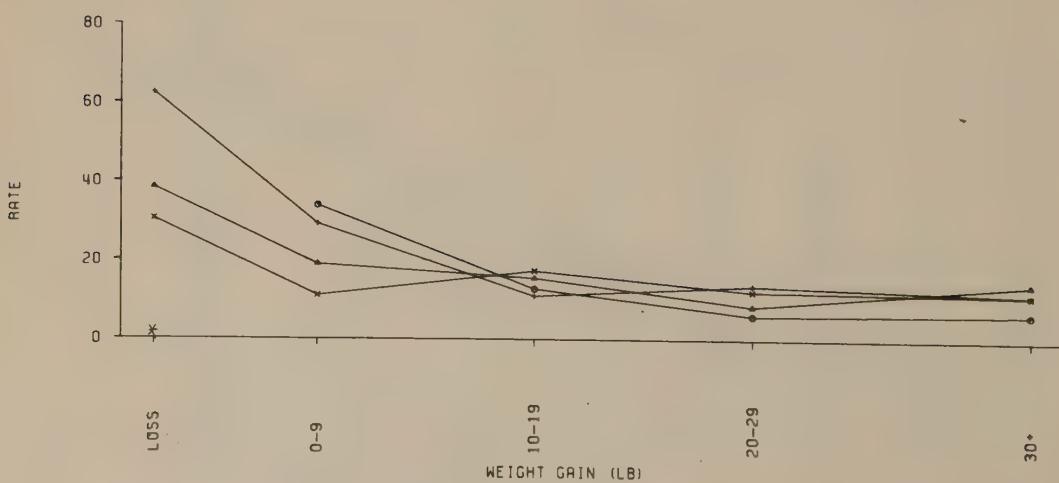
RACE
△○ WHITE
△ NEGRO



PERINATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

PREPREGNANT WEIGHT (LB)

△○ UNDER 111
△ 111-130
+ 131-150
X 151+



* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

BIRTHS

WEIGHT GAIN (LB)	PREPREGNANT WEIGHT (LB)				TOTAL (I)
	UNDER 111	111-130	131-150	151+	
LOSS	2	26	48	197	273
0-9	118	317	274	361	1070
10-19	1020	2257	1188	577	5042
20-29	1635	3190	1396	492	6713
30+	759	1271	779	349	3158
TOTAL	3534	7061	3685	1976	16256
UNKNOWN	119	258	129	75	581
GRAND TOTAL	3653	7319	3814	2051	16837

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

PERINATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

PERINATAL DEATHS

WEIGHT GAIN (LB)	PREPREGNANT WEIGHT (LB)				TOTAL (I)
	UNDER 111	111-130	131-150	151+	
LOSS	0	1	3	6	10
0-9	4	6	8	4	22
10-19	13	35	13	10	71
20-29	10	27	19	6	62
30+	5	18	9	4	36
TOTAL	32	87	52	30	201
UNKNOWN	1	4	2	0	7
GRAND TOTAL	33	91	54	30	208

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

PERINATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

RATE

WEIGHT GAIN (LB)	PREPREGNANT WEIGHT (LB)				TOTAL (I)
	UNDER 111	111-130	131-150	151+	
LOSS	0 *	38.46	62.50	30.46	36.63
0-9	33.90	18.93	29.20	11.08	20.56
10-19	12.75	15.51	10.94	17.33	14.08
20-29	6.12	8.46	13.61	12.20	9.24
30+	6.59	14.16	11.55	11.46	11.40
TOTAL	9.05	12.32	14.11	15.18	12.36
UNKNOWN	8.40	15.50	15.50	0	12.05
GRAND TOTAL	9.03	12.43	14.16	14.63	12.35

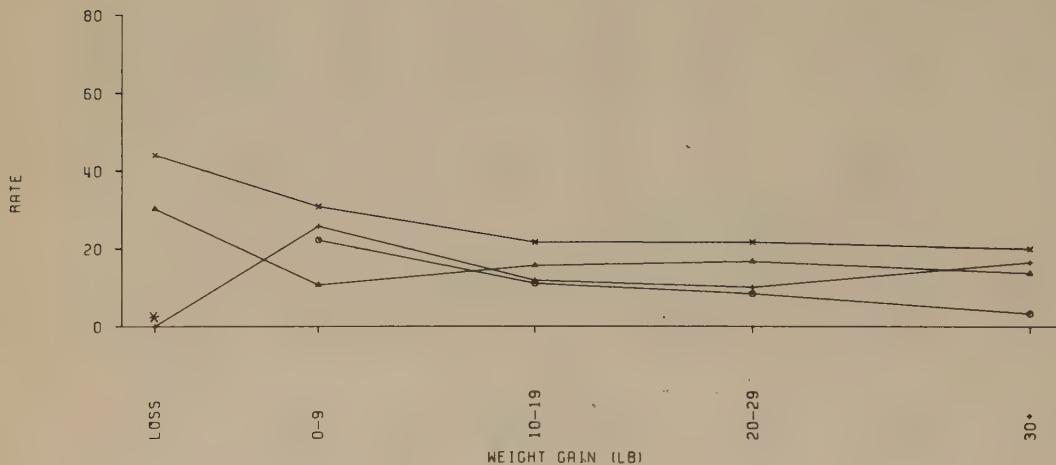
(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO

PREPREGNANT WEIGHT (LB)

○ UNDER 111
△ 111-130
+ 131-150
× 151+



* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

BIRTHS

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (1)
LOSS	6	33	96	272	407
0-9	180	373	387	453	1393
10-19	1083	1660	1183	786	4712
20-29	1320	2105	1197	696	5318
30+	607	1177	917	608	3309
TOTAL	3196	5348	3780	2815	15139
UNKNOWN	125	229	145	126	625
GRAND TOTAL	3321	5577	3925	2941	15764

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

PERINATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

PERINATAL DEATHS

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (I)
LOSS	1	1	0	12	14
0-9	4	4	10	14	32
10-19	12	26	14	17	69
20-29	11	35	12	15	73
30+	2	16	15	12	45
TOTAL	30	82	51	70	233
UNKNOWN	5	5	4	3	17
GRAND TOTAL	35	87	55	73	250

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

PERINATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

RATE

PREPREGNANT WEIGHT (LB)

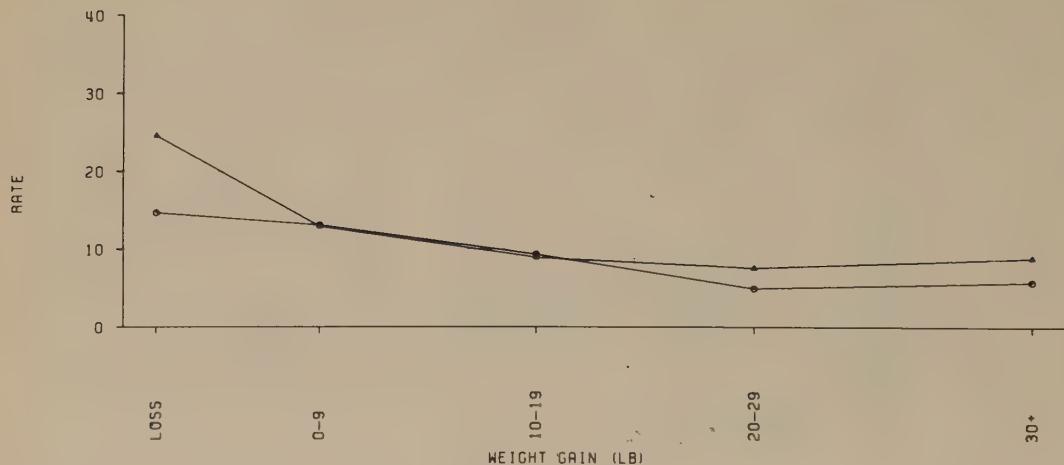
WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (I)
LOSS	166.67*	30.30	0	44.12	34.40
0-9	22.22	10.72	25.84	30.91	22.97
10-19	11.08	15.66	11.83	21.63	14.64
20-29	8.33	16.63	10.03	21.55	13.73
30+	3.29	13.59	16.36	19.74	13.60
TOTAL	9.39	15.33	13.49	24.87	15.39
UNKNOWN	40.00	21.83	27.59	23.81	27.20
GRAND TOTAL	10.54	15.60	14.01	24.82	15.86

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY WEIGHT GAIN BY RACE
GESTATION 37+ WEEKS

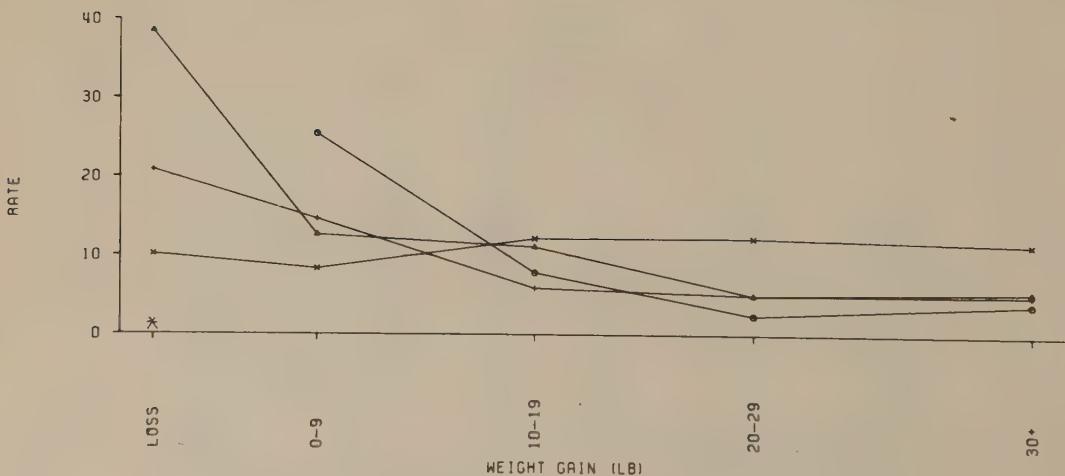
RACE
○ WHITE
△ NEGRO



STILLBIRTHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

PREPREGNANT WEIGHT (LB)

○ UNDER 111
△ 111-130
+ 131-150
X 151+



* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

BIRTHS

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (I)
LOSS	2	26	48	197	273
0-9	118	317	274	361	1070
10-19	1020	2257	1188	577	5042
20-29	1635	3190	1396	492	6713
30+	759	1271	779	349	3158
TOTAL	3534	7061	3685	1976	16256
UNKNOWN	119	258	129	75	581
GRAND TOTAL	3653	7319	3814	2051	16837

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

STILLBIRTHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	STILLBIRTHS				TOTAL (I)
	UNDER 111	111-130	131-150	151+	
LOSS	0	1	1	2	4
0-9	3	4	4	3	14
10-19	8	25	7	7	47
20-29	4	16	7	6	33
30+	3	7	4	4	18
TOTAL	18	53	23	22	116
UNKNOWN	1	2	2	0	5
GRAND TOTAL	19	55	25	22	121

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

STILLBIRTHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

RATE

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (I)
LOSS	0 *	38.46	20.83	10.15	14.65
0-9	25.42	12.62	14.60	8.31	13.08
10-19	7.84	11.08	5.89	12.13	9.32
20-29	2.45	5.02	5.01	12.20	4.92
30+	3.95	5.51	5.13	11.46	5.70
TOTAL	5.09	7.51	6.24	11.13	7.14
UNKNOWN	8.40	7.75	15.50	0	8.61
GRAND TOTAL	5.20	7.51	6.55	10.73	7.19

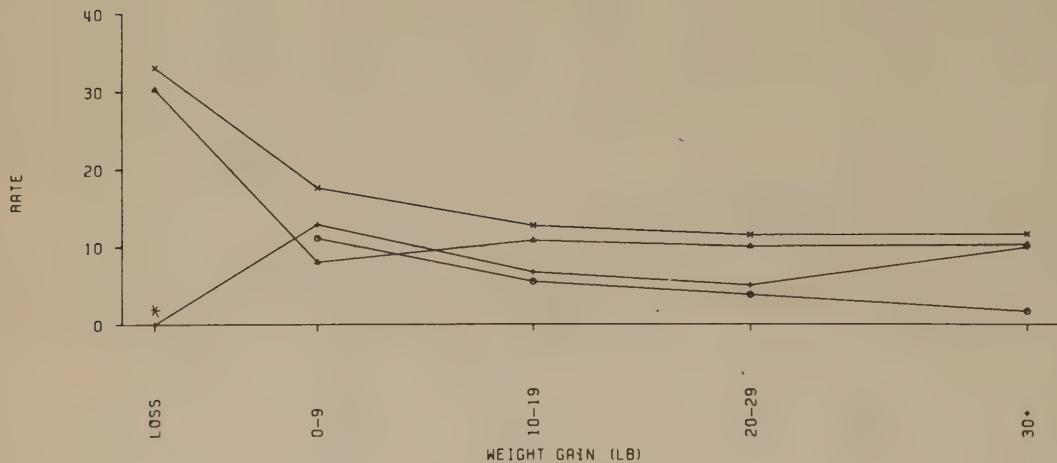
(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO

PREPREGNANT WEIGHT (LB)

△ UNDER 111
△ 111-130
+ 131-150
X 151+



* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

BIRTHS
PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (I)
LOSS	6	33	96	272	407
0-9	180	373	387	453	1393
10-19	1083	1660	1183	786	4712
20-29	1320	2105	1197	696	5318
30+	607	1177	917	608	3309
TOTAL	3196	5348	3780	2815	15139
UNKNOWN	125	229	145	126	625
GRAND TOTAL	3321	5577	3925	2941	15764

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

STILLBIRTHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

STILLBIRTHS

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (1)
LOSS	0	1	0	9	10
0-9	2	3	5	8	18
10-19	6	18	8	10	42
20-29	5	21	6	8	40
30+	1	12	9	7	29
TOTAL	14	55	28	42	139
UNKNOWN	1	4	3	2	10
GRAND TOTAL	15	59	31	44	149

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

STILLBIRTHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

RATE

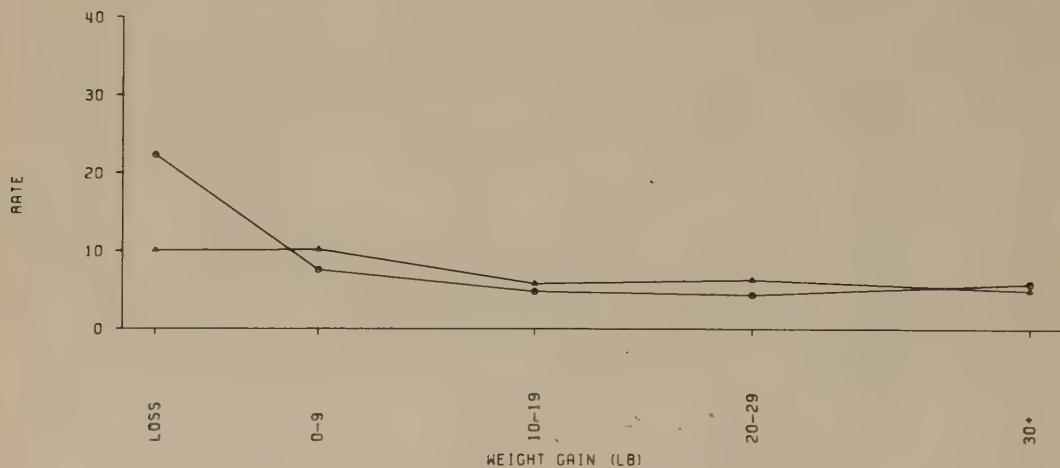
PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (1)
LOSS	0 *	30.30	0	33.09	24.57
0-9	11.11	8.04	12.92	17.66	12.92
10-19	5.54	10.84	6.76	12.72	8.91
20-29	3.79	9.98	5.01	11.49	7.52
30+	1.65	10.20	9.81	11.51	8.76
TOTAL	4.38	10.28	7.41	14.92	9.18
UNKNOWN	8.00	17.47	20.69	15.87	16.00
GRAND TOTAL	4.52	10.58	7.90	14.96	9.45

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.
* RATE BASED ON LESS THAN 20 CASES.

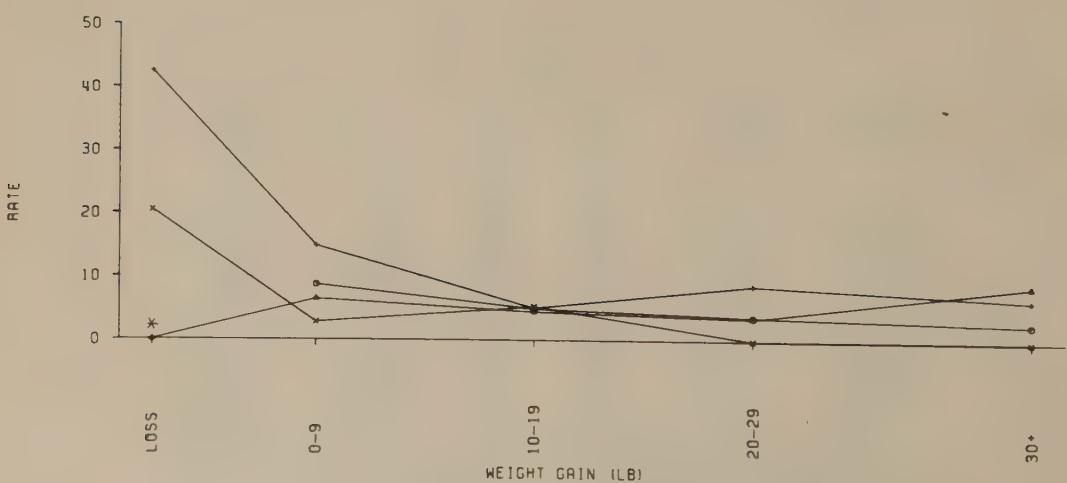
NEONATAL DEATHS BY WEIGHT GAIN BY RACE
GESTATION 37+ WEEKS

RACE
○ WHITE
△ NEGRO



NEONATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

PREPREGNANT WEIGHT (LB)
○ UNDER 111
△ 111-130
+ 131-150
X 151+



* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

LIVEBIRTHS

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (1)
LOSS	2	25	47	195	269
0-9	115	313	270	358	1056
10-19	1012	2232	1181	570	4995
20-29	1631	3174	1389	486	6680
30+	756	1264	775	345	3140
TOTAL	3516	7008	3662	1954	16140
UNKNOWN	118	256	127	75	576
GRAND TOTAL	3634	7264	3789	2029	16716

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

NEONATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

NEONATAL DEATHS

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (1)
LOSS	0	0	2	4	6
0-9	1	2	4	1	8
10-19	5	10	6	3	24
20-29	6	11	12	0	29
30+	2	11	5	0	18
TOTAL	14	34	29	8	85
UNKNOWN	0	2	0	0	2
GRAND TOTAL	14	36	29	8	87

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

NEONATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - WHITE

RATE

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (1)
LOSS	0	0	42.55	20.51	22.30
0-9	8.70	6.39	14.81	2.79	7.58
10-19	4.94	4.48	5.08	5.26	4.80
20-29	3.68	3.47	8.64	0	4.34
30+	2.65	8.70	6.45	0	5.73
TOTAL	3.98	4.85	7.92	4.09	5.27
UNKNOWN	0	7.81	0	0	3.47
GRAND TOTAL	3.85	4.96	7.65	3.94	5.20

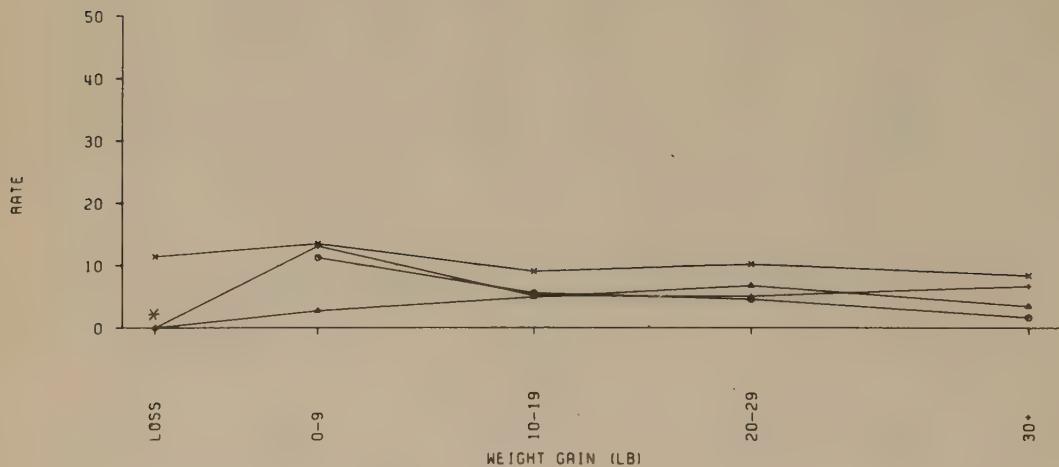
(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

X RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO

PREPREGNANT WEIGHT (LB)

○ UNDER 111
△ 111-130
+ 131-150
× 151+



* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

LIVEBIRTHS

PREPREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (1)
LOSS	6	32	96	263	397
0-9	178	370	382	445	1375
10-19	1077	1642	1175	776	4670
20-29	1315	2084	1191	688	5278
30+	606	1165	908	601	3280
TOTAL	3182	5293	3752	2773	15000
UNKNOWN	124	225	142	124	615
GRAND TOTAL	3306	5518	3894	2897	15615

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

NEONATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

NEONATAL DEATHS

PREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (1)
LOSS	1	0	0	3	4
0-9	2	1	5	6	14
10-19	6	8	6	7	27
20-29	6	14	6	7	33
30+	1	4	6	5	16
TOTAL	16	27	23	28	94
UNKNOWN	4	1	1	1	7
GRAND TOTAL	20	28	24	29	101

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

NEONATAL DEATHS BY WEIGHT GAIN BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO

RATE

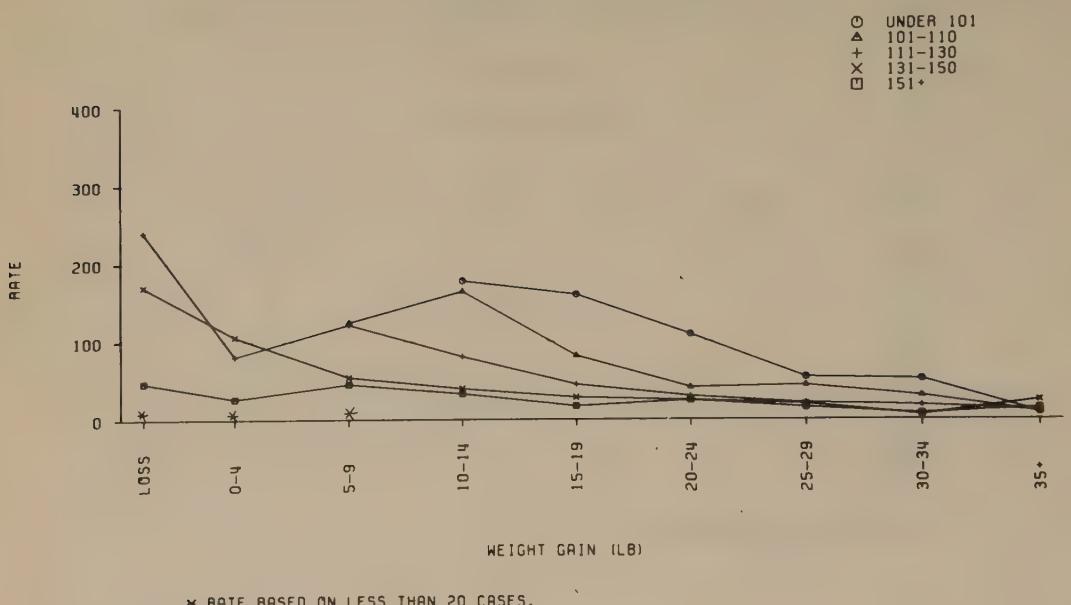
PREGNANT WEIGHT (LB)

WEIGHT GAIN (LB)	UNDER 111	111-130	131-150	151+	TOTAL (1)
LOSS	166.67*	0	0	11.41	10.08
0-9	11.24	2.70	13.09	13.48	10.18
10-19	5.57	4.87	5.11	9.02	5.78
20-29	4.56	6.72	5.04	10.17	6.25
30+	1.65	3.43	6.61	8.32	4.88
TOTAL	5.03	5.10	6.13	10.10	6.27
UNKNOWN	32.26	4.44	7.04	8.06	11.38
GRAND TOTAL	6.05	5.07	6.16	10.01	6.47

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.
* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

PREPREGNANT WEIGHT (LB)



* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

LIVEBIRTHS WITH KNOWN BIRTHWEIGHT

PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0	2	25	47	192	266
0-4	7	19	74	85	114	299
5-9	17	72	238	184	243	754
10-14	90	225	704	504	273	1796
15-19	219	476	1519	675	296	3185
20-24	294	609	1822	777	286	3788
25-29	241	481	1343	608	199	2872
30-34	156	267	671	367	137	1598
35+	114	218	590	408	207	1537
TOTAL	1138	2369	6986	3655	1947	16095
UNKNOWN	37	76	233	123	71	540
GRAND TOTAL	1175	2445	7219	3778	2018	16635

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

BIRTHWEIGHTS UNDER 2501 GM

PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0	1	6	8	9	24
0-4	3	4	6	9	3	25
5-9	5	9	29	10	11	64
10-14	16	37	57	20	9	139
15-19	35	39	68	19	5	166
20-24	32	25	54	19	7	137
25-29	13	21	28	12	3	77
30-34	8	8	12	2	1	31
35+	1	2	7	10	3	23
TOTAL	113	146	267	109	51	686
UNKNOWN	2	7	32	14	8	63
GRAND TOTAL	115	153	299	123	59	749

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

RATE

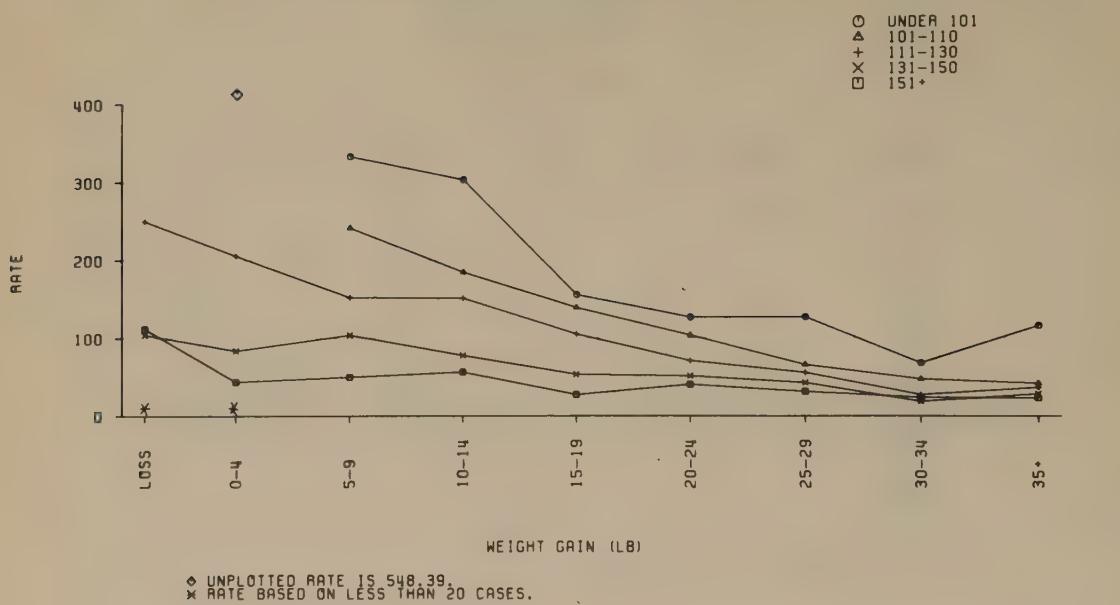
PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	-	500.00*	240.00	170.21	46.88	90.23
0-4	428.57*	210.53*	81.08	105.88	26.32	83.61
5-9	294.12*	125.00	121.85	54.35	45.27	84.88
10-14	177.78	164.44	80.97	39.68	32.97	77.39
15-19	159.82	81.93	44.77	28.15	16.89	52.12
20-24	108.84	41.05	29.64	21.45	21.48	36.17
25-29	53.94	43.66	20.85	19.74	15.08	26.81
30-34	51.28	29.96	17.88	5.45	7.30	19.40
35+	8.77	9.17	11.86	21.51	14.49	14.96
TOTAL	99.30	61.63	38.22	29.82	26.19	42.62
UNKNOWN	54.05	92.11	137.34	113.82	112.68	116.67
GRAND TOTAL	97.87	62.58	41.42	32.56	29.24	45.03

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO



BIRTHWEIGHTS UNDER 2501 GM BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO

LIVEBIRTHS WITH KNOWN BIRTHWEIGHT

PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	1	5	32	96	259	393
0-4	10	31	107	119	183	450
5-9	45	91	263	260	261	920
10-14	122	276	627	500	372	1897
15-19	199	474	1008	673	403	2757
20-24	221	512	1127	626	394	2880
25-29	166	411	950	561	289	2377
30-34	103	232	580	371	211	1497
35+	52	216	578	534	387	1767
TOTAL	919	2248	5272	3740	2759	14938
UNKNOWN	31	84	215	136	117	583
GRAND TOTAL	950	2332	5487	3876	2876	15521

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO

BIRTHWEIGHTS UNDER 2501 GM

PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0	1	8	10	29	48
0-4	6	17	22	10	8	63
5-9	15	22	40	27	13	117
10-14	37	51	95	39	21	243
15-19	31	66	106	36	11	250
20-24	28	53	80	32	16	209
25-29	21	27	53	24	9	134
30-34	7	11	16	7	5	46
35+	6	9	21	15	9	60
TOTAL	151	257	441	200	121	1170
UNKNOWN	10	15	38	16	19	98
GRAND TOTAL	161	272	479	216	140	1268

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

BIRTHWEIGHTS UNDER 2501 GM BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO

RATE

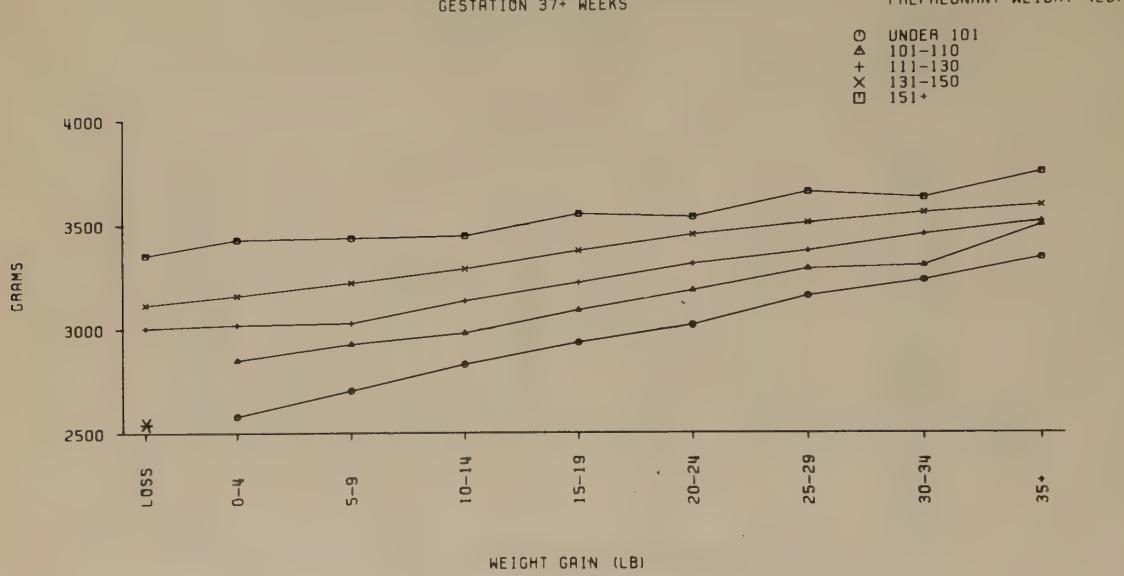
PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0 *	200.00*	250.00	104.17	111.97	122.14
0-4	600.00*	548.39	205.61	84.03	43.72	140.00
5-9	333.33	241.76	152.09	103.85	49.81	127.17
10-14	303.28	184.78	151.52	78.00	56.45	128.10
15-19	155.78	139.24	105.16	53.49	27.30	90.68
20-24	126.70	103.52	70.98	51.12	40.61	72.57
25-29	126.51	65.69	55.79	42.78	31.14	56.37
30-34	67.96	47.41	27.59	18.87	23.70	30.73
35+	115.38	41.67	36.33	28.09	23.26	33.96
TOTAL	164.31	114.32	83.65	53.48	43.86	78.32
UNKNOWN	322.58	178.57	176.74	117.65	162.39	168.10
GRAND TOTAL	169.47	116.64	87.30	55.73	48.68	81.70

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

MEAN BIRTHWEIGHT BY WEIGHT GAIN BY PREPREGNANT WEIGHT - WHITE
GESTATION 37+ WEEKS



* MEAN BASED ON LESS THAN 5 CASES.

MEAN BIRTHWEIGHT BY WEIGHT GAIN BY PREPREGNANT WEIGHT BY RACE - GESTATION 37+ WEEKS

WHITE

PREPREGNANT WEIGHT (LB.):	UNDER 101		101-110		111-130		131-150		151+	
	WEIGHT GAIN (LB.)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BWT.	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT						
LOSS	0	-	2	2566*	25	3006	47	3117	192	3354
0-4	7	2580	19	2851	74	3020	85	3160	114	3429
5-9	17	2703	72	2928	238	3028	184	3223	243	3438
10-14	90	2831	225	2981	704	3136	504	3289	273	3448
15-19	219	2936	476	3090	1519	3223	675	3375	296	3551
20-24	294	3019	609	3183	1822	3310	777	3450	286	3536
25-29	241	3156	481	3284	1343	3371	608	3504	199	3651
30-34	156	3228	267	3299	671	3447	367	3550	137	3621
35+	114	3334	218	3489	590	3508	408	3582	207	3741
TOTAL	1138	3070	2369	3196	6986	3302	3655	3425	1947	3529
UNKNOWN	37	2970	76	3304	233	3268	123	3459	71	3592
GRAND TOTAL	1175	3067	2445	3199	7219	3301	3778	3426	2018	3531

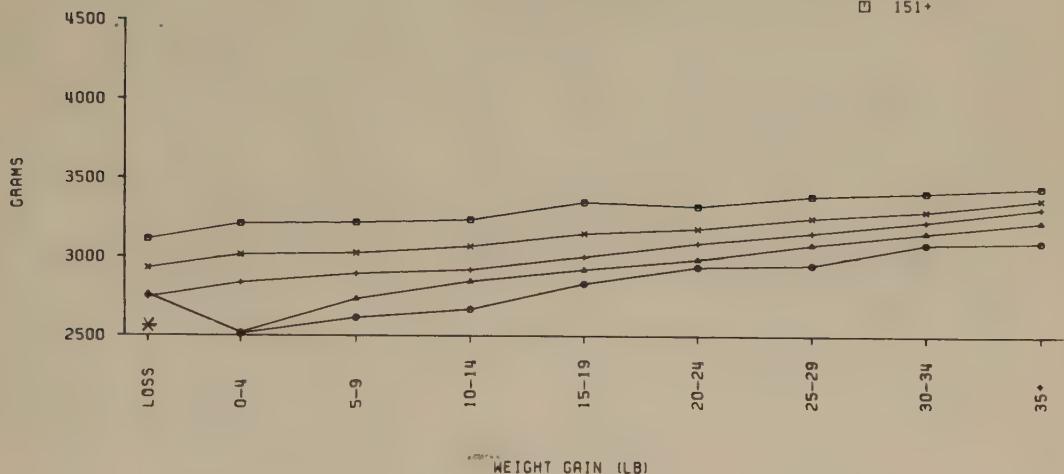
* MEAN BASED ON LESS THAN 5 CASES.

MEAN BIRTHWEIGHT BY WEIGHT GAIN BY PREPREGNANT WEIGHT - NEGRO

GESTATION 37+ WEEKS

PREPREGNANT WEIGHT (LB)

◻ ▲ △ G UNDER 101
 + 101-110
 * 111-130
 □ X 131-150
 △ 151+



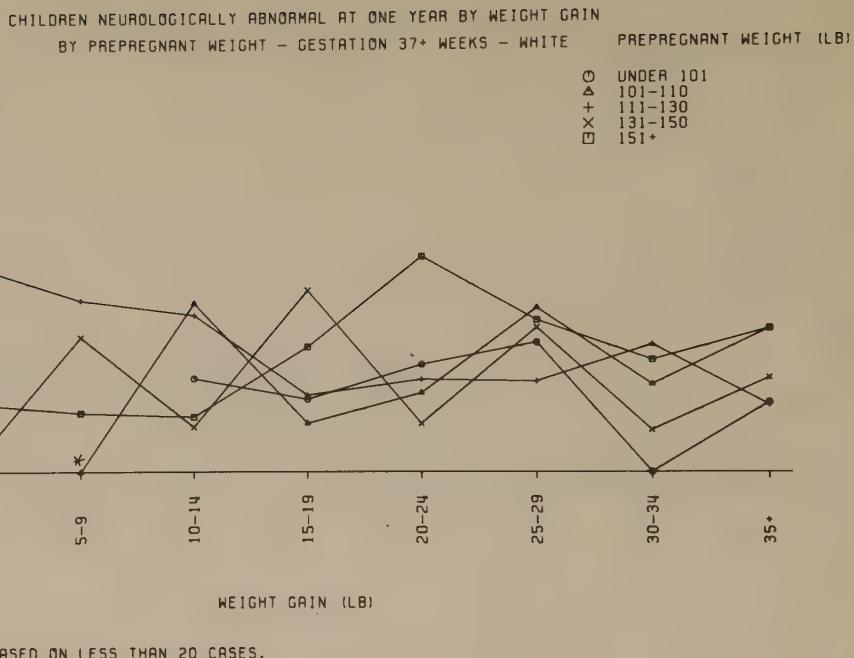
* MEAN BASED ON LESS THAN 5 CASES.

MEAN BIRTHWEIGHT BY WEIGHT GAIN BY PREPREGNANT WEIGHT BY RACE - GESTATION 37+ WEEKS

NEGRO

PREPREGNANT WEIGHT (LB.):	UNDER 101		101-110		111-130		131-150		151+		
	WEIGHT GAIN (LB.)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BWT.								
LOSS	1	2892*	2864	5	2761	32	2744	96	2929	259	3113
0-4	10	2512	2500	31	2519	107	2836	119	3015	183	3212
5-9	45	2616	2600	91	2735	263	2896	260	3027	261	3222
10-14	122	2670	2650	276	2847	627	2922	500	3072	372	3241
15-19	199	2835	2800	474	2923	1008	3007	673	3154	403	3357
20-24	221	2942	2900	512	2989	1127	3093	626	3187	394	3330
25-29	166	2954	2900	411	3084	950	3161	561	3256	289	3395
30-34	103	3090	3000	232	3161	580	3234	371	3300	211	3419
35+	52	3102	3000	216	3233	578	3319	534	3376	387	3452
TOTAL	919	2890	2800	2248	2999	5272	3091	3740	3191	2759	3314
UNKNOWN		31	2864	84	2864	215	3135	136	3170	117	3412
GRAND TOTAL		950	2889	2332	2994	5487	3093	3876	3190	2876	3318

* MEAN BASED ON LESS THAN 5 CASES.



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

ONE YEAR EXAMS

PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0	1	21	37	159	218
0-4	6	12	60	62	91	231
5-9	10	52	182	139	213	596
10-14	67	185	557	417	227	1453
15-19	172	387	1220	550	250	2579
20-24	233	475	1487	648	232	3075
25-29	193	382	1109	521	165	2370
30-34	123	215	541	298	112	1289
35+	90	175	467	333	175	1240
TOTAL	894	1884	5644	3005	1624	13051
UNKNOWN	26	33	121	68	44	292
GRAND TOTAL	920	1917	5765	3073	1668	13343

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

ABNORMALS

PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0	0	0	1	5	6
0-4	1	1	2	0	1	5
5-9	1	0	5	3	2	11
10-14	1	5	14	3	2	25
15-19	2	3	15	16	5	41
20-24	4	6	22	5	8	45
25-29	4	10	16	12	4	46
30-34	0	3	11	2	2	18
35+	1	4	5	5	4	19
TOTAL	14	32	90	47	33	216
UNKNOWN	0	1	1	0	0	2
GRAND TOTAL	14	33	91	47	33	218

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - WHITE

RATE

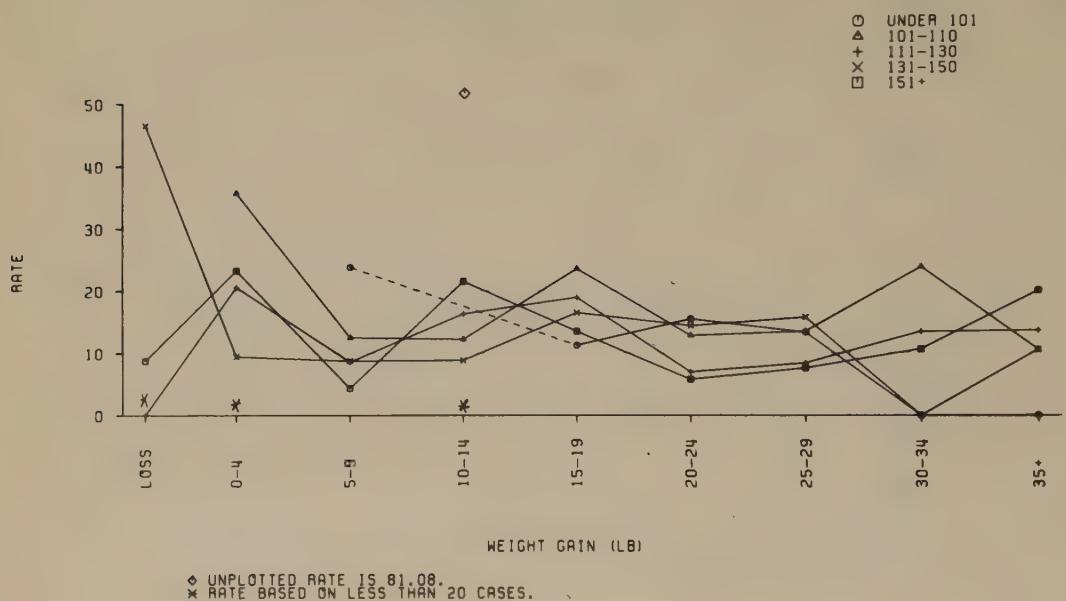
PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	-	0 X	0	27.03	31.45	27.52
0-4	166.67X	83.33X	33.33	0	10.99	21.65
5-9	100.00X	0	27.47	21.58	9.39	18.46
10-14	14.93	27.03	25.13	7.19	8.81	17.21
15-19	11.63	7.75	12.30	29.09	20.00	15.90
20-24	17.17	12.63	14.79	7.72	34.48	14.63
25-29	20.73	26.18	14.43	23.03	24.24	19.41
30-34	0	13.95	20.33	6.71	17.86	13.96
35+	11.11	22.86	10.71	15.02	22.86	15.32
TOTAL	15.66	16.99	15.95	15.64	20.32	16.55
UNKNOWN	0	30.30	8.26	0	0	6.85
GRAND TOTAL	15.22	17.21	15.78	15.29	19.78	16.34

X RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY WEIGHT GAIN
BY PREPREGNANT WEIGHT - GESTATION 37+ WEEKS - NEGRO



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO

ONE YEAR EXAMS

PREPREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (1)
LOSS	1	4	26	86	228	345
0-4	9	28	97	106	172	412
5-9	42	80	233	229	230	814
10-14	111	245	552	452	325	1685
15-19	178	425	900	607	371	2481
20-24	194	469	1004	557	346	2570
25-29	151	373	838	512	264	2138
30-34	98	211	523	332	189	1353
35+	49	191	517	477	352	1586
TOTAL	833	2026	4690	3358	2477	13384
UNKNOWN	28	66	172	114	102	482
GRAND TOTAL	861	2092	4862	3472	2579	13866

(1) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO

ABNORMALS

PREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0	0	0	4	2	6
0-4	0	1	2	1	4	8
5-9	1	1	2	2	1	7
10-14	9	3	9	4	7	32
15-19	2	10	17	10	5	44
20-24	3	6	7	8	2	26
25-29	2	5	7	8	2	24
30-34	0	5	7	0	2	14
35+	0	2	7	5	7	21
TOTAL	17	33	58	42	32	182
UNKNOWN	0	0	6	1	1	8
GRAND TOTAL	17	33	64	43	33	190

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY WEIGHT GAIN BY PREPREGNANT WEIGHT
GESTATION 37+ WEEKS - NEGRO

RATE

PREGNANT WEIGHT (LB.)

WEIGHT GAIN (LB.)	UNDER 101	101-110	111-130	131-150	151+	TOTAL (I)
LOSS	0 *	0 *	0	46.51	8.77	17.39
0-4	0 *	35.71	20.62	9.43	23.26	19.42
5-9	23.81	12.50	8.58	8.73	4.35	8.60
10-14	81.08	12.24	16.30	8.85	21.54	18.99
15-19	11.24	23.53	18.89	16.47	13.48	17.73
20-24	15.46	12.79	6.97	14.36	5.78	10.12
25-29	13.25	13.40	8.35	15.63	7.58	11.23
30-34	0	23.70	13.38	0	10.58	10.35
35+	0	10.47	13.54	10.48	19.89	13.24
TOTAL	20.41	16.29	12.37	12.51	12.92	13.60
UNKNOWN	0	0	34.88	8.77	9.80	16.60
GRAND TOTAL	19.74	15.77	13.16	12.38	12.80	13.70

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PREPREGNANT WEIGHT.

SECTION 3. PAST OBSTETRICAL HISTORY

PARITY

Parity in this Study is defined as the number of prior pregnancies exclusive of those of less than twenty weeks gestation. Approximately one-third of the Collaborative Study patients were of parity zero ("primiparous") in both races. There were more women with high parity (five or more prior pregnancies) among Negroes than among Whites (fourteen per cent as compared with eight per cent).

For White gravidas the perinatal death rate is lowest for gravidas of parity one. It is slightly higher for primiparas, and above parity one, perinatal mortality tends to increase steadily. For Negroes, the rates appear fairly constant up to parity four, at which point there is a slight increase. At lower parities (less than three), rates for Negroes exceed those for Whites, while above that point, the White rates are higher.

Stillbirth rates show the same pattern as the perinatal death rates. Neonatal death rates for White gravidas increase at the higher parities, while rates for Negroes appear fairly constant.

The mean birthweight increases consistently, for both Whites and Negroes, with increasing parity. Surprisingly, however, the low birthweight rate does not present a consistently analogous picture; Negro rates decrease slightly with parity, but White rates increase. This suggests that White gravidas of high parity have a large number of heavy babies as well as a large number of small ones, in order that the mean be high. There is no immediate explanation for this situation.

Neurological abnormality rates at one year increase with increasing parity for both races.

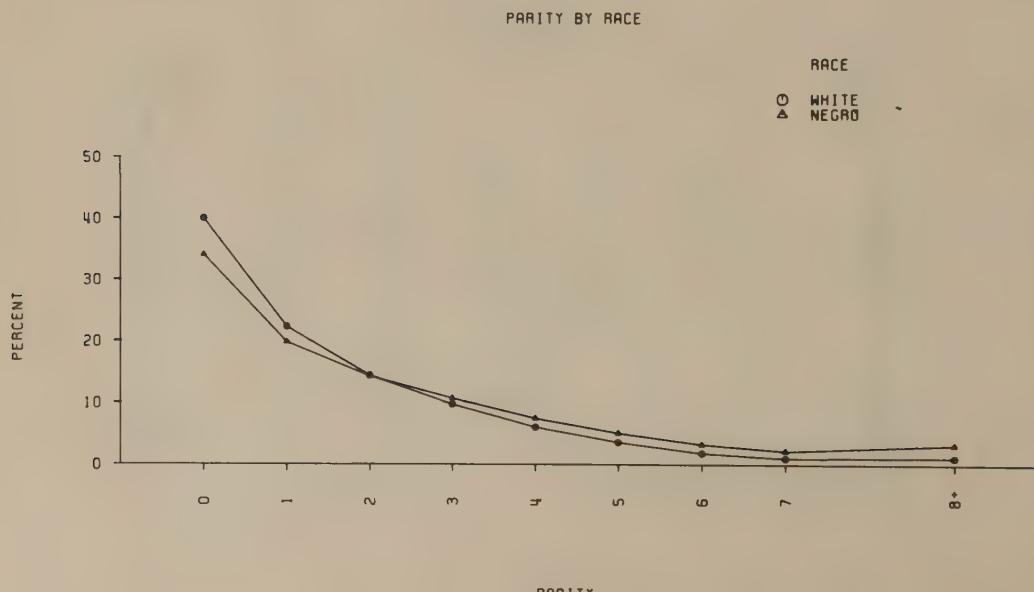
Age and parity are closely interrelated and it is important to consider parity associations among women subgrouped by age.

PARITY AND AGE OF GRAVIDA

The mean age of White gravidas increases from 21.7 years at zero parity to 33.4 years at parities over 4. The mean age of Negro gravidas is about 1.5 years younger than Whites at each parity.

Perinatal death rates for both White and Negro gravidas for each parity category tend to increase with increasing age. Primiparous women 30 years of age or older have far higher rates than the younger women. By comparison, the variation in perinatal mortality at parity five or higher is modest among White women in the various age groups for which the data are available. The number of cases is small for some of the more extreme age/parity combinations, which may obscure relationships. Stillbirth rates show similar trends. Neonatal deaths, however, do not show any consistent associations, except for the increases among primiparous women of more advanced age.

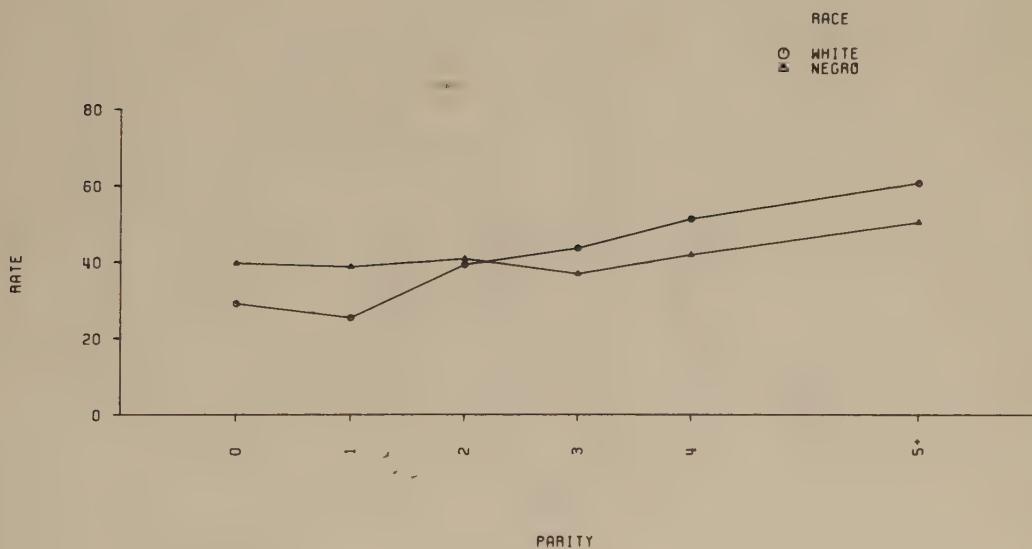
Low birthweight rates by age are highest at the extremes of age for the parity, and lowest in the middle group. Among younger gravidas, Whites of high parities and Negroes of low parities appear to have increased rates. Mean birthweight tends to be low for older primiparas of both races. The oldest White primiparas have babies with mean birthweight about 300 grams less than primiparas in their early twenties; for Negro primiparas, the corresponding figure is about 200 grams.



PARITY BY RACE

PARITY	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
0	7598	39.99	39.99	6852	34.06	34.06
1	4239	22.31	62.30	3989	19.83	53.89
2	2735	14.39	76.69	2876	14.29	68.18
3	1846	9.72	86.41	2152	10.70	78.88
4	1143	6.02	92.43	1494	7.43	86.31
5	683	3.59	96.02	1017	5.05	91.36
6	348	1.83	97.85	654	3.25	94.61
7	192	1.01	98.86	441	2.19	96.80
8+	216	1.14	100.00	644	3.20	100.00
TOTAL	19000			20119		
UNKNOWN	48	0.25		48	0.24	
GRAND TOTAL	19048	100.00		20167	100.00	

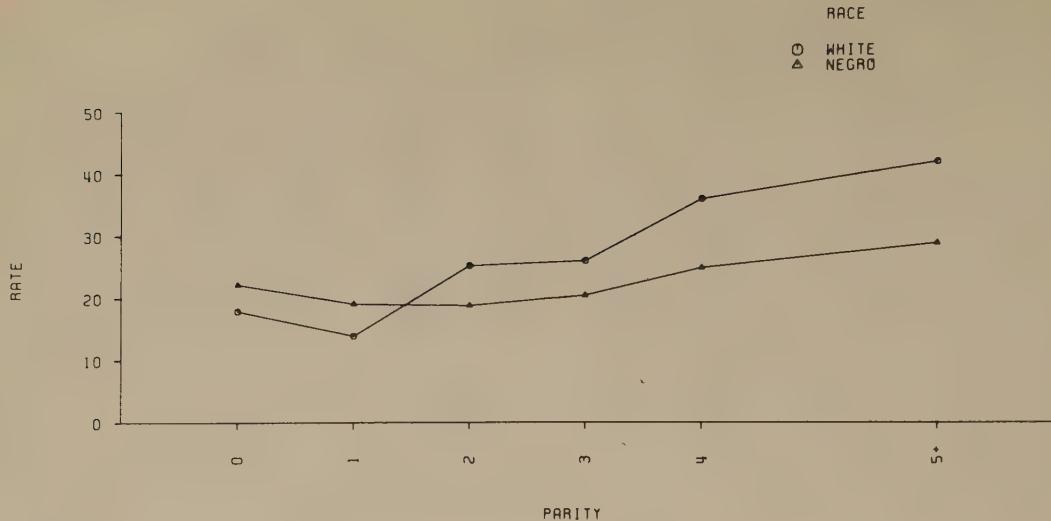
PERINATAL DEATHS BY PARITY BY RACE



PERINATAL DEATHS BY PARITY BY RACE

PARITY	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
0	7598	221	29.09	6852	272	39.70
1	4239	108	25.48	3989	155	38.86
2	2735	108	39.49	2876	118	41.03
3	1846	81	43.88	2152	80	37.17
4	1143	59	51.62	1494	63	42.17
5+	1439	88	61.15	2756	140	50.80
TOTAL	19000	665	35.00	20119	828	41.16
UNKNOWN	48	3	62.50	48	17	354.17
GRAND TOTAL	19048	668	35.07	20167	845	41.90

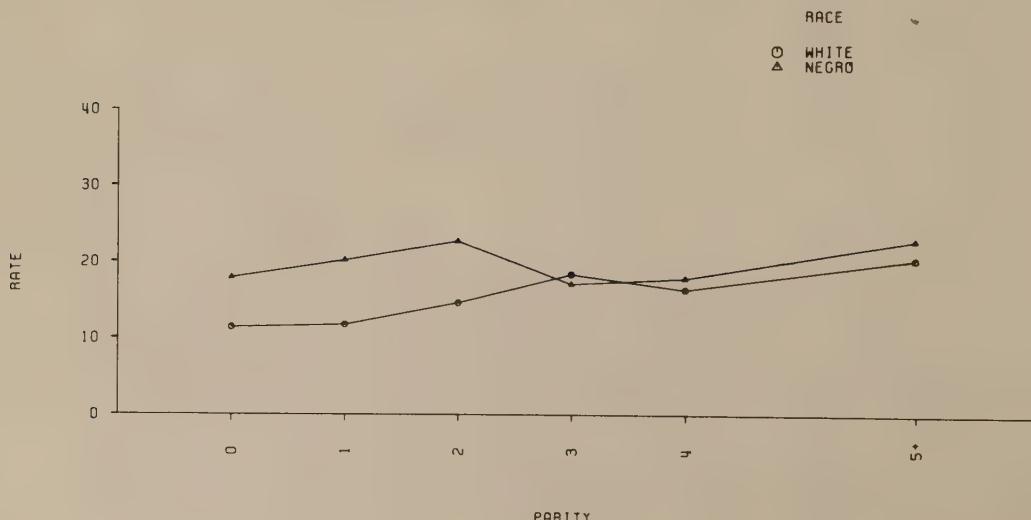
STILLBIRTHS BY PARITY BY RACE



STILLBIRTHS BY PARITY BY RACE

PARITY	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
0	7598	136	17.90	6852	152	22.18
1	4239	59	13.92	3989	76	19.05
2	2735	69	25.23	2876	54	18.78
3	1846	48	26.00	2152	44	20.45
4	1143	41	35.87	1494	37	24.77
5+	1439	60	41.70	2756	79	28.66
TOTAL	19000	413	21.74	20119	442	21.97
UNKNOWN	48	2	41.67	48	15	312.50
GRAND TOTAL	19048	415	21.79	20167	457	22.66

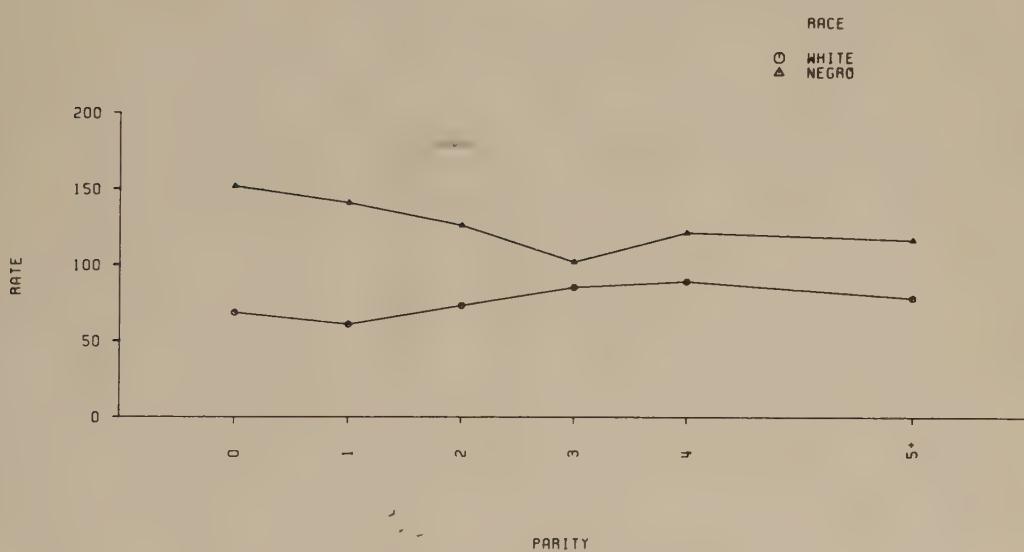
NEONATAL DEATHS BY PARITY BY RACE



NEONATAL DEATHS BY PARITY BY RACE

PARITY	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
0	7462	85	11.39	6700	120	17.91
1	4180	49	11.72	3913	79	20.19
2	2666	39	14.63	2822	64	22.68
3	1798	33	18.35	2108	36	17.08
4	1102	18	16.33	1457	26	17.84
5+	1379	28	20.30	2677	61	22.79
TOTAL	18587	252	13.56	19677	386	19.62
UNKNOWN	46	1	21.74	33	2	60.61
GRAND TOTAL	18633	253	13.58	19710	388	19.69

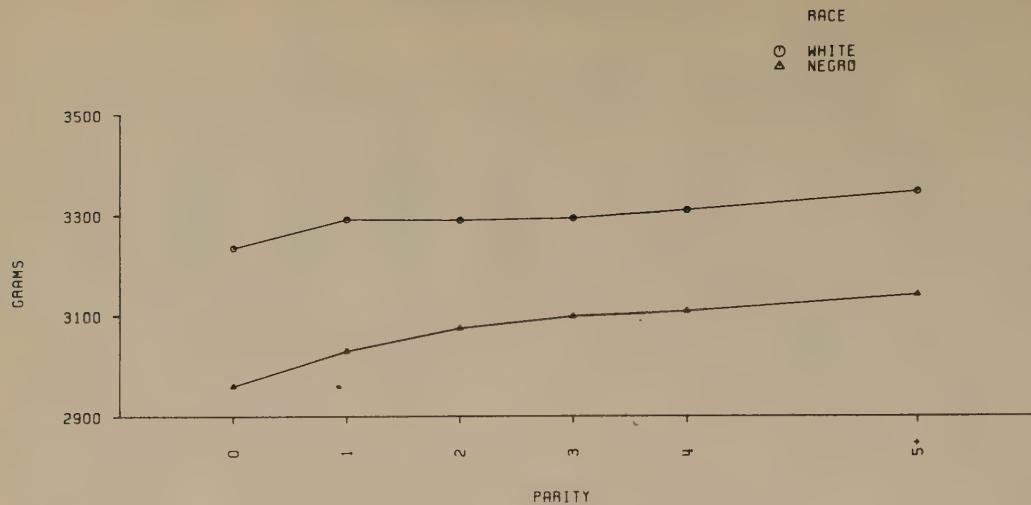
BIRTHWEIGHTS UNDER 2501 GM BY PARITY BY RACE



BIRTHWEIGHTS UNDER 2501 GM BY PARITY BY RACE

PARITY	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
0	7400	508	68.65	6633	1008	151.97
1	4147	253	61.01	3872	547	141.27
2	2647	195	73.67	2801	355	126.74
3	1783	153	85.81	2084	214	102.69
4	1092	98	89.74	1441	176	122.14
5+	1370	108	78.83	2644	311	117.62
TOTAL	18439	1315	71.32	19475	2611	134.07
UNKNOWN	42	4	95.24	29	6	206.90
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

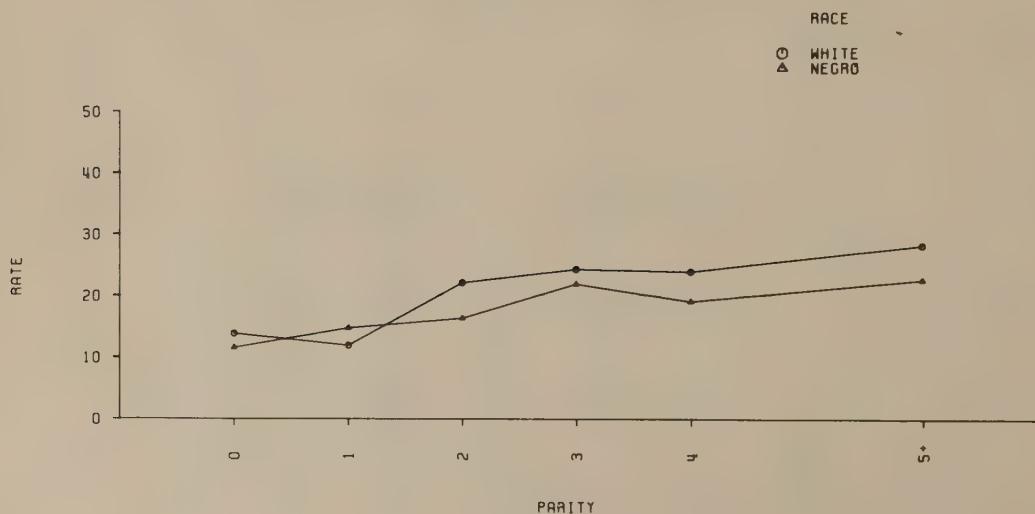
MEAN BIRTHWEIGHT BY PARITY BY RACE



MEAN BIRTHWEIGHT BY PARITY BY RACE

Parity	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
0	7400	3234	6633	2960
1	4147	3290	3872	3029
2	2647	3288	2801	3074
3	1783	3291	2084	3097
4	1092	3306	1441	3107
5+	1370	3340	2644	3138
TOTAL	18439	3272	19475	3039
UNKNOWN	42	3141	29	2871
GRAND TOTAL	18481	3272	19504	3039

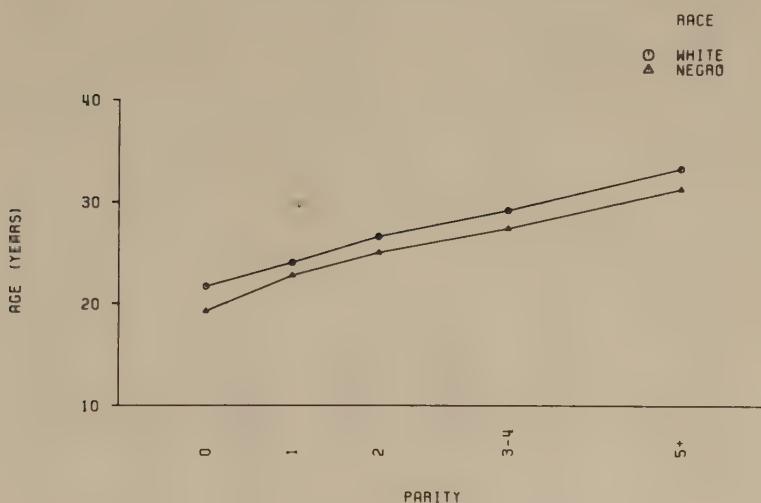
CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PARITY BY RACE



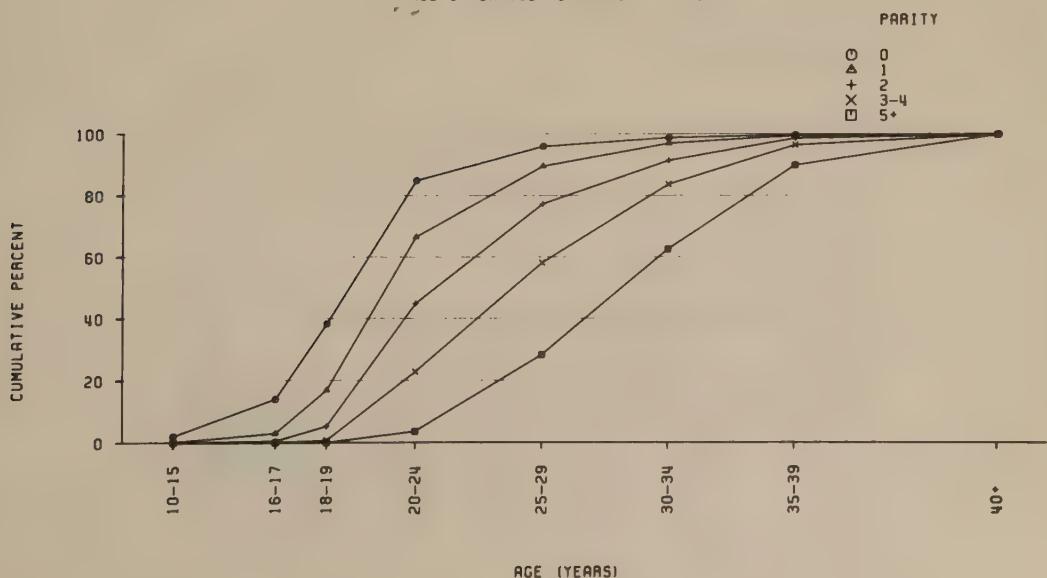
CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PARITY BY RACE

PARITY	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
0	5847	81	13.85	5877	68	11.57
1	3272	39	11.92	3331	49	14.71
2	2087	46	22.04	2449	40	16.33
3	1444	35	24.24	1832	40	21.83
4	880	21	23.86	1263	24	19.00
5+	1101	31	28.16	2348	53	22.57
TOTAL	14631	253	17.29	17100	274	16.02
UNKNOWN	31	0	0	23	0	0
GRAND TOTAL	14662	253	17.26	17123	274	16.00

MEAN AGE OF GRAVIDA BY PARITY BY RACE



AGE OF GRAVIDA BY PARITY - WHITE



AGE OF GRAVIDA BY PARITY - WHITE

NUMBER OF CASES

AGE (YEARS)	PARITY					TOTAL (I)
	0	1	2	3-4	5+	
10-15	151	6	0	0	0	157
16-17	906	117	11	1	0	1035
18-19	1851	592	131	19	0	2593
20-24	3538	2107	1086	661	51	7443
25-29	849	973	886	1058	355	4121
30-34	214	313	385	762	494	2168
35-39	67	110	197	380	393	1147
40+	22	21	39	108	145	335
TOTAL	7598	4239	2735	2989	1438	18999
UNKNOWN	0	0	0	0	1	1
GRAND TOTAL	7598	4239	2735	2989	1439	19000
MEAN AGE	21.7	24.1	26.7	29.3	33.4	25.0

(I) EXCLUDES UNKNOWN PARITY.

AGE OF GRAVIDA BY PARITY - WHITE

PERCENT

AGE (YEARS)	PARITY					TOTAL (I)
	0	1	2	3-4	5+	
10-15	1.99	0.14	0	0	0	0.83
16-17	11.92	2.76	0.40	0.03	0	5.45
18-19	24.36	13.97	4.79	0.64	0	13.65
20-24	46.56	49.71	39.71	22.11	3.55	39.18
25-29	11.17	22.95	32.39	35.40	24.69	21.69
30-34	2.82	7.38	14.08	25.49	34.35	11.41
35-39	0.88	2.59	7.20	12.71	27.33	6.04
40+	0.29	0.50	1.43	3.61	10.08	1.76
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00
UNKNOWN	0	0	0	0	0.07	0.01
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

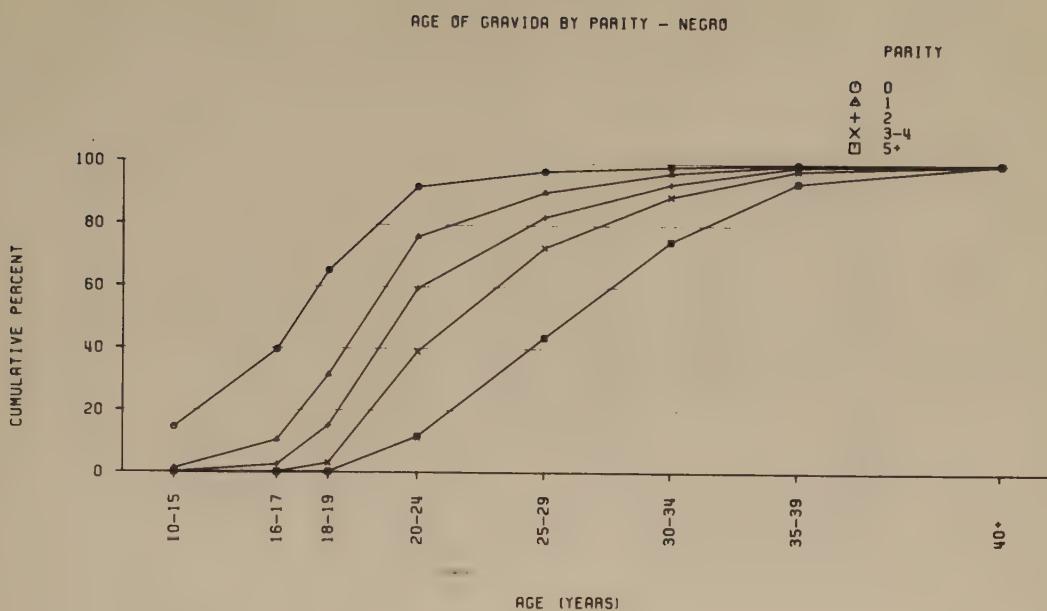
(I) EXCLUDES UNKNOWN PARITY.

AGE OF GRAVIDA BY PARITY - WHITE

CUMULATIVE PERCENT

AGE (YEARS)	PARITY					TOTAL (I)
	0	1	2	3-4	5+	
10-15	1.99	0.14	0	0	0	0.83
16-17	13.91	2.90	0.40	0.03	0	6.27
18-19	38.27	16.87	5.19	0.67	0	19.92
20-24	84.84	66.57	44.90	22.78	3.55	59.10
25-29	96.01	89.53	77.29	58.18	28.23	80.79
30-34	98.83	96.91	91.37	83.67	62.59	92.20
35-39	99.71	99.50	98.57	96.39	89.92	98.24
40+	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

(I) EXCLUDES UNKNOWN PARITY.



AGE OF GRAVIDA BY PARITY - NEGRO

NUMBER OF CASES

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	990	50	3	1	2	1046
16-17	1721	366	69	4	0	2160
18-19	1757	842	362	107	4	3072
20-24	1856	1781	1278	1313	314	6542
25-29	346	578	667	1232	883	3706
30-34	116	249	306	601	862	2134
35-39	55	107	167	308	520	1157
40+	11	15	24	80	171	301
TOTAL	6852	3988	2876	3646	2756	20118
UNKNOWN	0	1	0	0	0	1
GRAND TOTAL	6852	3989	2876	3646	2756	20119
MEAN AGE	19.3	22.8	25.1	27.5	31.4	24.0

(I) EXCLUDES UNKNOWN PARITY.

AGE OF GRAVIDA BY PARITY - NEGRO

AGE (YEARS)	PERCENT					TOTAL (I)
	0	1	2	3-4	5+	
10-15	14.45	1.25	0.10	0.03	0.07	5.20
16-17	25.12	9.18	2.40	0.11	0	10.74
18-19	25.64	21.11	12.59	2.93	0.15	15.27
20-24	27.09	44.66	44.44	36.01	11.39	32.52
25-29	5.85	14.49	23.19	33.79	32.04	18.42
30-34	1.69	6.24	10.64	16.48	31.28	10.61
35-39	0.80	2.68	5.81	8.45	18.87	5.75
40+	0.16	0.38	0.83	2.19	6.20	1.50
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00
UNKNOWN	0	0.03	0	0	0	0
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

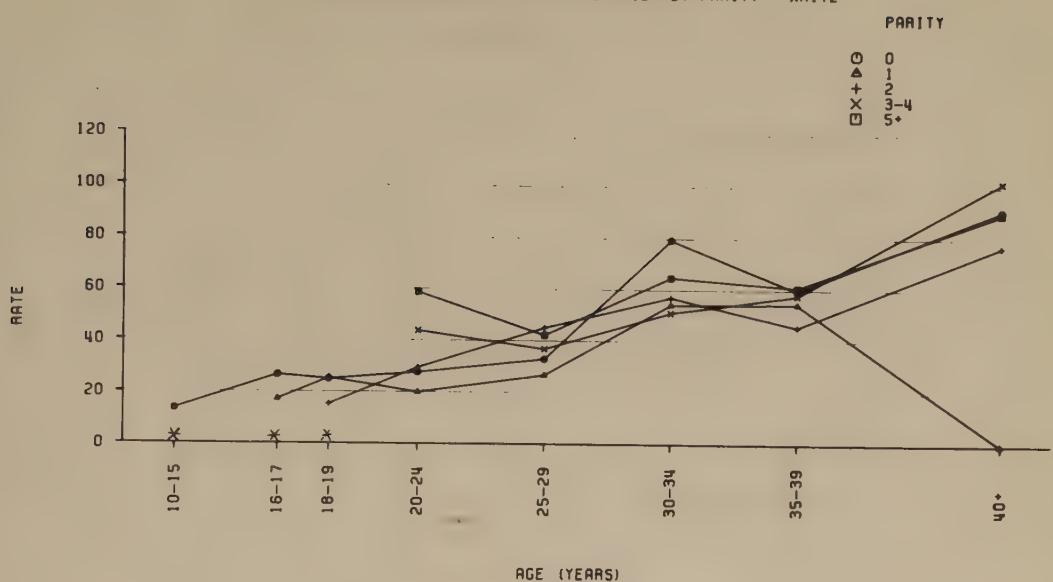
(I) EXCLUDES UNKNOWN PARITY.

AGE OF GRAVIDA BY PARITY - NEGRO

AGE (YEARS)	CUMULATIVE PERCENT					TOTAL (I)
	0	1	2	3-4	5+	
10-15	14.45	1.25	0.10	0.03	0.07	5.20
16-17	39.57	10.43	2.50	0.14	0.07	15.94
18-19	65.21	31.54	15.09	3.07	0.22	31.21
20-24	92.29	76.20	59.53	39.08	11.61	63.72
25-29	97.34	90.70	82.72	72.87	43.65	82.14
30-34	99.04	96.94	93.36	89.36	74.93	92.75
35-39	99.84	99.62	99.17	97.81	93.80	98.50
40+	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

(I) EXCLUDES UNKNOWN PARITY.

PERINATAL DEATHS BY AGE OF GRAVIDA BY PARITY - WHITE



* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY AGE OF GRAVIDA BY PARITY - WHITE

AGE (YEARS)	BIRTHS					TOTAL (I)
	0	1	2	3-4	5+	
10-15	151	6	0	0	0	157
16-17	906	117	11	1	0	1035
18-19	1851	592	131	19	0	2593
20-24	3538	2107	1086	661	51	7443
25-29	849	973	886	1058	355	4121
30-34	214	313	385	762	494	2168
35-39	67	110	197	380	393	1147
40+	22	21	39	108	145	335
TOTAL	7598	4239	2735	2989	1438	18999
UNKNOWN	0	0	0	0	1	1
GRAND TOTAL	7598	4239	2735	2989	1439	19000

(I) EXCLUDES UNKNOWN PARITY.

PERINATAL DEATHS BY AGE OF GRAVIDA BY PARITY - WHITE

PERINATAL DEATHS

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	2	0	0	0	0	2
16-17	24	2	0	0	0	26
18-19	46	15	2	0	0	63
20-24	98	42	32	29	3	204
25-29	28	26	40	39	15	148
30-34	17	17	22	39	32	127
35-39	4	6	9	22	24	65
40+	2	0	3	11	13	29
TOTAL	221	108	108	140	87	664
UNKNOWN	0	0	0	0	1	1
GRAND TOTAL	221	108	108	140	88	665

(I) EXCLUDES UNKNOWN PARITY.

PERINATAL DEATHS BY AGE OF GRAVIDA BY PARITY - WHITE

RATE

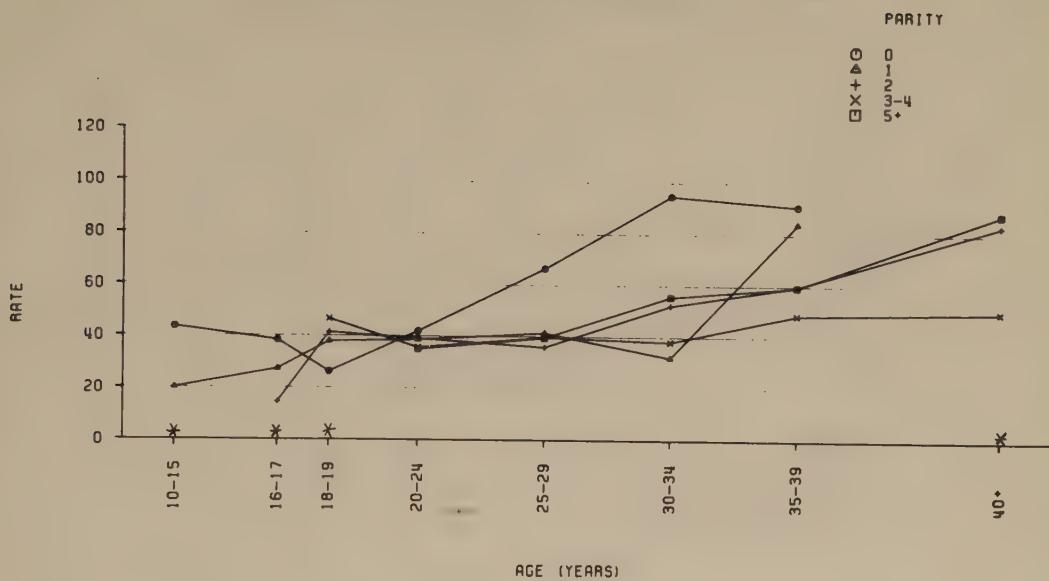
PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	13.25	0 *	-	-	-	12.74
16-17	26.49	17.09	0 *	0 *	-	25.12
18-19	24.85	25.34	15.27	0 *	-	24.30
20-24	27.70	19.93	29.47	43.87	58.82	27.41
25-29	32.98	26.72	45.15	36.86	42.25	35.91
30-34	79.44	54.31	57.14	51.18	64.78	58.58
35-39	59.70	54.55	45.69	57.89	61.07	56.67
40+	90.91	0	76.92	101.85	89.66	86.57
TOTAL	29.09	25.48	39.49	46.84	60.50	34.95
UNKNOWN	-	-	-	-	1000.00*	1000.00*
GRAND TOTAL	29.09	25.48	39.49	46.84	61.15	35.00

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PARITY.

PERINATAL DEATHS BY AGE OF GRAVIDA BY PARITY - NEGRO



* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY AGE OF GRAVIDA BY PARITY - NEGRO

AGE (YEARS)	BIRTHS					TOTAL (I)
	0	1	2	3-4	5+	
10-15	990	50	3	1	2	1046
16-17	1721	366	69	4	0	2160
18-19	1757	842	362	107	4	3072
20-24	1856	1781	1278	1313	314	6542
25-29	346	578	667	1232	883	3706
30-34	116	249	306	601	862	2134
35-39	55	107	167	308	520	1157
40+	11	15	24	80	171	301
TOTAL	6852	3988	2876	3646	2756	20118
UNKNOWN	0	1	0	0	0	1
GRAND TOTAL	6852	3989	2876	3646	2756	20119

(I) EXCLUDES UNKNOWN PARITY.

PERINATAL DEATHS BY AGE OF GRAVIDA BY PARITY - NEGRO

PERINATAL DEATHS

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	43	1	0	0	0	44
16-17	66	10	1	0	0	77
18-19	46	32	15	5	0	98
20-24	78	69	50	47	11	255
25-29	23	24	24	49	35	155
30-34	11	8	16	23	48	106
35-39	5	9	10	15	31	70
40+	0	2	2	4	15	23
TOTAL	272	155	118	143	140	828
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	272	155	118	143	140	828

(I) EXCLUDES UNKNOWN PARITY.

PERINATAL DEATHS BY AGE OF GRAVIDA BY PARITY - NEGRO

RATE

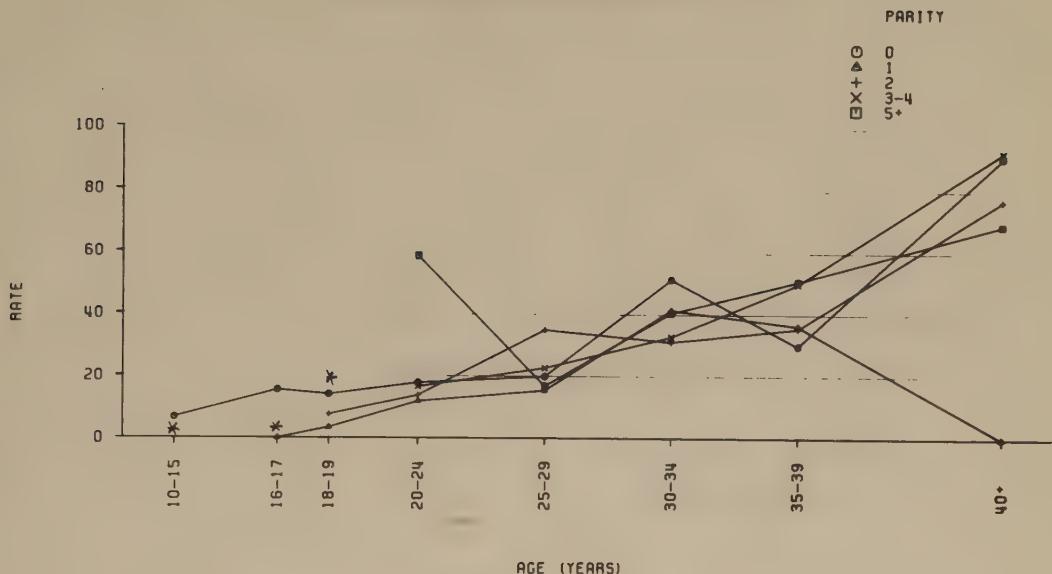
PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	43.43	20.00	0 X	0 X	0 X	42.07
16-17	38.35	27.32	14.49	0 X	-	35.65
18-19	26.18	38.00	41.44	46.73	0 X	31.90
20-24	42.03	38.74	39.12	35.80	35.03	38.98
25-29	66.47	41.52	35.98	39.77	39.64	41.82
30-34	94.83	32.13	52.29	38.27	55.68	49.67
35-39	90.91	84.11	59.88	48.70	59.62	60.50
40+	0 X	133.33 X	83.33	50.00	87.72	76.41
TOTAL	39.70	38.87	41.03	39.22	50.80	41.16
UNKNOWN	-	0 X	-	-	-	0 X
GRAND TOTAL	39.70	38.86	41.03	39.22	50.80	41.16

X RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PARITY.

STILLBIRTHS BY AGE OF GRAVIDA BY PARITY - WHITE



* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY AGE OF GRAVIDA BY PARITY - WHITE

AGE (YEARS)	BIRTHS					TOTAL (I)
	0	1	2	3-4	5+	
10-15	151	6	0	0	0	157
16-17	906	117	11	1	0	1035
18-19	1851	592	131	19	0	2593
20-24	3538	2107	1086	661	51	7443
25-29	849	973	886	1058	355	4121
30-34	214	313	385	762	494	2168
35-39	67	110	197	380	393	1147
40+	22	21	39	108	145	335
TOTAL	7598	4239	2735	2989	1438	18999
UNKNOWN	0	0	0	0	1	1
GRAND TOTAL	7598	4239	2735	2989	1439	19000

(I) EXCLUDES UNKNOWN PARITY.

STILLBIRTHS BY AGE OF GRAVIDA BY PARITY - WHITE

AGE (YEARS)	STILLBIRTHS					TOTAL (I)
	0	1	2	3-4	5+	
10-15	1	0	0	0	0	1
16-17	14	0	0	0	0	14
18-19	26	2	1	0	0	29
20-24	63	25	15	11	3	117
25-29	17	15	31	24	6	93
30-34	11	13	12	25	20	81
35-39	2	4	7	19	20	52
40+	2	0	3	10	10	25
TOTAL	136	59	69	89	59	412
UNKNOWN	0	0	0	0	1	1
GRAND TOTAL	136	59	69	89	60	413

(I) EXCLUDES UNKNOWN PARITY.

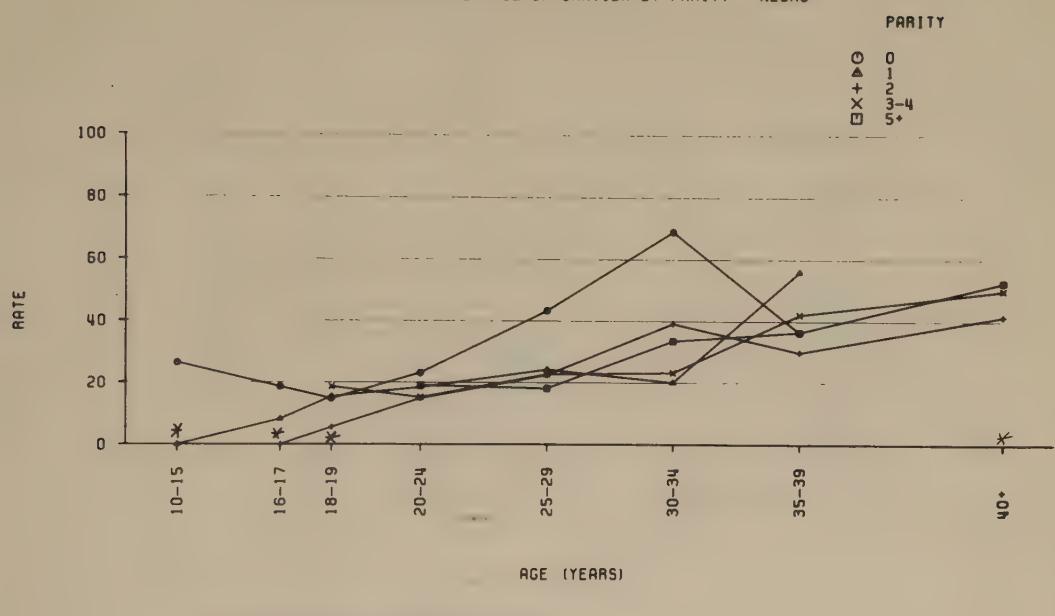
STILLBIRTHS BY AGE OF GRAVIDA BY PARITY - WHITE

AGE (YEARS)	RATE					TOTAL (I)
	0	1	2	3-4	5+	
10-15	6.62	0 *	-	-	-	6.37
16-17	15.45	0	0 *	0 *	-	13.53
18-19	14.05	3.38	7.63	0 *	-	11.18
20-24	17.81	11.87	13.81	16.64	58.82	15.72
25-29	20.02	15.42	34.99	22.68	16.90	22.57
30-34	51.40	41.53	31.17	32.81	40.49	37.36
35-39	29.85	36.36	35.53	50.00	50.89	45.34
40+	90.91	0	76.92	92.59	68.97	74.63
TOTAL	17.90	13.92	25.23	29.78	41.03	21.69
UNKNOWN	-	-	-	-	1000.00*	1000.00*
GRAND TOTAL	17.90	13.92	25.23	29.78	41.70	21.74

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PARITY.

STILLBIRTHS BY AGE OF GRAVIDA BY PARITY - NEGRO



STILLBIRTHS BY AGE OF GRAVIDA BY PARITY - NEGRO

AGE (YEARS)	BIRTHS					TOTAL (I)
	0	1	2	3-4	5+	
10-15	990	50	3	1	2	1046
16-17	1721	366	69	4	0	2160
18-19	1757	842	362	107	4	3072
20-24	1856	1781	1278	1313	314	6542
25-29	346	578	667	1232	883	3706
30-34	116	249	306	601	862	2134
35-39	55	107	167	308	520	1157
40+	11	15	24	80	171	301
TOTAL	6852	3988	2876	3646	2756	20118
UNKNOWN	0	1	0	0	0	1
GRAND TOTAL	6852	3989	2876	3646	2756	20119

(I) EXCLUDES UNKNOWN PARITY.

STILLBIRTHS BY AGE OF GRAVIDA BY PARITY - NEGRO

AGE (YEARS)	PARITY					TOTAL (1)
	0	1	2	3-4	5+	
10-15	26	0	0	0	0	26
16-17	32	3	0	0	0	35
18-19	26	13	2	2	0	43
20-24	43	33	19	20	6	121
25-29	15	14	15	28	16	88
30-34	8	5	12	14	29	68
35-39	2	6	5	13	19	45
40+	0	2	1	4	9	16
TOTAL	152	76	54	81	79	442
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	152	76	54	81	79	442

(1) EXCLUDES UNKNOWN PARITY.

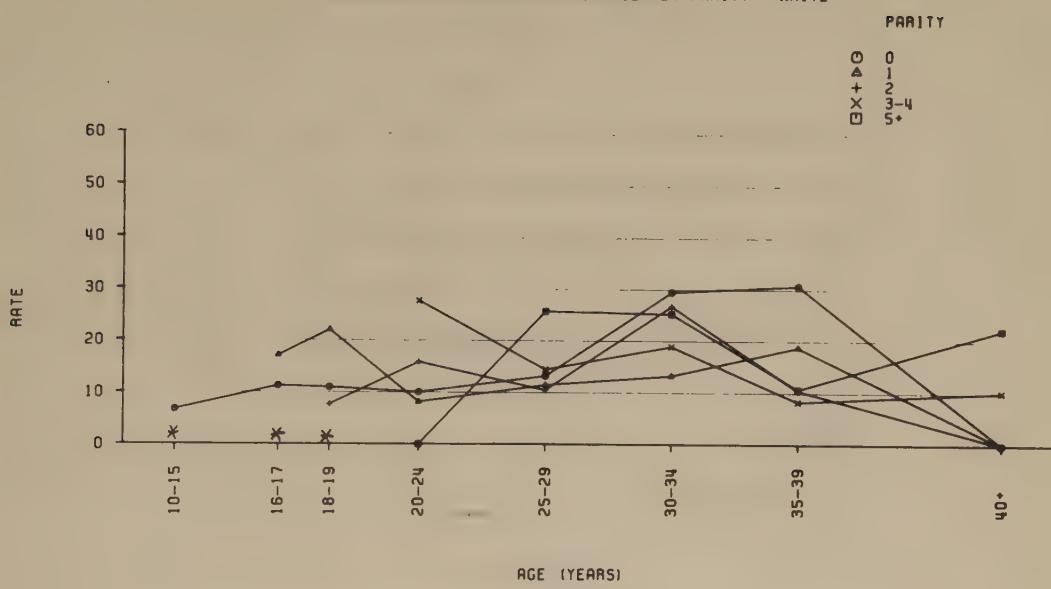
STILLBIRTHS BY AGE OF GRAVIDA BY PARITY - NEGRO

AGE (YEARS)	RATE					TOTAL (1)
	0	1	2	3-4	5+	
10-15	26.26	0	0 *	0 *	0 *	24.86
16-17	18.59	8.20	0	0 *	-	16.20
18-19	14.80	15.44	5.52	18.69	0 *	14.00
20-24	23.17	18.53	14.87	15.23	19.11	18.50
25-29	43.35	24.22	22.49	22.73	18.12	23.75
30-34	68.97	20.08	39.22	23.29	33.64	31.87
35-39	36.36	56.07	29.94	42.21	36.54	38.89
40+	0 *	133.33*	41.67	50.00	52.63	53.16
TOTAL	22.18	19.06	18.78	22.22	28.66	21.97
UNKNOWN	-	0 *	-	-	-	0 *
GRAND TOTAL	22.18	19.05	18.78	22.22	28.66	21.97

* RATE BASED ON LESS THAN 20 CASES.

(1) EXCLUDES UNKNOWN PARITY.

NEONATAL DEATHS BY AGE OF GRAVIDA BY PARITY - WHITE



* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY AGE OF GRAVIDA BY PARITY - WHITE

LIVEBIRTHS

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	150	6	0	0	0	156
16-17	892	117	11	1	0	1021
18-19	1825	590	130	19	0	2564
20-24	3475	2082	1071	650	48	7326
25-29	832	958	855	1034	349	4028
30-34	203	300	373	737	474	2087
35-39	65	106	190	361	373	1095
40+	20	21	36	98	135	310
TOTAL	7462	4180	2666	2900	1379	18587
UNKNOWN	0	0	0	0	1	1
GRAND TOTAL	7462	4180	2666	2900	1380	18588

(I) EXCLUDES UNKNOWN PARITY.

NEONATAL DEATHS BY AGE OF GRAVIDA BY PARITY - WHITE

AGE (YEARS)	PARITY					TOTAL (I)
	0	1	2	3-4	5+	
10-15	1	0	0	0	0	1
16-17	10	2	0	0	0	12
18-19	20	13	1	0	0	34
20-24	35	17	17	18	0	87
25-29	11	11	9	15	9	55
30-34	6	4	10	14	12	46
35-39	2	2	2	3	4	13
40+	0	0	0	1	3	4
TOTAL	85	49	39	51	28	252
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	85	49	39	51	28	252

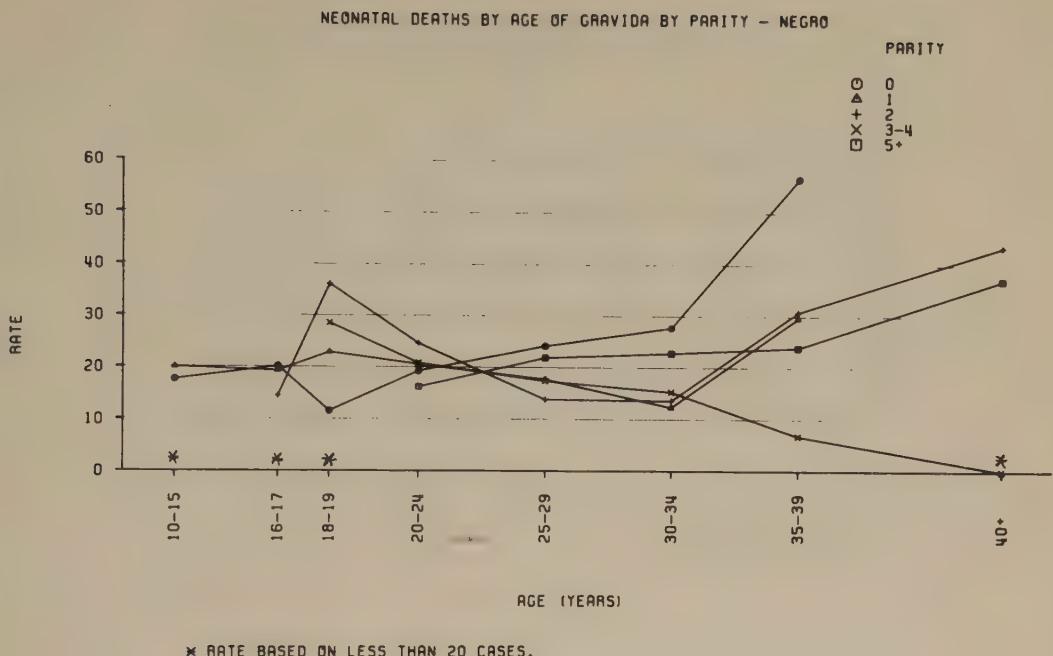
(I) EXCLUDES UNKNOWN PARITY.

NEONATAL DEATHS BY AGE OF GRAVIDA BY PARITY - WHITE

AGE (YEARS)	RATE					TOTAL (I)
	0	1	2	3-4	5+	
10-15	6.67	0 X	-	-	-	6.41
16-17	11.21	17.09	0 X	0 X	-	11.75
18-19	10.96	22.03	7.69	0 X	-	13.26
20-24	10.07	8.17	15.87	27.69	0	11.88
25-29	13.22	11.48	10.53	14.51	25.79	13.65
30-34	29.56	13.33	26.81	19.00	25.32	22.09
35-39	30.77	18.87	10.53	8.31	10.72	11.87
40+	0	0	0	10.20	22.22	12.90
TOTAL	11.39	11.72	14.63	17.59	20.30	13.56
UNKNOWN	-	-	-	-	0 X	0 X
GRAND TOTAL	11.39	11.72	14.63	17.59	20.29	13.56

X RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PARITY.



NEONATAL DEATHS BY AGE OF GRAVIDA BY PARITY - NEGRO

LIVEBIRTHS

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	964	50	3	1	2	1020
16-17	1689	363	69	4	0	2125
18-19	1731	829	360	105	4	3029
20-24	1813	1748	1259	1293	308	6421
25-29	331	564	652	1204	867	3618
30-34	108	244	294	587	833	2066
35-39	53	101	162	295	501	1112
40+	11	13	23	76	162	285
TOTAL	6700	3912	2822	3565	2677	19676
UNKNOWN	0	1	0	0	0	1
GRAND TOTAL	6700	3913	2822	3565	2677	19677

(I) EXCLUDES UNKNOWN PARITY.

NEONATAL DEATHS BY AGE OF GRAVIDA BY PARITY - NEGRO

NEONATAL DEATHS

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (1)
10-15	17	1	0	0	0	18
16-17	34	7	1	0	0	42
18-19	20	19	13	3	0	55
20-24	35	36	31	27	5	134
25-29	8	10	9	21	19	67
30-34	3	3	4	9	19	38
35-39	3	3	5	2	12	25
40+	0	0	1	0	6	7
TOTAL	120	79	64	62	61	386
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	120	79	64	62	61	386

(1) EXCLUDES UNKNOWN PARITY.

NEONATAL DEATHS BY AGE OF GRAVIDA BY PARITY - NEGRO

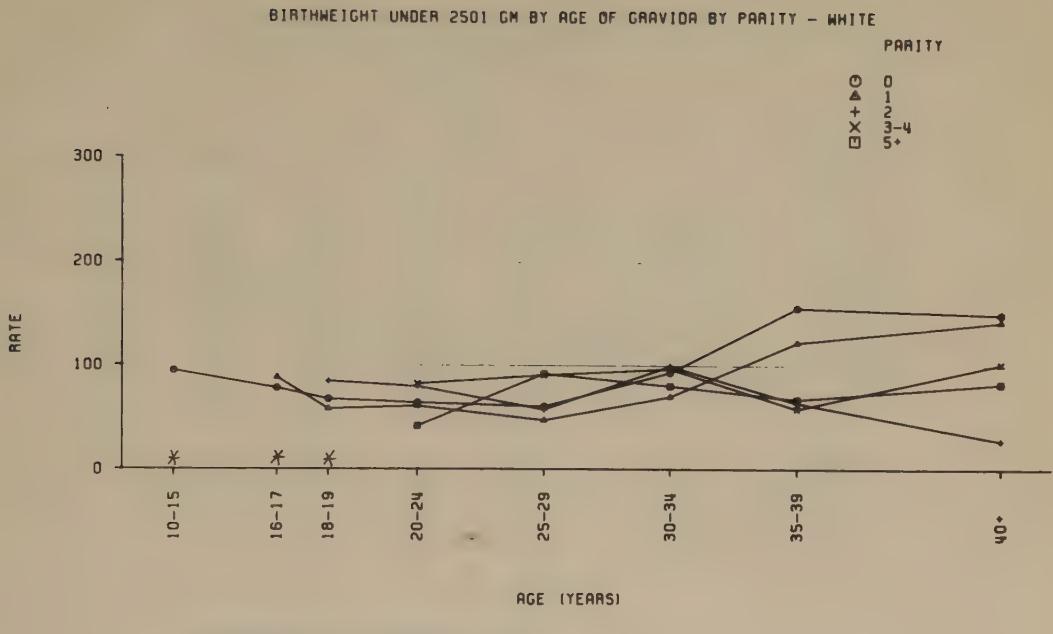
RATE

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (1)
10-15	17.63	20.00	0 ×	0 ×	0 ×	17.65
16-17	20.13	19.28	14.49	0 ×	-	19.76
18-19	11.55	22.92	36.11	28.57	0 ×	18.16
20-24	19.31	20.59	24.62	20.88	16.23	20.87
25-29	24.17	17.73	13.80	17.44	21.91	18.52
30-34	27.78	12.30	13.61	15.33	22.81	18.39
35-39	56.60	29.70	30.86	6.78	23.95	22.48
40+	0 ×	0 ×	43.48	0	37.04	24.56
TOTAL	17.91	20.19	22.68	17.39	22.79	19.62
UNKNOWN	-	0 ×	-	-	-	0 ×
GRAND TOTAL	17.91	20.19	22.68	17.39	22.79	19.62

* RATE BASED ON LESS THAN 20 CASES.

(1) EXCLUDES UNKNOWN PARITY.



BIRTHWEIGHT UNDER 2501 GM BY AGE OF GRAVIDA BY PARITY - WHITE
LIVEBIRTHS WITH KNOWN BIRTHWEIGHT

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	148	6	0	0	0	154
16-17	884	113	11	1	0	1009
18-19	1811	587	130	19	0	2547
20-24	3447	2063	1063	643	48	7264
25-29	823	951	849	1024	347	3994
30-34	203	300	371	731	471	2076
35-39	64	106	187	359	371	1087
40+	20	21	36	98	133	308
TOTAL	7400	4147	2647	2875	1370	18439
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	7400	4147	2647	2875	1370	18439

(I) EXCLUDES UNKNOWN PARITY.

BIRTHWEIGHT UNDER 2501 GM BY AGE OF GRAVIDA BY PARITY - WHITE

BIRTHWEIGHT UNDER 2501 GM

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	14	1	0	0	0	15
16-17	69	10	0	1	0	80
18-19	122	34	11	2	0	169
20-24	221	126	85	53	2	487
25-29	50	45	49	93	32	269
30-34	19	21	37	71	38	186
35-39	10	13	12	21	25	81
40+	3	3	1	10	11	28
TOTAL	508	253	195	251	108	1315
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	508	253	195	251	108	1315

(I) EXCLUDES UNKNOWN PARITY.

BIRTHWEIGHT UNDER 2501 GM BY AGE OF GRAVIDA BY PARITY - WHITE

RATE

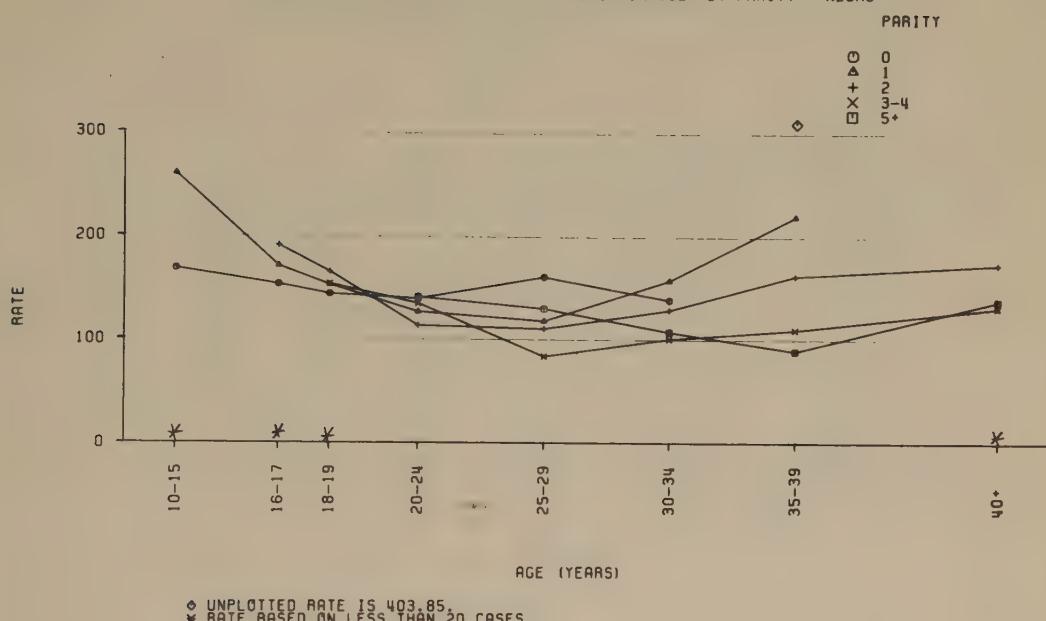
PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	94.59	166.67*	-	-	-	97.40
16-17	78.05	88.50	0 *	1000.00*	-	79.29
18-19	67.37	57.92	84.62	105.26*	-	66.35
20-24	64.11	61.08	79.96	82.43	41.67	67.04
25-29	60.75	47.32	57.71	90.82	92.22	67.35
30-34	93.60	70.00	99.73	97.13	80.68	89.60
35-39	156.25	122.64	64.17	58.50	67.39	74.52
40+	150.00	142.86	27.78	102.04	82.71	90.91
TOTAL	68.65	61.01	73.67	87.30	78.83	71.32
UNKNOWN	-	-	-	-	-	-
GRAND TOTAL	68.65	61.01	73.67	87.30	78.83	71.32

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PARITY.

BIRTHWEIGHT UNDER 2501 GM BY AGE OF GRAVIDA BY PARITY - NEGRO



BIRTHWEIGHT UNDER 2501 GM BY AGE OF GRAVIDA BY PARITY - NEGRO

LIVEBIRTHS WITH KNOWN BIRTHWEIGHT

AGE (YEARS)	PARITY					TOTAL (I)
	0	1	2	3-4	5+	
10-15	956	50	3	1	2	1012
16-17	1669	362	68	3	0	2102
18-19	1715	817	356	104	4	2996
20-24	1793	1731	1248	1278	304	6354
25-29	329	557	649	1189	858	3582
30-34	108	241	294	583	825	2051
35-39	52	100	160	291	492	1095
40+	11	13	23	76	159	282
TOTAL	6633	3871	2801	3525	2644	19474
UNKNOWN	0	1	0	0	0	1
GRAND TOTAL	6633	3872	2801	3525	2644	19475

(I) EXCLUDES UNKNOWN PARITY.

BIRTHWEIGHT UNDER 2501 GM BY AGE OF GRAVIDA BY PARITY - NEGRO

BIRTHWEIGHT UNDER 2501 GM

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	161	13	1	0	0	175
16-17	256	62	13	0	0	331
18-19	247	125	59	16	1	448
20-24	251	220	142	173	43	829
25-29	53	66	72	100	112	403
30-34	15	38	38	59	89	239
35-39	21	22	26	32	44	145
40+	4	0	4	10	22	40
TOTAL	1008	546	355	390	311	2610
UNKNOWN	0	1	0	0	0	1
GRAND TOTAL	1008	547	355	390	311	2611

(I) EXCLUDES UNKNOWN PARITY.

BIRTHWEIGHT UNDER 2501 GM BY AGE OF GRAVIDA BY PARITY - NEGRO

RATE

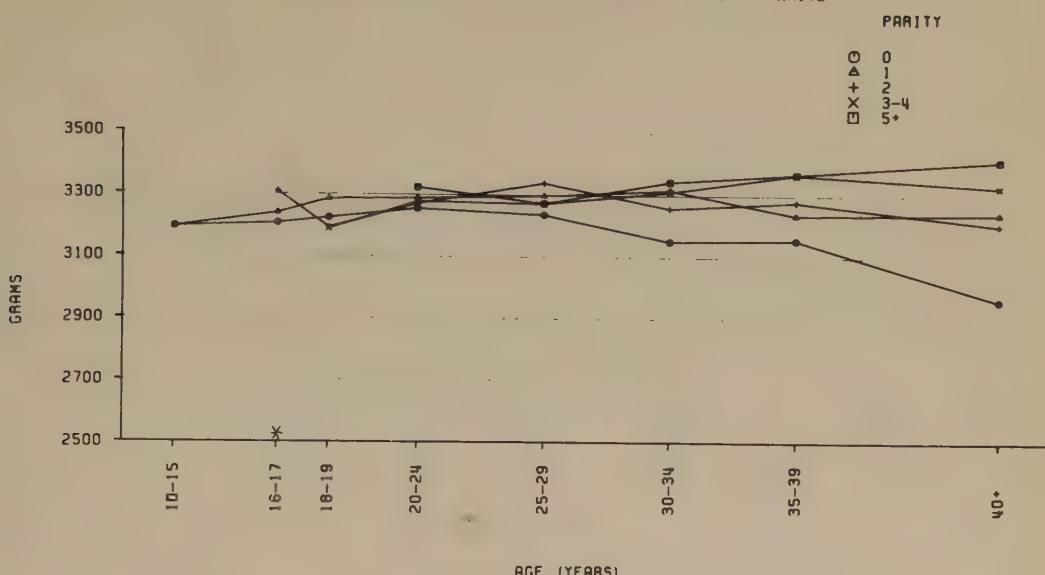
PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	168.41	260.00	333.33*	0 X	0 X	172.92
16-17	153.39	171.27	191.18	0 X	-	157.47
18-19	144.02	153.00	165.73	153.85	250.00*	149.53
20-24	139.99	127.09	113.78	135.37	141.45	130.47
25-29	161.09	118.49	110.94	84.10	130.54	112.51
30-34	138.89	157.68	129.25	101.20	107.88	116.53
35-39	403.85	220.00	162.50	109.97	89.43	132.42
40+	363.64*	0 X	173.91	131.58	138.36	141.84
TOTAL	151.97	141.05	126.74	110.64	117.62	134.02
UNKNOWN	-	1000.00*	-	-	-	1000.00*
GRAND TOTAL	151.97	141.27	126.74	110.64	117.62	134.07

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PARITY.

MEAN BIRTHWEIGHT BY AGE OF GRAVIDA BY PARITY - WHITE



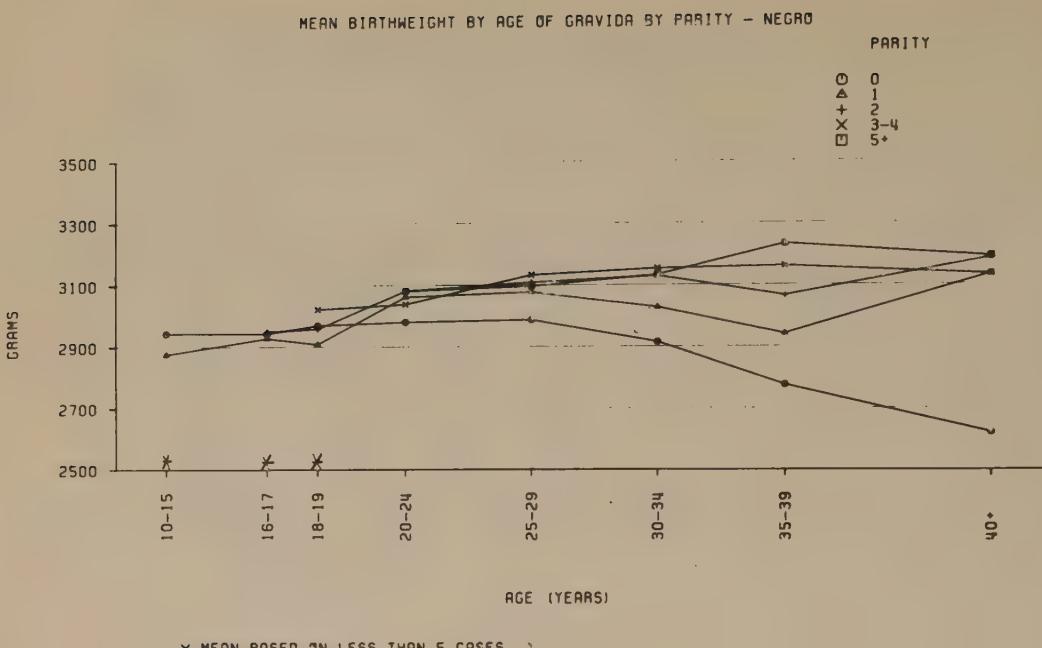
* MEAN BASED ON LESS THAN 5 CASES.

MEAN BIRTHWEIGHT BY AGE OF GRAVIDA BY PARITY BY RACE

WHITE

PARITY:	0		1		2		3-4		5+	
	AGE (YEARS)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BWT.	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT						
10-15	148	3193	6	3194	0	-	0	-	0	-
16-17	884	3207	113	3239	11	3309	1	2438*	0	-
18-19	1811	3225	587	3286	130	3194	19	3190	0	-
20-24	3447	3255	2063	3289	1063	3272	643	3278	48	3324
25-29	823	3237	951	3298	849	3339	1024	3273	347	3274
30-34	203	3152	300	3317	371	3259	731	3312	471	3345
35-39	61	3157	106	3237	187	3279	359	3369	371	3370
40+	20	2961	21	3241	36	3205	98	3328	133	3413
TOTAL	7400	3234	4147	3290	2647	3288	2875	3297	1370	3340
UNKNOWN	0	-	0	-	0	-	0	-	0	-
GRAND TOTAL	7400	3234	4147	3290	2647	3288	2875	3297	1370	3340

* MEAN BASED ON LESS THAN 5 CASES.



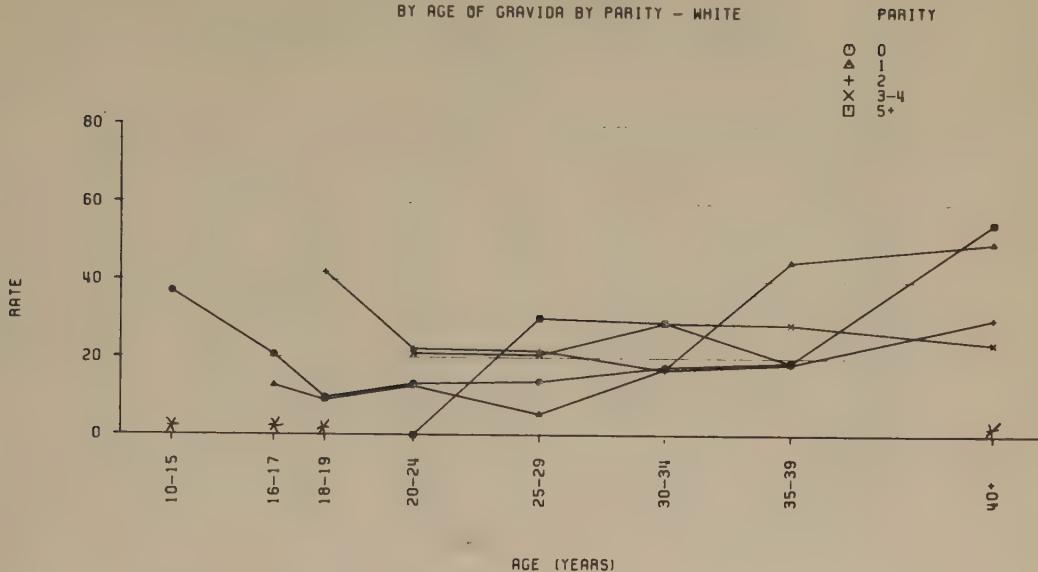
MEAN BIRTHWEIGHT BY AGE OF GRAVIDA BY PARITY BY RACE

NEGRO

PARITY:	0		1		2		3-4		5+	
	AGE (YEARS)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BWT.	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT						
10-15	956	2943	50	2876	3	2939*	1	2693*	2	3600*
16-17	1669	2913	362	2928	68	2950	3	3534*	0	-
18-19	1715	2970	817	2909	356	2959	104	3022	4	3112*
20-24	1793	2980	1731	3062	1248	3081	1278	3038	304	3081
25-29	329	2987	557	3077	649	3109	1189	3133	858	3097
30-34	108	2915	241	3027	294	3129	583	3153	825	3133
35-39	52	2776	100	2941	160	3065	291	3161	492	3233
40+	11	2621	13	3134	23	3186	76	3133	159	3190
TOTAL	6633	2960	3871	3029	2801	3074	3525	3101	2644	3138
UNKNOWN	0	-	1	2495	0	-	0	-	0	-
GRAND TOTAL	6633	2960	3872	3029	2801	3074	3525	3101	2644	3138

* MEAN BASED ON LESS THAN 5 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY AGE OF GRAVIDA BY PARITY - WHITE



* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY AGE OF GRAVIDA BY PARITY - WHITE

ONE YEAR EXAMS

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	108	5	0	0	0	113
16-17	676	78	6	1	0	761
18-19	1453	445	95	12	0	2005
20-24	2722	1660	807	476	32	5697
25-29	650	742	687	818	264	3161
30-34	170	233	296	619	376	1694
35-39	53	89	163	314	320	939
40+	15	20	33	84	109	261
TOTAL	5847	3272	2087	2324	1101	14631
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	5847	3272	2087	2324	1101	14631

(I) EXCLUDES UNKNOWN PARITY.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY AGE OF GRAVIDA BY PARITY - WHITE

AGE (YEARS)	ABNORMALS					TOTAL (I)
	0	1	2	3-4	5+	
10-15	4	0	0	0	0	4
16-17	14	1	0	0	0	15
18-19	14	4	4	0	0	22
20-24	36	21	18	10	0	85
25-29	9	4	15	17	8	53
30-34	3	4	5	18	11	41
35-39	1	4	3	9	6	23
40+	0	1	1	2	6	10
TOTAL	81	39	46	56	31	253
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	81	39	46	56	31	253

(I) EXCLUDES UNKNOWN PARITY.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY AGE OF GRAVIDA BY PARITY - WHITE

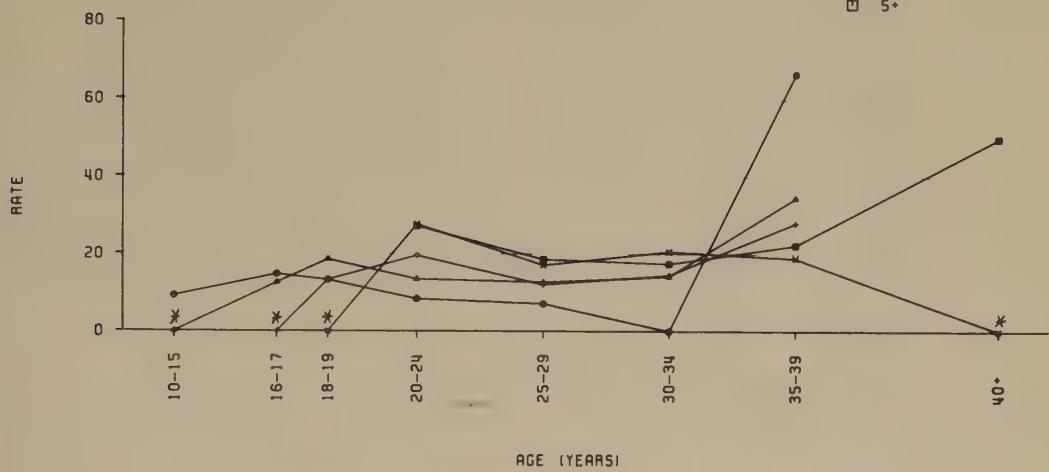
AGE (YEARS)	RATE					TOTAL (I)
	0	1	2	3-4	5+	
10-15	37.04	0 *	-	-	-	35.40
16-17	20.71	12.82	0 *	0 *	-	19.71
18-19	9.64	8.99	42.11	0 *	-	10.97
20-24	13.23	12.65	22.30	21.01	0	14.92
25-29	13.85	5.39	21.83	20.78	30.30	16.77
30-34	17.65	17.17	16.89	29.08	29.26	24.20
35-39	18.87	44.94	18.40	28.66	18.75	24.49
40+	0 *	50.00	30.30	23.81	55.05	38.31
TOTAL	13.85	11.92	22.04	24.10	28.16	17.29
UNKNOWN	-	-	-	-	-	-
GRAND TOTAL	13.85	11.92	22.04	24.10	28.16	17.29

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES UNKNOWN PARITY.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY AGE OF GRAVIDA BY PARITY - NEGRO

PARITY
□ X + △ G
0 1-2 3-4 5+



* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY AGE OF GRAVIDA BY PARITY - NEGRO

ONE YEAR EXAMS

PARITY

AGE (YEARS)	0	1	2	3-4	5+	TOTAL (I)
10-15	872	44	3	1	2	922
16-17	1498	319	57	2	0	1876
18-19	1512	702	300	82	4	2600
20-24	1565	1480	1072	1086	257	5460
25-29	282	473	581	1051	754	3141
30-34	92	212	275	534	742	1855
35-39	45	87	143	265	449	989
40+	11	13	18	74	140	256
TOTAL	5877	3330	2449	3095	2348	17099
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	5877	3330	2449	3095	2348	17099

(I) EXCLUDES UNKNOWN PARITY.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY AGE OF GRAVIDA BY PARITY - NEGRO

AGE (YEARS)	ABNORMALS					TOTAL (1)
	0	1	2	3-4	5+	
10-15	8	0	0	0	1	9
16-17	22	4	0	0	0	26
18-19	20	13	4	0	1	38
20-24	13	20	21	30	7	91
25-29	2	6	7	18	14	47
30-34	0	3	4	11	13	31
35-39	3	3	4	5	10	25
40+	0	0	0	0	7	7
TOTAL	68	49	40	64	53	274
UNKNOWN	0	0	0	0	0	0
GRAND TOTAL	68	49	40	64	53	274

(1) EXCLUDES UNKNOWN PARITY.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY AGE OF GRAVIDA BY PARITY - NEGRO

AGE (YEARS)	RATE					TOTAL (1)
	0	1	2	3-4	5+	
10-15	9.17	0	0 *	0 *	500.00*	9.76
16-17	14.69	12.54	0	0 *	-	13.86
18-19	13.23	18.52	13.33	0	250.00*	14.62
20-24	8.31	13.51	19.59	27.62	27.24	16.67
25-29	7.09	12.68	12.05	17.13	18.57	14.96
30-34	0	14.15	14.55	20.60	17.52	16.71
35-39	66.67	34.48	27.97	18.87	22.27	25.28
40+	0 *	0 *	0 *	0	50.00	27.34
TOTAL	11.57	14.71	16.33	20.68	22.57	16.02
UNKNOWN	-	-	-	-	-	-
GRAND TOTAL	11.57	14.71	16.33	20.68	22.57	16.02

* RATE BASED ON LESS THAN 20 CASES.

(1) EXCLUDES UNKNOWN PARITY.

SECTION 3. PAST OBSTETRICAL HISTORY (Continued)

INFLUENCE OF STATUS OF LAST PRIOR CHILD

The history of prior pregnancies and their outcomes, with respect to survival and birthweight, was reported by the gravida. Thirty-seven per cent of the White and 32 per cent of the Negro gravidas reported they had never been pregnant before. The information reported here on the last prior child relates to the pregnancy immediately prior to the Study pregnancy, and may have been an early fetal death, stillbirth, or livebirth.

The prior pregnancy and the Study pregnancy data are not directly comparable. Prior pregnancies include early fetal deaths and those cases where no prenatal care was obtained. Birthweights of prior pregnancies include those from fetal deaths as well as livebirths, whereas the data in this report exclude fetal deaths under 20 weeks and walk-ins, with birthweight data based on livebirths.

SURVIVAL STATUS OF LAST PRIOR CHILD

If the gravida's last prior pregnancy terminated in a fetal or neonatal death, then her Study infant had a greatly increased risk of stillbirth, neonatal death, or low birthweight; the low birthweight rate and mean birthweight were particularly adverse where the last prior pregnancy resulted in a neonatal death.

BIRTHWEIGHT OF LAST PRIOR CHILD

For White gravidas, if the birthweight of the last prior child was under 2501 grams, the chances were one in four that the Study infant would also weigh under 2501 grams; for Negro Study infants in similar circumstances the odds were almost one in three of weighing under 2501 grams. On the other hand, if the last prior child weighed over 2500 grams, the risk of low birthweight of the Study child was decreased from 7.1 to 5.8 per cent for Whites, and from 13.4 to 8.9 per cent for Negroes.

There may be some bias in the distributions of the last prior birthweights as a consequence of the high percent of unknown birthweights, in excess of eleven per cent, for each race. This high percentage of unknowns is accounted for, at least in part, by the fact that the gravida was unaware of the birthweight of early fetal deaths. The perinatal mortality rates of the Study infants of women for whom the last prior birthweight was unknown was high for both Whites and Negroes.

As with the Study baby, the birthweight of the last prior child is less, on the average, for a Negro infant than for a White.

There is a marked similarity between perinatal mortality rates of the Study child and the birthweight of the last prior child in both the White and Negro groups. The associations also are similar for the components of perinatal mortality—stillbirths and neonatal deaths.

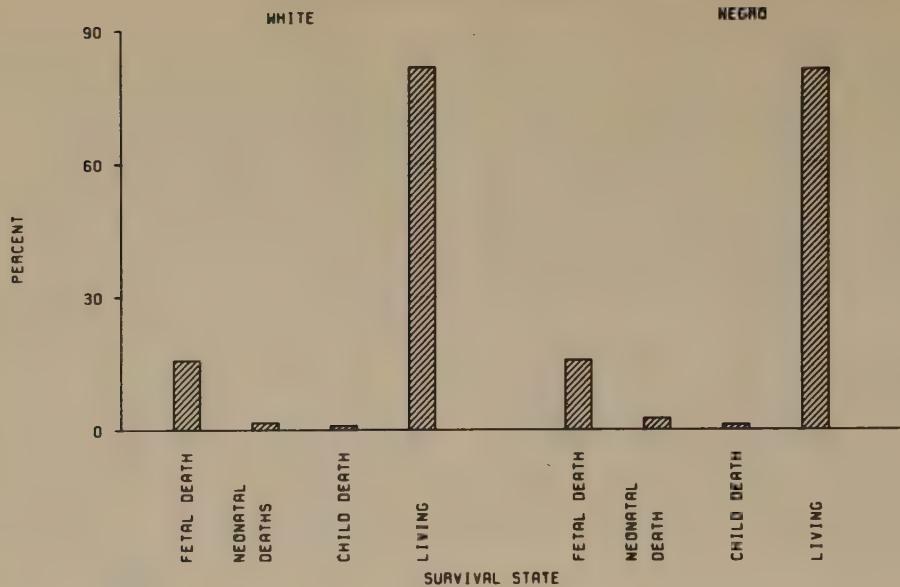
Birthweight of Study Child—White

Birthweight of Last Prior Child	Births			Percent		
	Under 2501	Over 2500	Total Known	Under 2501	Over 2500	Total Known
Under 2501	233	708	941	24.8	75.2	100.0
Over 2500	507	8249	8756	5.8	94.2	100.0
Total	740	8957	9697	7.6	92.4	100.0

Birthweight of Study Child—Negro

Birthweight of Last Prior Child	Births			Percent		
	Under 2501	Over 2500	Total Known	Under 2501	Over 2500	Total Known
Under 2501	590	1299	1889	31.2	68.8	100.0
Over 2500	833	8551	9384	8.9	91.1	100.0
Total	1423	9850	11273	12.6	87.4	100.0

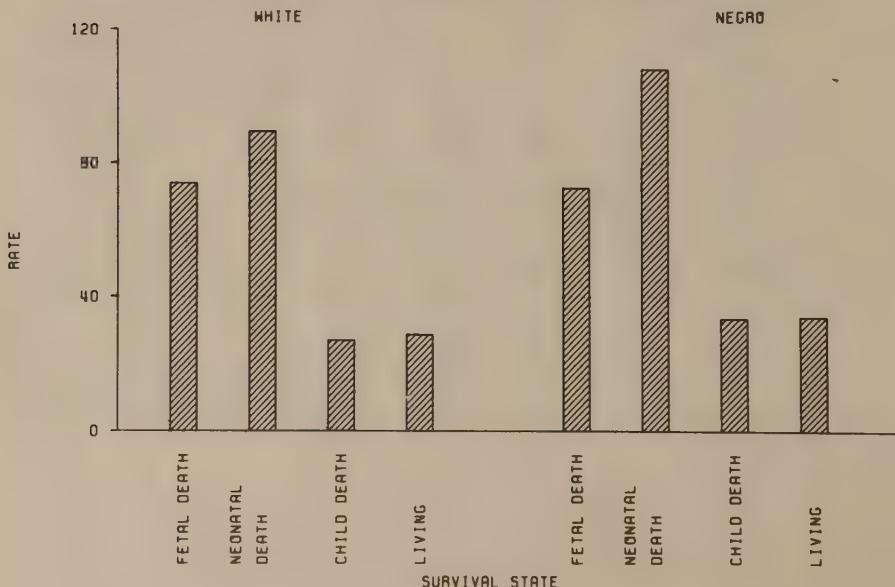
SURVIVAL STATE OF LAST PRIOR CHILD BY RACE



SURVIVAL STATE OF LAST PRIOR CHILD BY RACE

SURVIVAL STATE	WHITE	PERCENT	NEGRO	PERCENT
FETAL DEATH	1812	15.71	2117	15.70
NEONATAL DEATH	190	1.65	342	2.54
CHILD DEATH	111	0.96	149	1.11
LIVING	9418	81.68	10873	80.65
TOTAL	11531	100.00	13481	100.00
NEVER PREGNANT	7072	37.13	6366	31.57
UNKNOWN	445	2.34	320	1.59
GRAND TOTAL	19048	100.00	20167	100.00

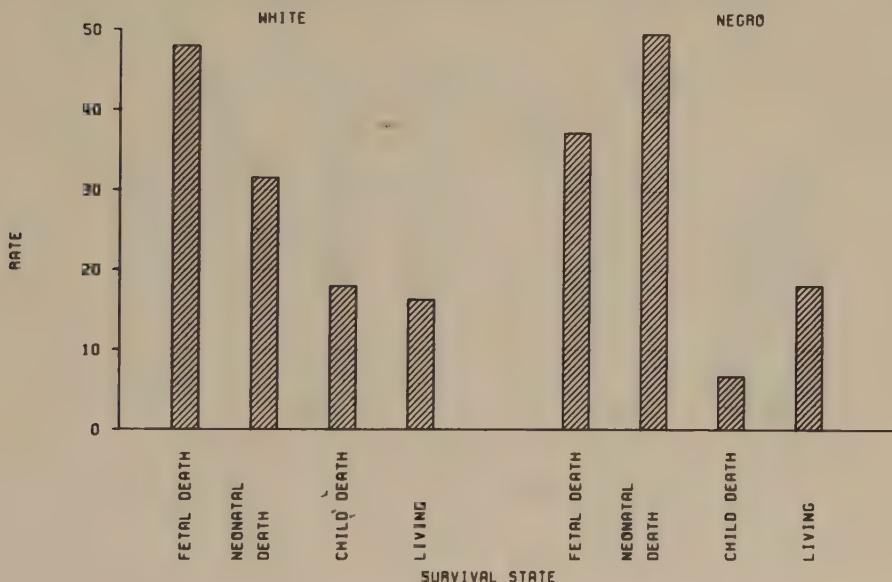
PERINATAL DEATHS BY SURVIVAL STATE OF LAST PRIOR CHILD BY RACE



PERINATAL DEATHS BY SURVIVAL STATE OF LAST PRIOR CHILD BY RACE

SURVIVAL STATE	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
FETAL DEATH	1812	134	73.95	2117	154	72.74
NEONATAL DEATH	190	17	89.47	342	37	108.19
CHILD DEATH	111	3	27.03	149	5	33.56
LIVING	9418	270	28.67	10873	371	34.12
TOTAL	11531	424	36.77	13481	567	42.06
NEVER PREGNANT	7072	188	26.58	6366	232	36.44
UNKNOWN	445	56	125.84	320	46	143.75
GRAND TOTAL	19048	668	35.07	20167	845	41.90

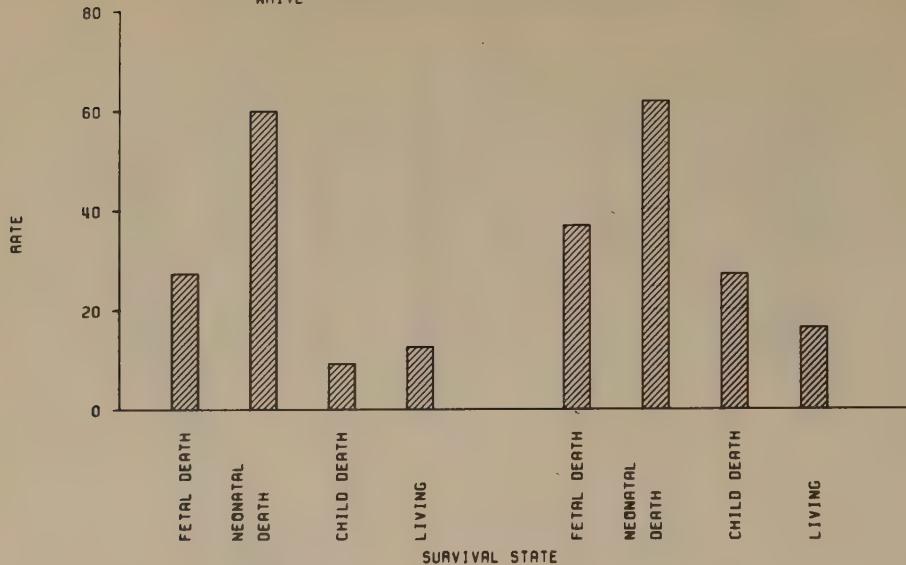
STILLBIRTHS BY SURVIVAL STATE OF LAST PRIOR CHILD BY RACE



STILLBIRTHS BY SURVIVAL STATE OF LAST PRIOR CHILD BY RACE

SURVIVAL STATE	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
FETAL DEATH	1812	87	48.01	2117	79	37.32
NEONATAL DEATH	190	6	31.58	342	17	49.71
CHILD DEATH	111	2	18.02	149	1	6.71
LIVING	9418	154	16.35	10873	197	18.12
TOTAL	11531	249	21.59	13481	294	21.81
NEVER PREGNANT	7072	118	16.69	6366	128	20.11
UNKNOWN	445	48	107.87	320	35	109.38
GRAND TOTAL	19048	415	21.79	20167	457	22.66

NEONATAL DEATHS BY SURVIVAL STATE OF LAST PRIOR CHILD BY RACE
WHITE

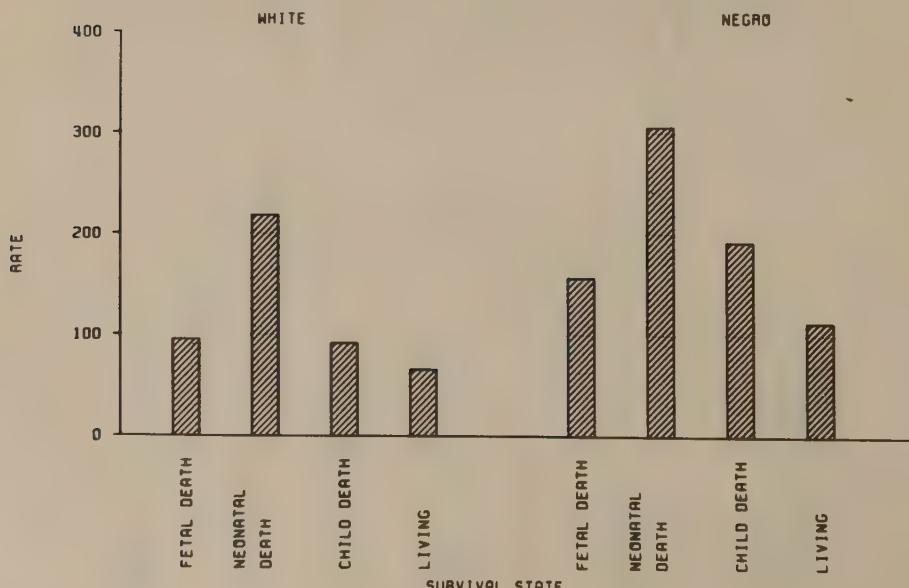


NEGRO

NEONATAL DEATHS BY SURVIVAL STATE OF LAST PRIOR CHILD BY RACE

SURVIVAL STATE	WHITE		NEGRO			
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
FETAL DEATH	1725	47	27.25	2038	75	36.80
NEONATAL DEATH	184	11	59.78	325	20	61.54
CHILD DEATH	109	1	9.17	198	4	27.03
LIVING	9264	116	12.52	10676	174	16.30
TOTAL	11282	175	15.51	13187	273	20.70
NEVER PREGNANT	6954	70	10.07	6238	104	16.67
UNKNOWN	397	8	20.15	285	11	38.60
GRAND TOTAL	18633	253	13.58	19710	388	19.69

BIRTHWEIGHTS UNDER 2501 GM BY SURVIVAL STATE OF LAST CHILD BY RACE

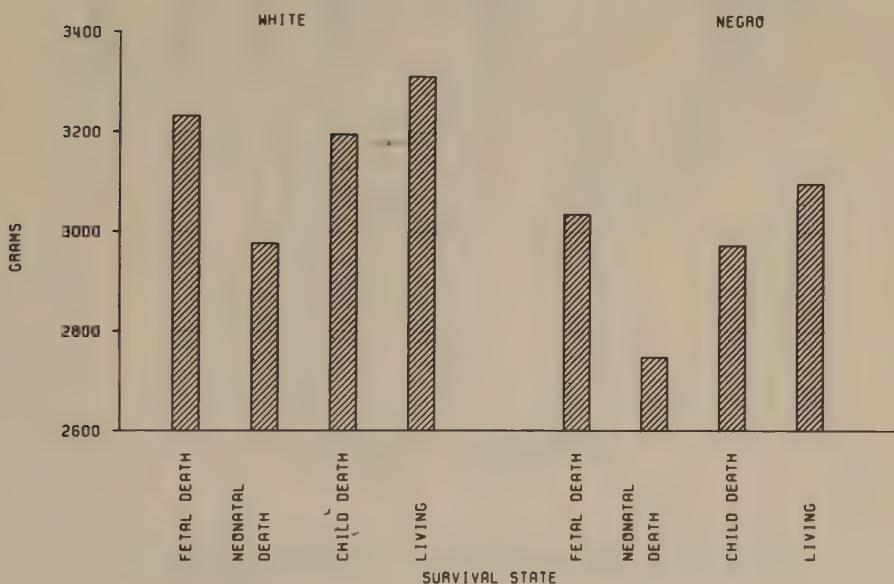


NEGRO

BIRTHWEIGHTS UNDER 2501 GM BY SURVIVAL STATE OF LAST CHILD BY RACE

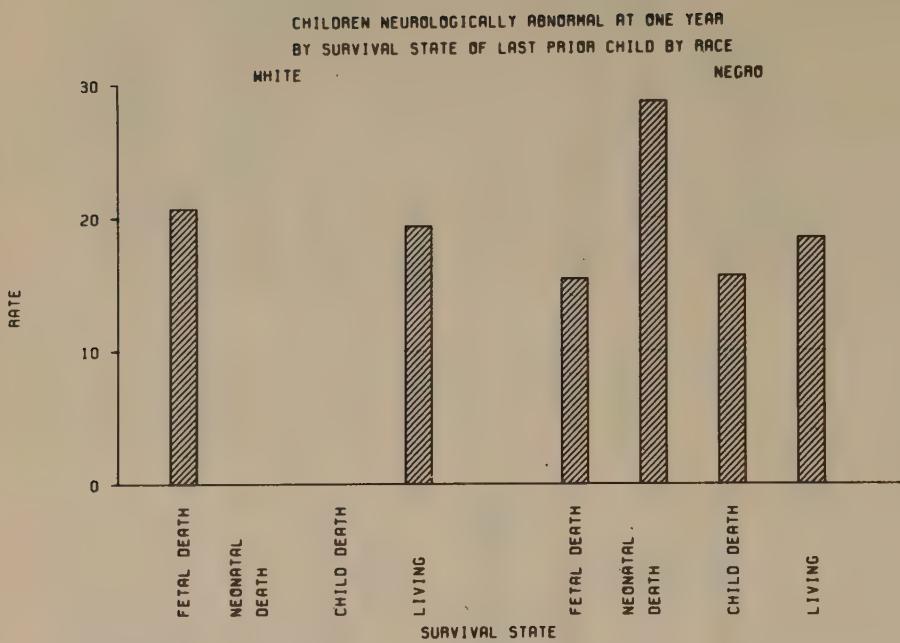
SURVIVAL STATE	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
FETAL DEATH	1708	163	95.43	2021	316	156.36
NEONATAL DEATH	179	39	217.88	321	98	305.30
CHILD DEATH	109	10	91.74	146	28	191.78
LIVING	9207	605	65.71	10581	1189	112.37
TOTAL	11203	817	72.93	13069	1631	124.80
NEVER PREGNANT	6902	466	67.52	6175	933	151.09
UNKNOWN	376	36	95.74	260	53	203.85
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

MEAN BIRTHWEIGHTS BY SURVIVAL STATE OF LAST PRIOR CHILD BY RACE



MEAN BIRTHWEIGHTS BY SURVIVAL STATE OF LAST PRIOR CHILD BY RACE

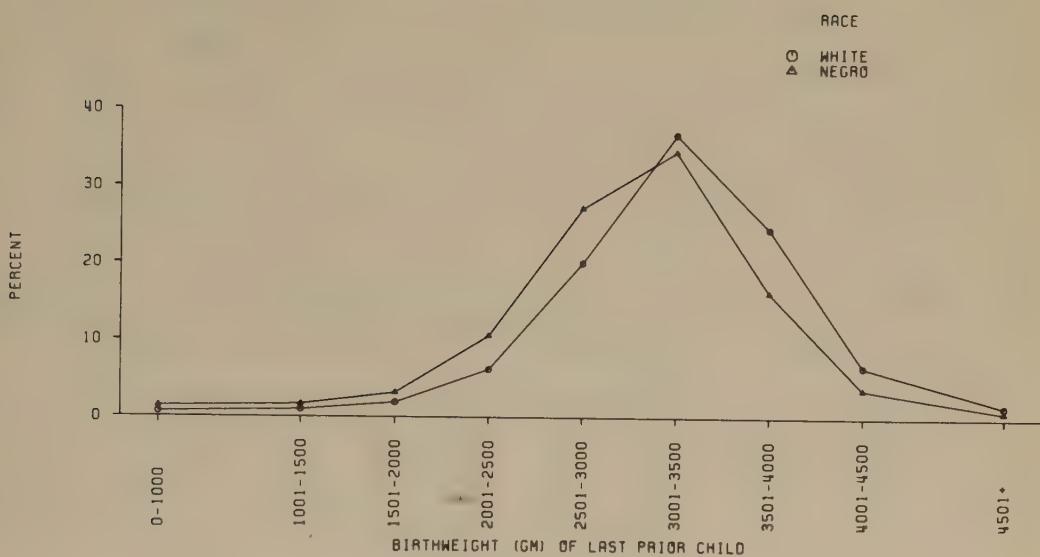
SURVIVAL STATE	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
FETAL DEATH	1708	3232	2021	3037
NEONATAL DEATH	179	2977	321	2748
CHILD DEATH	109	3196	146	2974
LIVING	9207	3313	10581	3098
TOTAL	11203	3294	13069	3079
NEVER PREGNANT	6902	3237	6175	2961
UNKNOWN	376	3222	260	2923
GRAND TOTAL	18481	3272	19504	3039



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY SURVIVAL STATE OF LAST PRIOR CHILD BY RACE

SURVIVAL STATE	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
FETAL DEATH	1352	28	20.71	1750	27	15.43
NEONATAL DEATH	150	0	0.00	279	8	28.67
CHILD DEATH	80	0	0.00	128	2	15.63
LIVING	7369	143	19.41	9268	171	18.45
TOTAL	8951	171	19.10	11425	208	18.21
NEVER PREGNANT	5479	76	13.87	5496	61	11.10
UNKNOWN	232	6	25.86	202	5	24.75
GRAND TOTAL	14662	253	17.26	17123	274	16.00

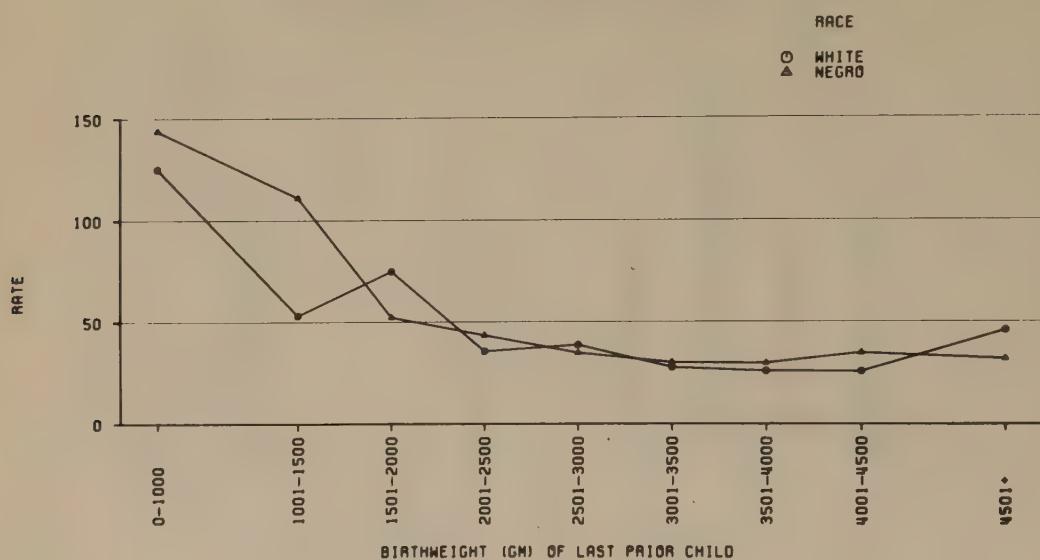
BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE



BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE

BIRTHWEIGHT OF LAST PRIOR CHILD (GM)	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
0-1000	64	0.65	160	1.40
1001-1500	94	0.96	189	1.65
1501-2000	187	1.90	363	3.17
2001-2500	615	6.26	1219	10.65
2501-3000	1986	20.22	3131	27.37
3001-3500	3635	37.01	3982	34.80
3501-4000	2430	24.74	1874	16.38
4001-4500	659	6.71	429	3.75
4501+	152	1.55	94	0.82
TOTAL	9822	100.00	11441	100.00
NEVER PREGNANT	7072	37.13	6366	31.57
UNKNOWN	2154	11.31	2360	11.70
GRAND TOTAL	19048	100.00	20167	100.00

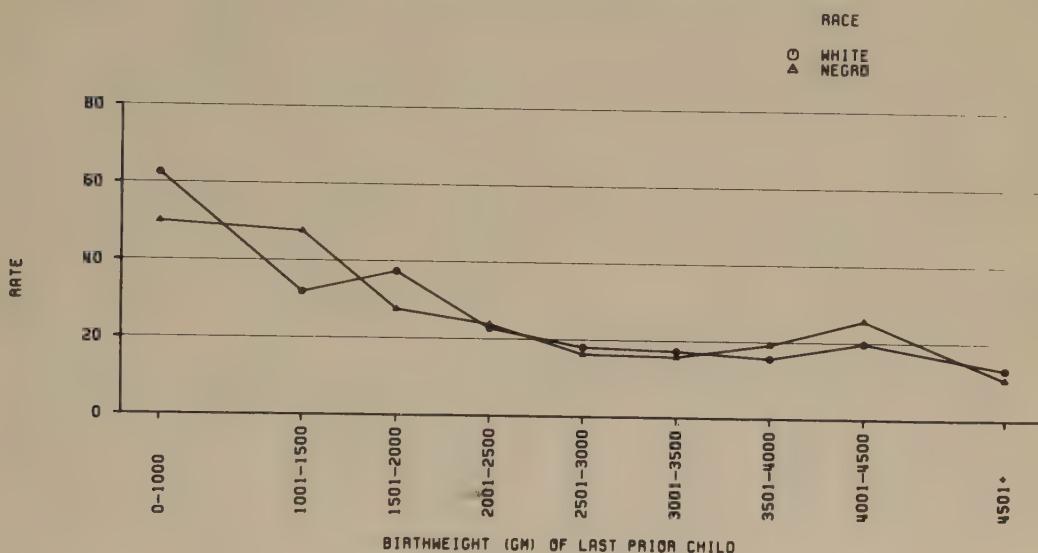
PERINATAL DEATHS BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE



PERINATAL DEATHS BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE

BIRTHWEIGHT OF LAST PRIOR CHILD (GM)	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
0-1000	64	8	125.00	160	23	143.75
1001-1500	94	5	53.19	189	21	111.11
1501-2000	187	14	74.87	363	19	52.34
2001-2500	615	22	35.77	1219	53	43.48
2501-3000	1986	77	38.77	3131	109	34.81
3001-3500	3635	101	27.79	3982	120	30.14
3501-4000	2430	63	25.93	1874	56	29.88
4001-4500	659	17	25.80	429	15	34.97
4501+	152	7	46.05	94	3	31.91
TOTAL	9822	314	31.97	11441	419	36.62
NEVER PREGNANT	7072	188	26.58	6366	232	36.44
UNKNOWN	2154	166	77.07	2360	194	82.20
GRAND TOTAL	19048	668	35.07	20167	845	41.90

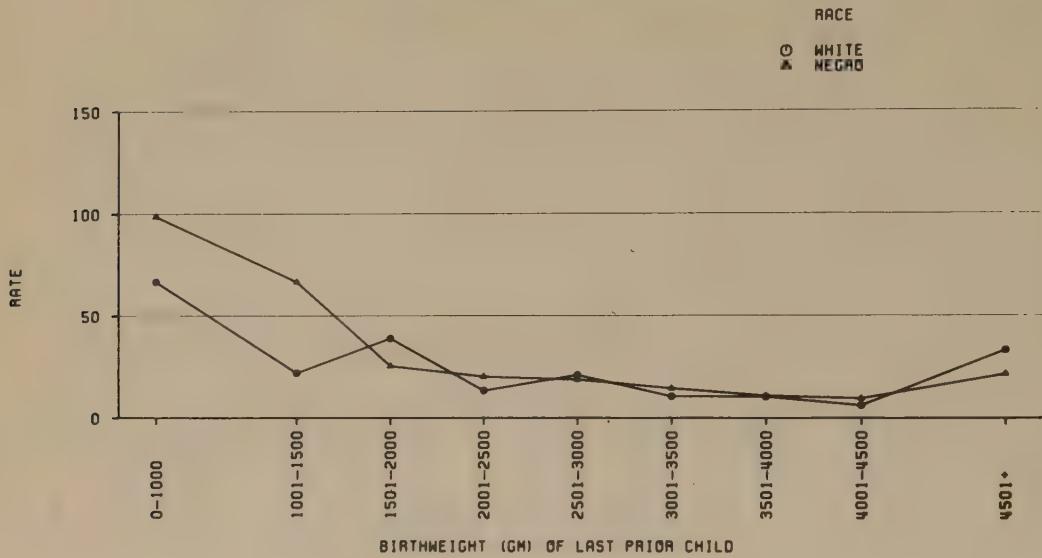
STILLBIRTHS BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE



STILLBIRTHS BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE

BIRTHWEIGHT OF LAST PRIOR CHILD (GM)	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
0-1000	64	4	62.50	160	8	50.00
1001-1500	94	3	31.91	189	9	47.62
1501-2000	187	7	37.43	363	10	27.55
2001-2500	615	14	22.76	1219	29	23.79
2501-3000	1986	36	18.13	3131	51	16.29
3001-3500	3635	63	17.33	3982	63	15.82
3501-4000	2430	38	15.64	1874	36	19.21
4001-4500	659	13	19.73	429	11	25.64
4501+	152	2	13.16	94	1	10.64
TOTAL	9822	180	18.33	11441	218	19.05
NEVER PREGNANT	7072	118	16.69	6366	128	20.11
UNKNOWN	2154	117	54.32	2360	111	47.03
GRAND TOTAL	19048	415	21.79	20167	457	22.66

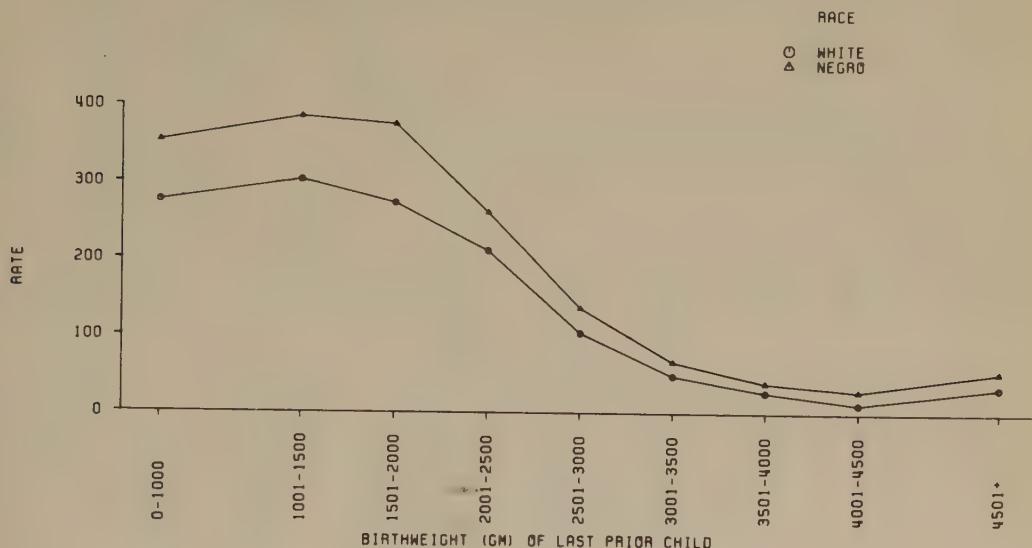
NEONATAL DEATHS BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE



NEONATAL DEATHS BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE

BIRTHWEIGHT OF LAST PRIOR CHILD (GM)	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
0-1000	60	4	66.67	152	15	98.68
1001-1500	91	2	21.98	180	12	66.67
1501-2000	180	7	38.89	353	9	25.50
2001-2500	601	8	13.31	1190	24	20.17
2501-3000	1950	41	21.03	3080	58	18.83
3001-3500	3572	38	10.64	3919	57	14.54
3501-4000	2392	25	10.45	1838	20	10.88
4001-4500	646	4	6.19	418	4	9.57
>501+	150	5	33.33	93	2	21.51
TOTAL	9642	134	13.90	11223	201	17.91
NEVER PREGNANT	6954	70	10.07	6238	104	16.67
UNKNOWN	2037	49	24.05	2249	83	36.91
GRAND TOTAL	18633	253	13.58	19710	388	19.69

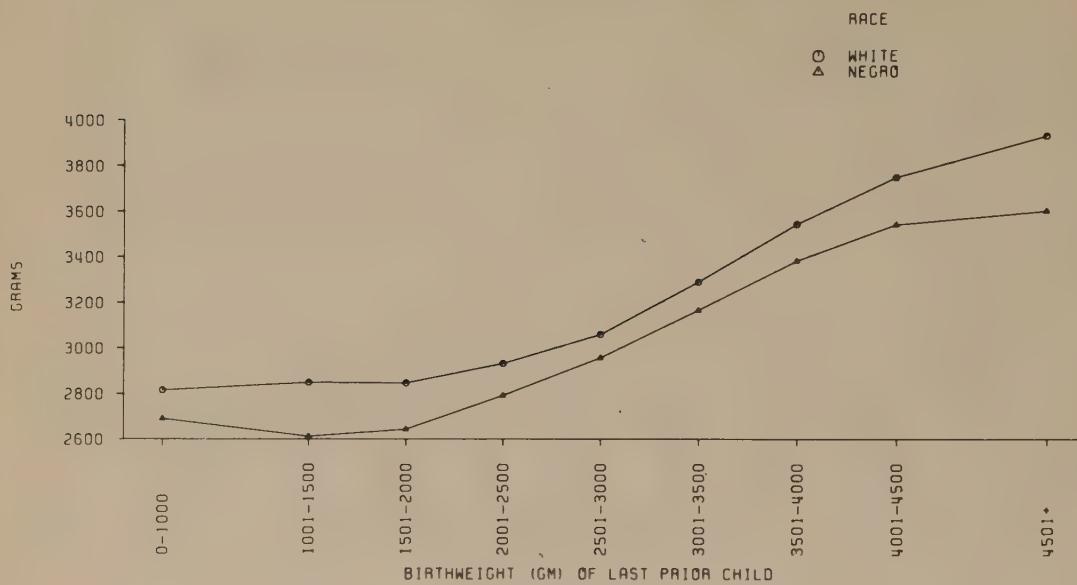
BIRTHWEIGHT UNDER 2501 GM. BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE



BIRTHWEIGHT UNDER 2501 GM. BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE

BIRTHWEIGHT OF LAST PRIOR CHILD (GM)	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
0-1000	58	16	275.86	150	53	353.33
1001-1500	89	27	303.37	179	69	385.47
1501-2000	179	49	273.74	348	131	376.44
2001-2500	595	126	211.76	1175	308	262.13
2501-3000	1936	203	104.86	3054	419	137.20
3001-3500	3549	173	48.75	3885	260	66.92
3501-4000	2381	65	27.30	1827	72	39.41
4001-4500	646	8	12.38	415	12	28.92
4501+	147	5	34.01	92	5	51.35
TOTAL	9580	672	70.15	11125	1329	119.46
NEVER PREGNANT	6902	466	67.52	6175	933	151.09
UNKNOWN	1999	181	90.55	2204	355	161.07
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

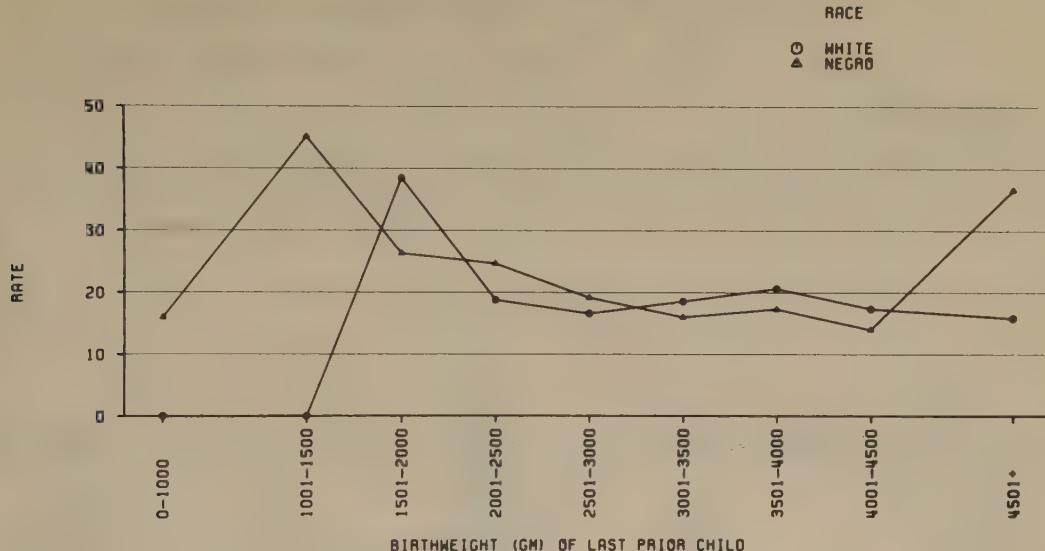
MEAN BIRTHWEIGHT BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE



MEAN BIRTHWEIGHT BY BIRTHWEIGHT OF LAST PRIOR CHILD BY RACE

BIRTHWEIGHT OF LAST PRIOR CHILD (GM)	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
0-1000	58	2815	150	2690
1001-1500	89	2848	179	2612
1501-2000	179	2845	348	2642
2001-2500	595	2930	1175	2790
2501-3000	1936	3056	3054	2955
3001-3500	3549	3285	3885	3161
3501-4000	2381	3535	1827	3375
4001-4500	646	3736	415	3532
4501+	147	3915	92	3589
TOTAL	9580	3304	11125	3086
NEVER PREGNANT	6902	3237	6175	2961
UNKNOWN	1999	3236	2204	3022
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY BIRTHWEIGHT OF LAST PRIORITY CHILD BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY BIRTHWEIGHT OF LAST PRIORITY CHILD BY RACE

BIRTHWEIGHT OF LAST PRIORITY CHILD (GM)	WHITE				NEGRO			
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE		
0-1000	51	0	0	125	2	16.00		
1001-1500	66	0	0	155	7	45.16		
1501-2000	130	5	38.46	304	8	26.32		
2001-2500	478	9	18.83	1014	25	24.65		
2501-3000	1504	25	16.62	2662	51	19.16		
3001-3500	2854	53	18.57	3433	55	16.02		
3501-4000	1935	40	20.67	1614	28	17.35		
4001-4500	517	9	17.41	357	5	14.01		
4501+	126	2	15.87	82	3	36.59		
TOTAL	7661	14						
NEVER PREGNANT	5479	76	13.87	5496	61	11.10		
UNKNOWN	1522	34	22.34	1881	29	15.42		
GRAND TOTAL	14662	253	17.26	17123	274	16.00		

SUMMARY DATA FOR WHITE

ITEM	PERINATAL DEATHS				STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL				
	NO.	%	NO.	RATE	NO.	RATE	LIVE- BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	MEAN BMT.		
SURVIVAL OF LAST PRIORITY CHILD																
FETAL DEATH	1812	15.7	134	74.0	87	48.0	1725	47	27.2	1708	163	95.4	1352	28	20.7	
NEONATAL DEATH	190	1.6	17	89.5	6	31.6	184	11	59.8	179	39	217.9	150	0	2977	
CHILD DEATH	111	1.0	3	27.0	2	18.0	109	1	9.2	109	10	91.7	80	0	3196	
LIVING	9418	81.7	270	28.7	154	16.4	9264	116	12.5	9207	605	65.7	7369	143	19.4	3313
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272

SUMMARY DATA FOR NEGRO

ITEM	PERINATAL DEATHS			STILLBIRTHS			NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL			MERN NO.	BWT. RATE
	NO.	%	NO.	NO.	RATE	LIVE- BIRTHS	NO.	NO.	UNDER 2501 GM.	1 YR EXAMS	NO.	NO.	RATE			
SURVIVAL OF LAST PRIORITY CHILD																
FETAL DEATH	2117	15.7	154	72.7	79	37.3	2038	75	36.8	2021	316	156.4	1750	27	15.4	3037
NEONATAL DEATH	342	2.5	37	108.2	17	49.7	325	20	61.5	321	98	305.3	279	8	28.7	2748
CHILD DEATH	149	1.1	5	33.6	1	6.7	148	4	27.0	146	28	191.8	128	2	15.6	2974
LIVING	10873	80.7	371	34.1	197	18.1	10676	174	16.3	10581	1189	112.4	9268	171	18.5	3098
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 3. PAST OBSTETRICAL HISTORY

(Continued)

HISTORY OF INFERTILITY

A history of infertility, based on a sterility work-up including such procedures as an endometrial biopsy, a Rubin's test, or an hysterosalpingography, was reported for less than 2 per cent of the White and less than 1 per cent of the Negro gravidas.

The mortality rates for each race were found to be higher for infants born to gravidas with a history of infertility than for those without such history, except for the neonatal death rate for Negroes.

The proportion of births under 2501 grams was higher for gravidas with a history of infertility, and the

mean birthweight of their infants was about 100 grams lower.

LENGTH OF TIME TO BECOME PREGNANT

Twenty-four per cent of the White gravidas, other than those who are single, and about nine per cent of the Negroes reported trying to become pregnant. About twice as many White gravidas (five per cent) as compared with Negroes (two per cent) reported that they had been trying to become pregnant for at least one year.

Despite small numbers, some increase in the perinatal death rate with increasing time period to become pregnant is observed.

HISTORY OF INFERTILITY BY RACE

	ALL GRAVIDAS	WITH CONDITION	
		NUMBER	PERCENT
WHITE	18912	280	1.48
NEGRO	19968	136	0.68

PREGNANCY OUTCOMES OF GRAVIDAS WITH HISTORY OF INFERTILITY BY RACE

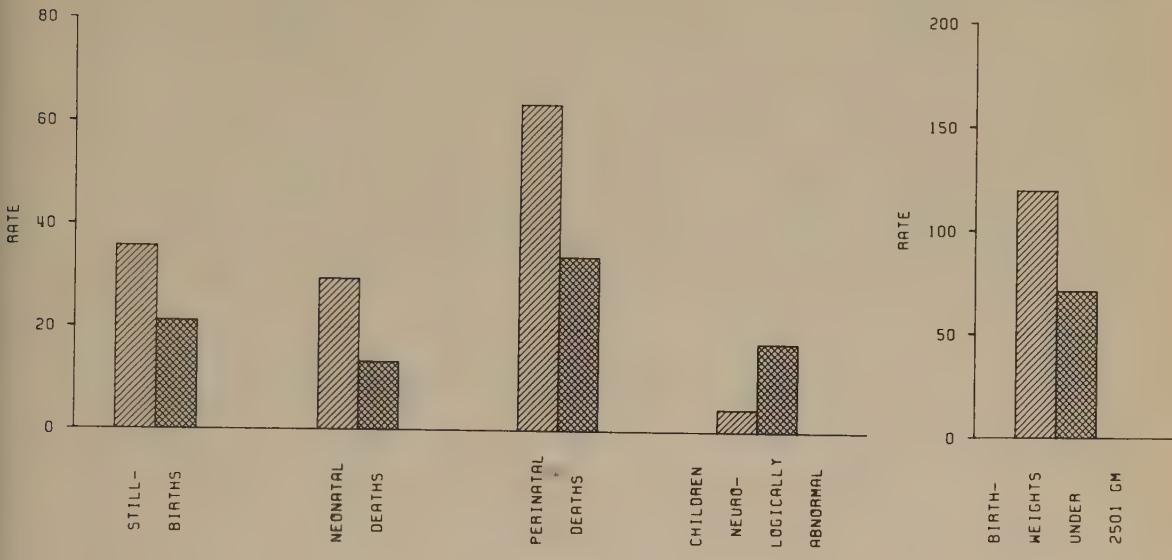
	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS NO.	PERINATAL DEATHS RATE	
		NO.	RATE	LIVEBIRTHS	NO.				
WHITE									
WITH CONDITION	280	10	35.71	270	8	29.63	280	18	64.29
WITHOUT CONDITION	18632	395	21.20	18237	243	13.32	18632	638	34.24
NEGRO									
WITH CONDITION	136	7	51.47	129	1	7.75	136	8	58.82
WITHOUT CONDITION	19832	432	21.78	19400	376	19.38	19832	808	40.74

PREGNANCY OUTCOMES OF GRAVIDAS WITH HISTORY OF INFERTILITY BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.		ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	NEUROLOGICALLY ABNORMAL RATE	
		NO.	RATE	MEAN BWT.			
WHITE							
WITH CONDITION	268	32	119.40	3148	226	1	4.42
WITHOUT CONDITION	18097	1281	70.79	3274	14359	251	17.48
NEGRO							
WITH CONDITION	129	23	178.29	2962	120	1	8.33
WITHOUT CONDITION	19214	2559	133.18	3041	16866	268	15.89

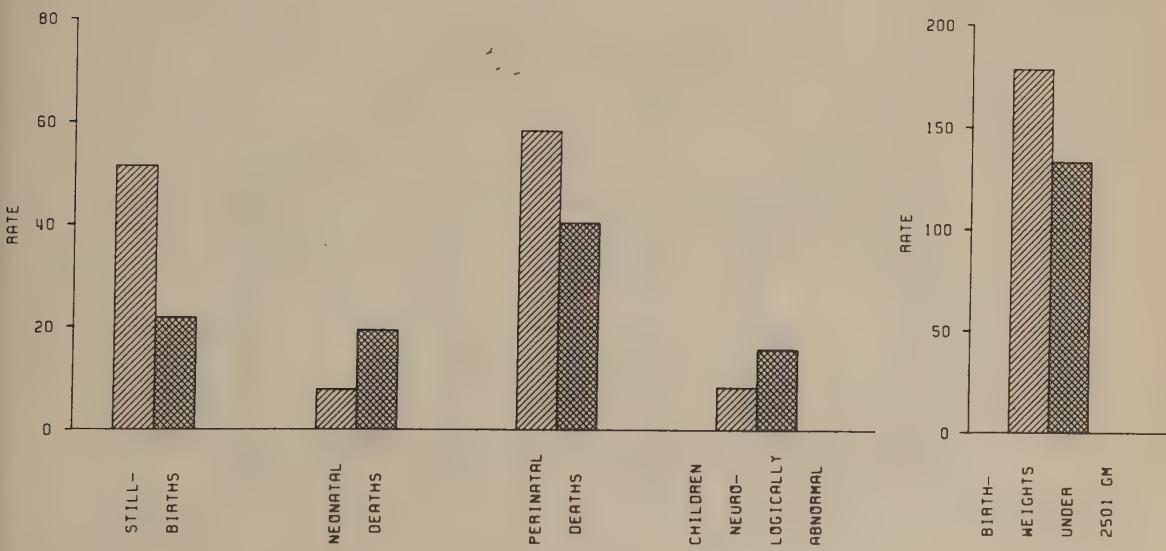
PREGNANCY OUTCOMES OF GRAVIDAS WITH HISTORY OF INFERTILITY - WHITE

STATUS
WITH CONDITION
WITHOUT CONDITION

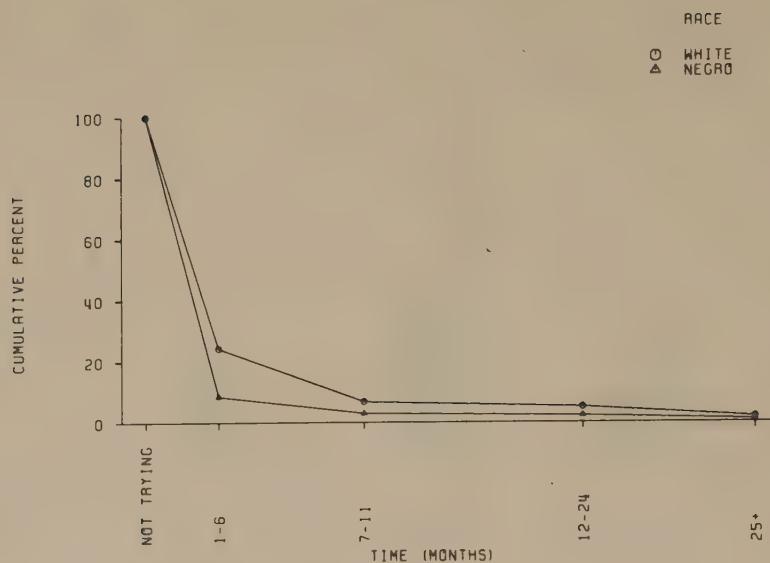


PREGNANCY OUTCOMES OF GRAVIDAS WITH HISTORY OF INFERTILITY - NEGRO

STATUS
WITH CONDITION
WITHOUT CONDITION



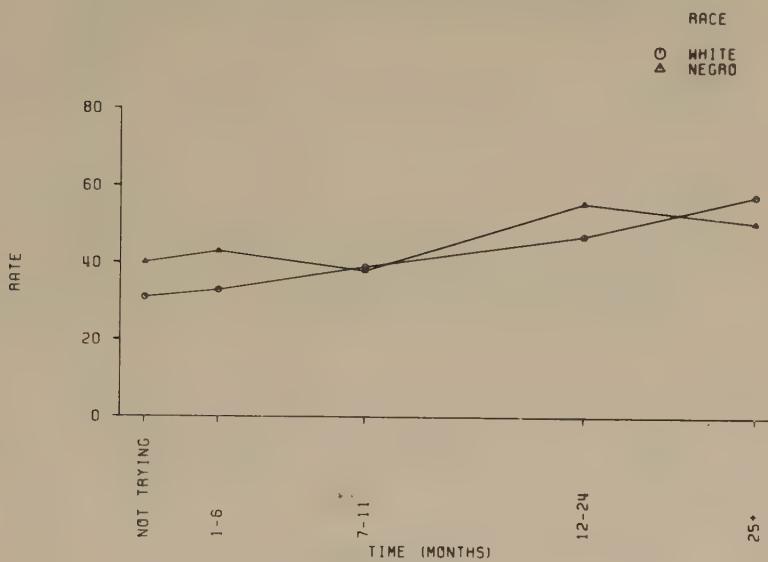
LENGTH OF TIME TO BECOME PREGNANT BY RACE



LENGTH OF TIME TO BECOME PREGNANT BY RACE

	WHITE			NEGRO		
TIME TO BECOME PREGNANT (MOS.)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
NOT TRYING	13079	75.80	100.00	13019	91.50	100.00
1-6	3003	17.40	24.20	790	5.55	8.50
7-11	307	1.78	6.79	105	0.74	2.95
12-24	571	3.31	5.01	197	1.38	2.21
25+	294	1.70	1.70	118	0.83	0.83
TOTAL	17254	100.00		14229	100.00	
SINGLE	1125	5.91		5679	28.16	
UNKNOWN	669	3.51		259	1.28	
GRAND TOTAL	19048	100.00		20167	100.00	

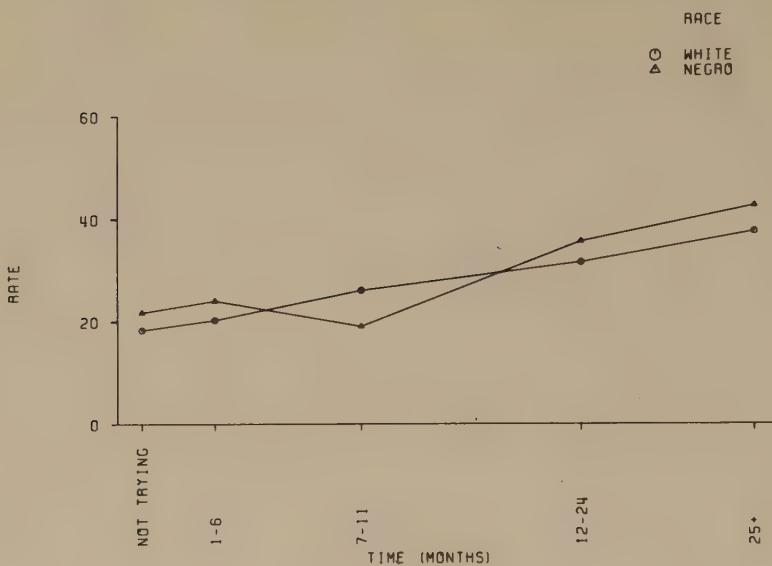
PERINATAL DEATHS BY LENGTH OF TIME TO BECOME PREGNANT BY RACE



PERINATAL DEATHS BY LENGTH OF TIME TO BECOME PREGNANT BY RACE

TIME TO BECOME PREGNANT (MOS.)	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NOT TRYING	13079	405	30.97	13019	522	40.10
1-6	3003	99	32.97	790	34	43.04
7-11	307	12	39.09	105	4	38.10
12-24	571	27	47.29	197	11	55.84
25+	294	17	57.82	118	6	50.85
TOTAL	17254	560	32.46	14229	577	40.55
SINGLE	1125	30	26.67	5679	230	40.50
UNKNOWN	669	78	116.59	259	38	146.72
GRAND TOTAL	19048	668	35.07	20167	845	41.90

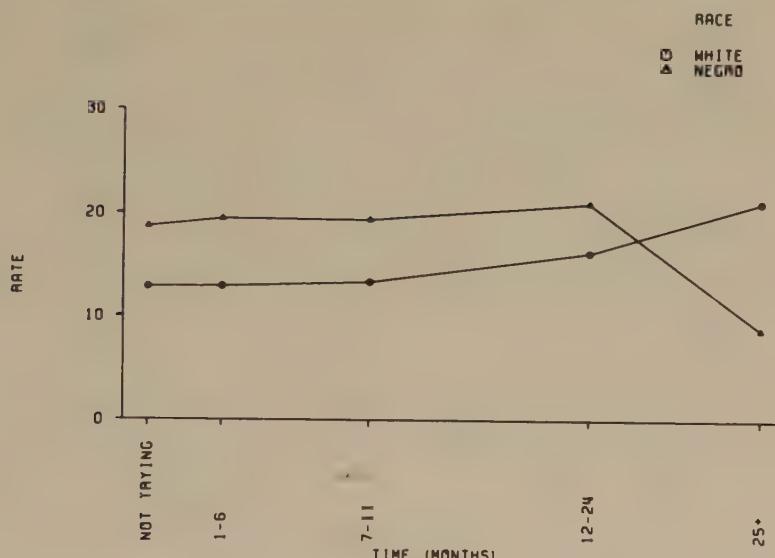
STILLBIRTHS BY LENGTH OF TIME TO BECOME PREGNANT BY RACE



STILLBIRTHS BY LENGTH OF TIME TO BECOME PREGNANT BY RACE

TIME TO BECOME PREGNANT (MOS.)	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NOT TRYING	13079	240	18.35	13019	284	21.81
1-6	3003	61	20.31	790	19	24.05
7-11	307	8	26.06	105	2	19.05
12-24	571	18	31.52	197	7	35.53
25+	294	11	37.41	118	5	42.37
TOTAL	17254	338	19.59	14229	317	22.28
SINGLE	1125	14	12.44	5679	117	20.60
UNKNOWN	669	63	94.17	259	23	88.80
GRAND TOTAL	19048	415	21.79	20167	457	22.66

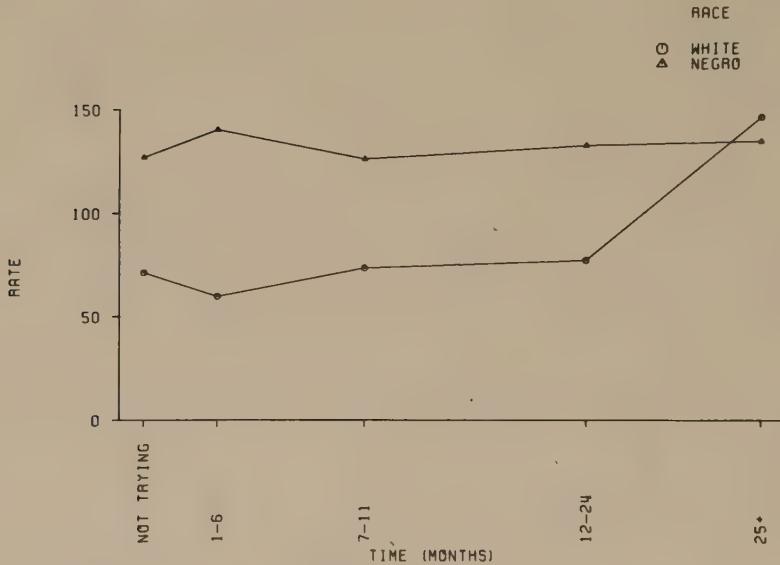
NEONATAL DEATHS BY LENGTH OF TIME TO BECOME PREGNANT BY RACE



NEONATAL DEATHS BY LENGTH OF TIME TO BECOME PREGNANT BY RACE

TIME TO BECOME PREGNANT (MOS.)	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NOT TRYING	12839	165	12.85	12735	238	18.69
1-6	2942	38	12.92	771	15	19.46
7-11	299	4	13.38	103	2	19.42
12-24	553	9	16.27	190	4	21.05
25+	283	6	21.20	113	1	8.85
TOTAL	16916	222	13.12	13912	260	18.69
SINGLE	1111	16	14.40	5562	113	20.32
UNKNOWN	606	15	24.75	236	15	63.56
GRAND TOTAL	18633	253	13.58	19710	388	19.69

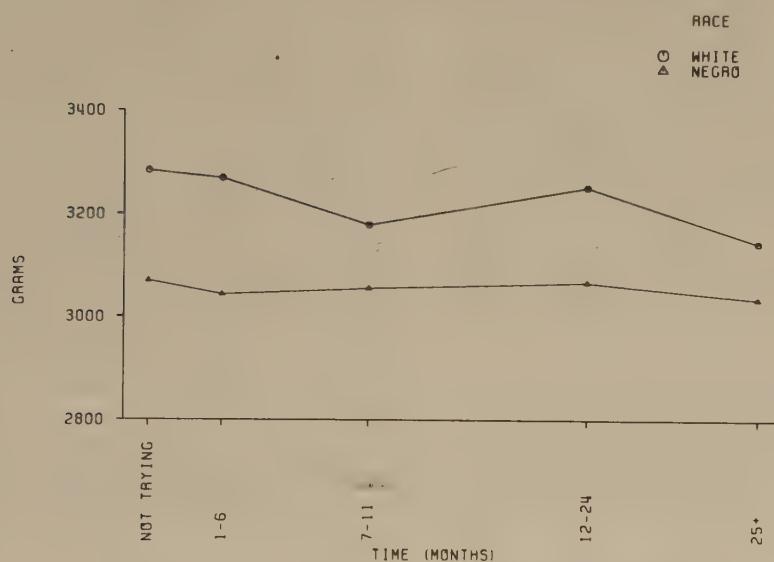
BIRTHWEIGHTS UNDER 2501 GM BY LENGTH OF TIME TO BECOME PREGNANT BY RACE



BIRTHWEIGHTS UNDER 2501 GM BY LENGTH OF TIME TO BECOME PREGNANT BY RACE

TIME TO BECOME PREGNANT (MOS.)	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NOT TRYING	12753	908	71.20	12628	1604	127.02
1-6	2922	175	59.89	762	107	140.42
7-11	299	22	73.58	103	13	126.21
12-24	546	42	76.92	189	25	132.28
25+	282	41	145.39	112	15	133.93
TOTAL	16802	1188	70.71	13794	1764	127.88
SINGLE	1100	83	75.45	5489	811	147.75
UNKNOWN	579	48	82.90	221	42	190.05
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

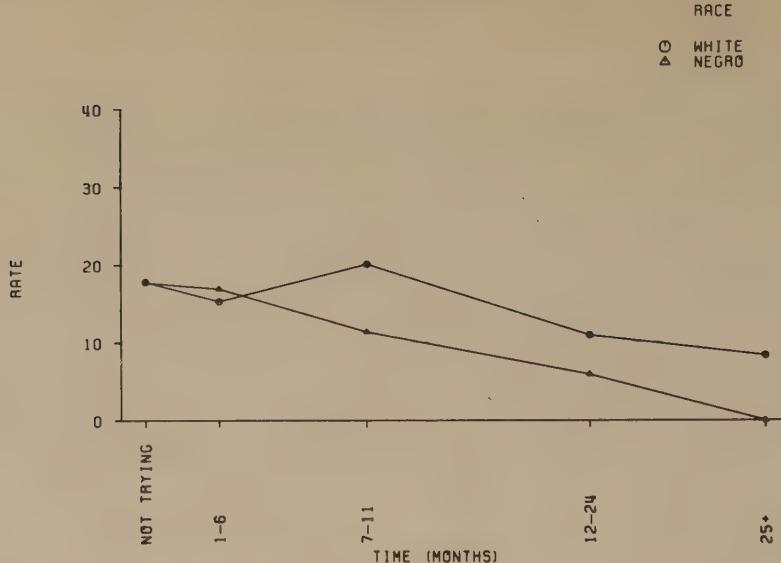
MEAN BIRTHWEIGHT BY LENGTH OF TIME TO BECOME PREGNANT BY RACE



MEAN BIRTHWEIGHT BY LENGTH OF TIME TO BECOME PREGNANT BY RACE

TIME TO BECOME PREGNANT (MOS.)	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NOT TRYING	12753	3284	12628	3070
1-6	2922	3270	762	3044
7-11	299	3181	103	3056
12-24	546	3255	189	3069
25+	282	3147	112	3037
TOTAL	16802	3277	13794	3068
SINGLE	1100	3214	5489	2971
UNKNOWN	579	3234	221	2947
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY LENGTH OF TIME
TO BECOME PREGNANT BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY LENGTH OF TIME TO BECOME PREGNANT BY RACE

TIME TO BECOME PREGNANT (MOS.)	WHITE				NEGRO			
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE		
NOT TRYING	10258	183	17.84	11162	198	17.74		
1-6	2418	37	15.30	651	11	16.90		
7-11	250	5	20.00	88	1	11.36		
12-24	459	5	10.89	170	1	5.88		
25+	242	2	8.26	95	0	0		
TOTAL	13627	232	17.03	12166	211	17.34		
SINGLE	668	15	22.46	4800	60	12.50		
UNKNOWN	367	6	16.35	157	3	19.11		
GRAND TOTAL	14662	253	17.26	17123	274	16.00		

SUMMARY DATA FOR WHITE

ITEM	PERINATAL DEATHS				NEONATAL DEATHS				LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	BIRTHS	%	NO.	RATE	STILLBIRTHS	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.			
HISTORY OF INFERTILITY	280	1.5	18	64.3	10	35.7	270	8	29.6	268	32	119.4	226	1	4.4	3148
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272

SUMMARY DATA FOR NEGRO

ITEM	PERINATAL DEATHS				NEONATAL DEATHS				LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	BIRTHS	%	NO.	RATE	STILLBIRTHS	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.			
HISTORY OF INFERTILITY	136	0.7	8	58.8	7	51.5	129	1	7.8	129	23	178.3	120	1	8.3	1962
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 4. GESTATION AT REGISTRATION AND PRENATAL VISITS

GESTATION AT REGISTRATION

The original design of the Study required the registration of the selected gravidas regardless of the duration of pregnancy when they first appeared for prenatal care. There was considerable discussion and some controversy about the wisdom of this decision, but it was eventually decided that to restrict registrants only to those in the first trimester of pregnancy would be to introduce a major bias into the Study. At any rate, women did register over the entire range of the gestational interval.

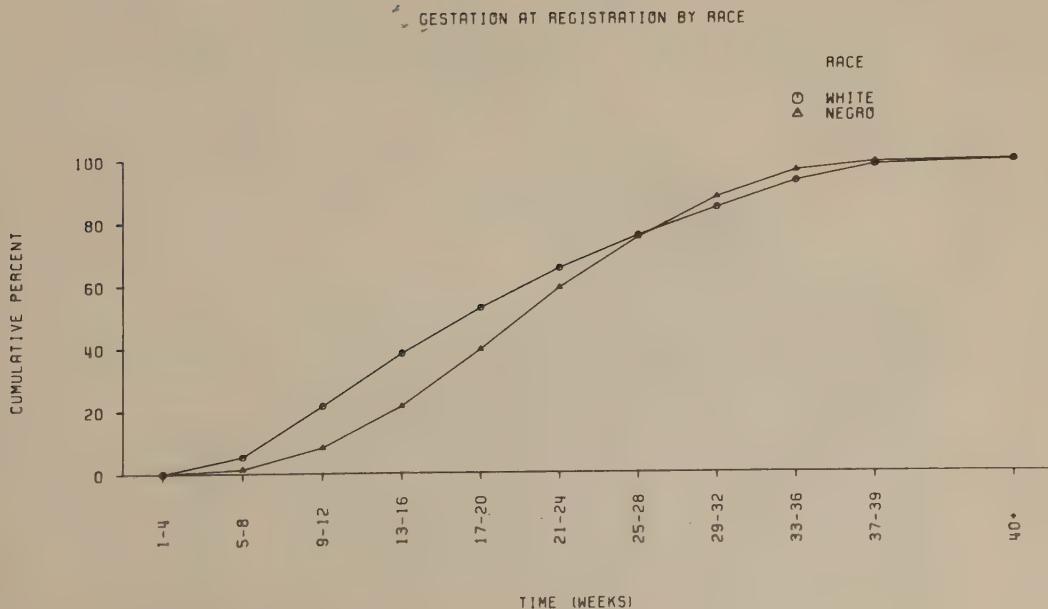
Gestation at registration was computed as the time between the first day of the last menstrual period reported by the gravida and the date of registration, rounded to whole weeks. White women tended to register earlier, with median gestation at registration in the 17-20 week group, than did Negroes, with median gestation in the 21-24 week group.

There were considerable differences, among the Collaborating Centers, in the distribution of the gesta-

tions at registration. Among Whites, in Buffalo, with its private patient population, 88 per cent of the gravidas registered before their 21st week of gestation. On the other hand, only slightly more than a fourth of the gravidas at the Medical College of Virginia registered before 21 weeks. Negro gravidas also showed considerable differences, by Collaborating Center, in their distributions by duration of gestation at registration.

Gravidas of both races show diminished stillbirth and neonatal death rates with more advanced gestation at registration. When death rates are examined by birthweight, below 2501 grams and 2501 grams and above, it is evident that the relationship is confined to low birthweight babies. While the likelihood exists that the sick gravida would tend to seek medical help earlier than the healthy one, a major portion of this trend must be the consequence of the artifact that women who had an early delivery did not have the option of registering in the Study later in their pregnancy.

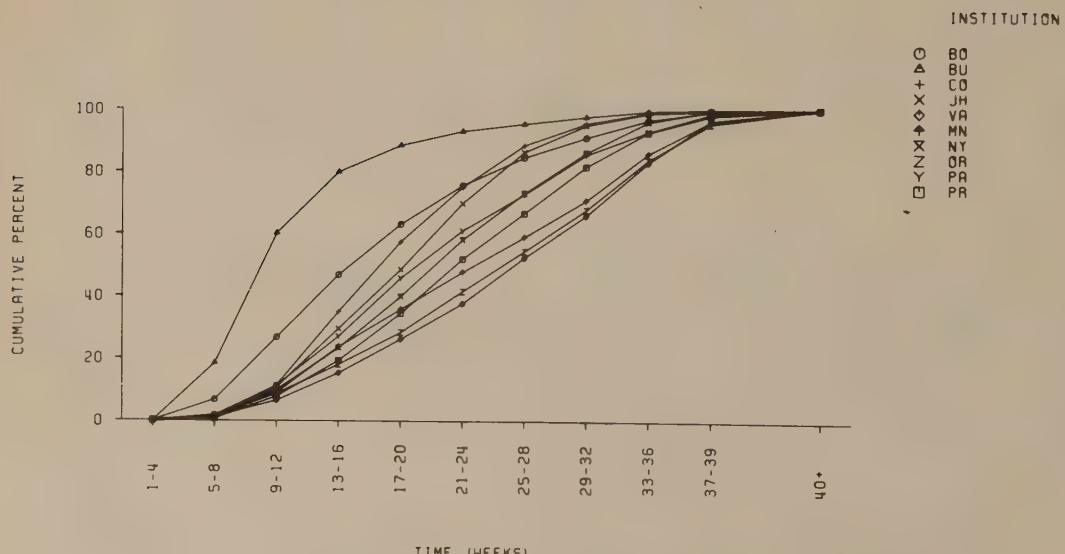
The distribution of birthweights seems to be affected by the woman's gestation at the time of her registration primarily in the last few weeks of gestation, when most of the women have already registered. It is there that a sharp drop in the low birthweight rate occurs.



GESTATION AT REGISTRATION BY RACE

WEEKS	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
1-4	9	0.05	0.05	12	0.06	0.06
5-8	999	5.25	5.29	282	1.40	1.46
9-12	3080	16.18	21.47	1372	6.81	8.27
13-16	3197	16.79	38.27	2655	13.18	21.45
17-20	2747	14.43	52.70	3634	18.04	39.50
21-24	2433	12.78	65.48	3953	19.63	59.12
25-28	1972	10.36	75.84	3250	16.14	75.26
29-32	1707	8.97	84.80	2598	12.90	88.16
33-36	1607	8.44	93.24	1706	8.47	96.63
37-39	968	5.08	98.33	531	2.64	99.27
40+	318	1.67	100.00	148	0.73	100.00
TOTAL	19037	100.00	100.00	20141	100.00	100.00
UNKNOWN	11	0.06		26	0.13	
GRAND TOTAL	19048	100.00		20167	100.00	

GESTATION AT REGISTRATION BY INSTITUTION - WHITE



GESTATION AT REGISTRATION BY INSTITUTION - WHITE
NUMBER OF CASES

WEEKS	INSTITUTION									
	BO	BU	CO	JH	VA	MN	NY	OR	PA	PR
1-4	4	1	0	0	0	0	0	2	0	2
5-8	521	354	4	7	10	48	2	27	13	12
9-12	1564	805	65	65	38	189	23	136	69	125
13-16	1570	379	142	125	66	386	34	177	114	203
17-20	1281	165	136	127	80	316	42	195	136	267
21-24	978	89	106	142	85	314	46	250	111	309
25-28	705	45	81	110	109	294	38	243	85	261
29-32	500	44	42	58	101	313	33	255	92	265
33-36	431	34	21	25	126	391	25	302	54	194
37-39	211	8	5	6	99	272	9	220	41	94
40+	54	2	1	2	27	100	1	86	10	34
TOTAL	7819	1926	603	667	741	2623	253	1893	725	1766
UNKNOWN	4	0	0	0	0	0	0	1	3	3
GRAND TOTAL	7823	1926	603	667	741	2623	253	1894	728	1769

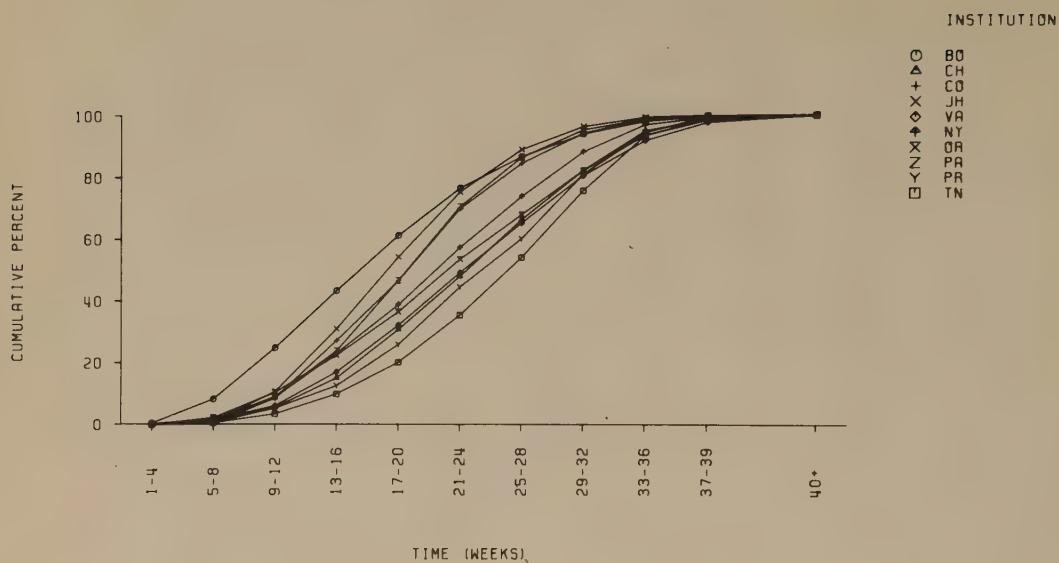
GESTATION AT REGISTRATION BY INSTITUTION - WHITE
PERCENT OF CASES

WEEKS	INSTITUTION									
	BO	BU	CO	JH	VA	MN	NY	OR	PA	PR
1-4	0.05	0.05	0	0	0	0	0	0.11	0	0.11
5-8	6.66	18.38	0.66	1.05	1.35	1.83	0.79	1.43	1.79	0.68
9-12	20.00	41.80	10.78	9.75	5.13	7.21	9.09	7.18	9.52	7.08
13-16	20.08	19.68	23.55	18.74	8.91	14.72	13.44	9.35	15.72	11.49
17-20	16.38	8.57	22.55	19.04	10.80	12.05	16.60	10.30	18.76	15.12
21-24	12.51	4.62	17.58	21.29	11.47	11.97	18.18	13.21	15.31	17.50
25-28	9.02	2.34	13.43	16.49	14.71	11.21	15.02	12.84	11.72	14.78
29-32	6.39	2.28	6.97	8.70	13.63	11.93	13.04	13.47	12.69	15.01
33-36	5.51	1.77	3.48	3.75	17.00	14.91	9.88	15.95	7.45	10.99
37-39	2.70	0.42	0.83	0.90	13.36	10.37	3.56	11.62	5.66	5.32
40+	0.69	0.10	0.17	0.30	3.64	3.81	0.40	4.54	1.38	1.93
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
UNKNOWN	0.05	0	0	0	0	0	0	0.05	0.41	0.17
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

GESTATION AT REGISTRATION BY INSTITUTION - WHITE
CUMULATIVE PERCENT OF CASES

WEEKS	INSTITUTION									
	BO	BU	CO	JH	VA	MN	NY	OR	PA	PR
1-4	0.05	0.05	0	0	0	0	0	0.11	0	0.11
5-8	6.71	18.43	0.66	1.05	1.35	1.83	0.79	1.53	1.79	0.79
9-12	26.72	60.23	11.44	10.79	6.48	9.04	9.88	8.72	11.31	7.87
13-16	46.80	79.91	34.99	29.54	15.38	23.75	23.32	18.07	27.03	19.37
17-20	63.18	88.47	57.55	48.58	26.18	35.80	39.92	28.37	45.79	34.48
21-24	75.69	93.09	75.12	69.87	37.65	47.77	58.10	41.57	61.10	51.98
25-28	84.70	95.43	88.56	86.36	52.36	58.98	73.12	54.41	72.83	66.76
29-32	91.10	97.72	95.52	95.05	65.99	70.91	86.17	67.88	85.52	81.77
33-36	96.61	99.48	99.00	98.80	83.00	85.82	96.05	83.84	92.97	92.75
37-39	99.31	99.90	99.83	99.70	96.36	96.19	99.60	95.46	98.62	98.07
40+	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

GESTATION AT REGISTRATION BY INSTITUTION - NEGRO



GESTATION AT REGISTRATION BY INSTITUTION - NEGRO
NUMBER OF CASES

WEEKS	INSTITUTION								
	BO	CH	CO	JH	VA	NY	OR	PR	TN
1-4	3	0	0	0	2	1	0	4	1
5-8	71	22	3	21	24	19	13	85	2
9-12	152	107	68	211	84	106	49	461	23
13-16	170	227	158	452	203	210	73	909	36
17-20	164	377	164	516	278	228	85	1410	67
21-24	140	411	196	467	315	271	103	1464	93
25-28	93	437	124	302	297	241	87	986	78
29-32	66	379	81	163	281	209	86	538	104
33-36	37	302	38	66	208	128	69	216	67
37-39	15	87	8	9	107	33	29	53	25
40+	2	30	2	3	41	9	9	11	2
TOTAL	913	2379	842	2210	1840	1455	603	6137	498
UNKNOWN	0	1	0	0	0	0	0	21	3
GRAND TOTAL	913	2380	842	2210	1840	1455	603	6158	501

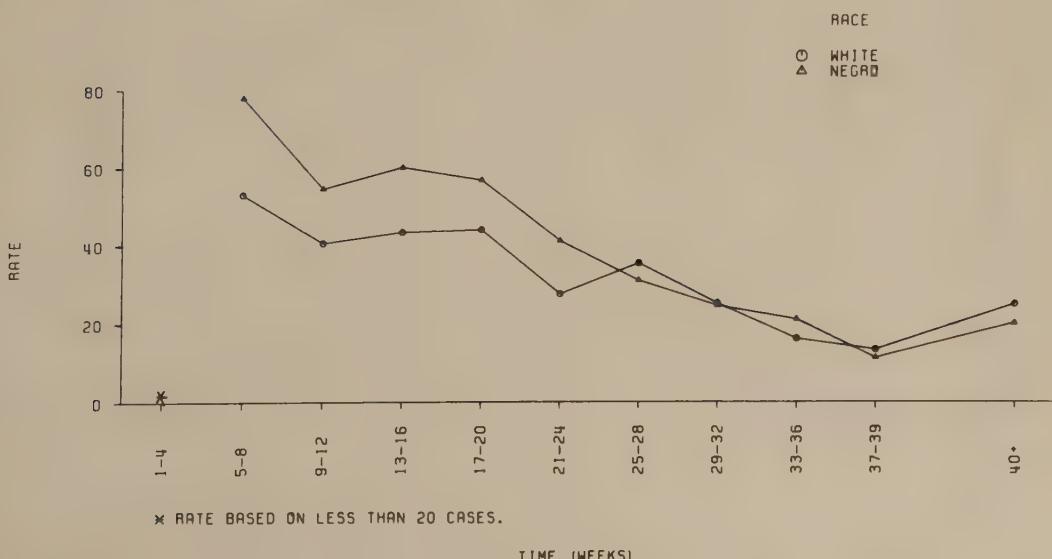
GESTATION AT REGISTRATION BY INSTITUTION - NEGRO
PERCENT OF CASES

WEEKS	INSTITUTION									
	BO	CH	CO	JH	VA	NY	OR	PA	PR	TN
1-4	0.33	0	0	0	0.11	0.07	0	0.07	0.20	0.03
5-8	7.78	0.92	0.36	0.95	1.30	1.31	2.16	1.39	0.40	0.47
9-12	16.65	4.50	8.08	9.55	4.57	7.29	8.13	7.51	4.62	2.88
13-16	18.62	9.54	18.76	20.45	11.03	14.43	12.11	14.81	7.23	6.42
17-20	17.96	15.85	19.48	23.35	15.11	15.67	14.10	22.98	13.45	10.33
21-24	15.33	17.28	23.28	21.13	17.12	18.63	17.08	23.86	18.67	15.31
25-28	10.19	18.37	14.73	13.67	16.14	16.56	14.43	16.07	15.66	18.75
29-32	7.23	15.93	9.62	7.38	15.27	14.36	14.26	8.77	20.88	21.56
33-36	4.05	12.69	4.51	2.99	11.30	8.80	11.44	3.52	13.45	17.87
37-39	1.64	3.66	0.95	0.41	5.82	2.27	4.81	0.86	5.02	5.16
40+	0.22	1.26	0.29	0.14	2.23	0.62	1.49	0.18	0.40	1.22
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
UNKNOWN	0	0.04	0	0	0	0	0	0.34	0.60	0.03
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

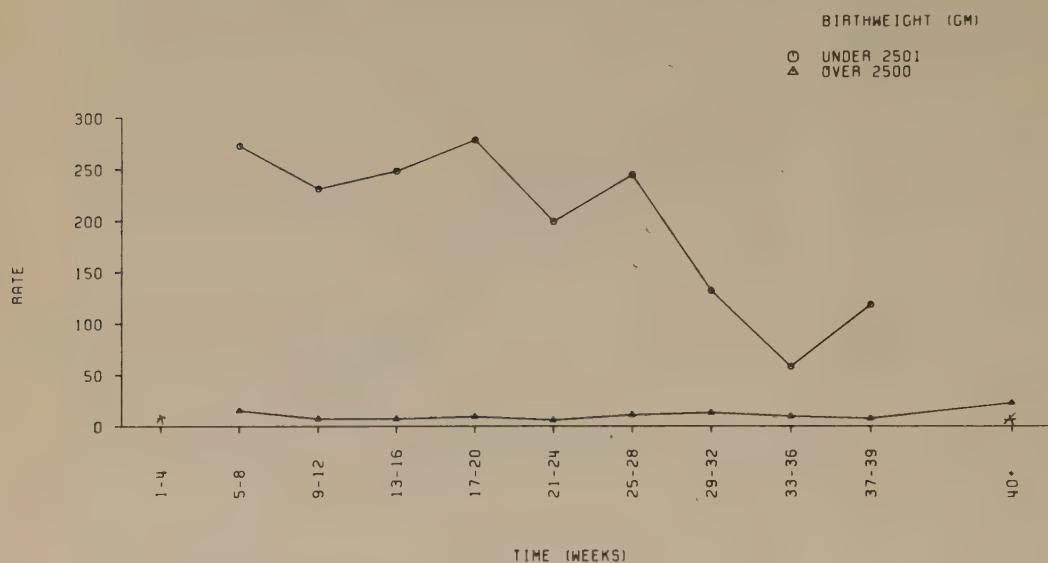
GESTATION AT REGISTRATION BY INSTITUTION - NEGRO
CUMULATIVE PERCENT OF CASES

WEEKS	INSTITUTION									
	BO	CH	-CO-	JH	VA	NY	OR	PA	PR	TN
1-4	0.33	0	0	0	0.11	0.07	0	0.07	0.20	0.03
5-8	8.11	0.92	0.36	0.95	1.41	1.37	2.16	1.45	0.60	0.50
9-12	24.75	5.42	8.43	10.50	5.98	8.66	10.28	8.96	5.22	3.38
13-16	43.37	14.96	27.20	30.95	17.01	23.09	22.39	23.77	12.45	9.80
17-20	61.34	30.81	46.67	54.30	32.12	38.76	36.48	46.75	25.90	20.13
21-24	76.67	48.09	69.95	75.43	49.24	57.39	53.57	70.60	44.58	35.43
25-28	86.86	66.46	84.68	89.10	65.38	73.95	67.99	86.67	60.24	54.18
29-32	94.09	82.39	94.30	96.47	80.65	88.32	82.26	95.44	81.12	75.74
33-36	98.14	95.08	98.81	99.46	91.96	97.11	93.70	98.96	94.58	93.62
37-39	99.78	98.74	99.76	99.86	97.77	99.38	98.51	99.82	99.60	98.78
40+	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

PERINATAL DEATHS BY GESTATION AT REGISTRATION BY RACE



PERINATAL DEATHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - WHITE



* RATE BASED ON LESS THAN 20 CASES.

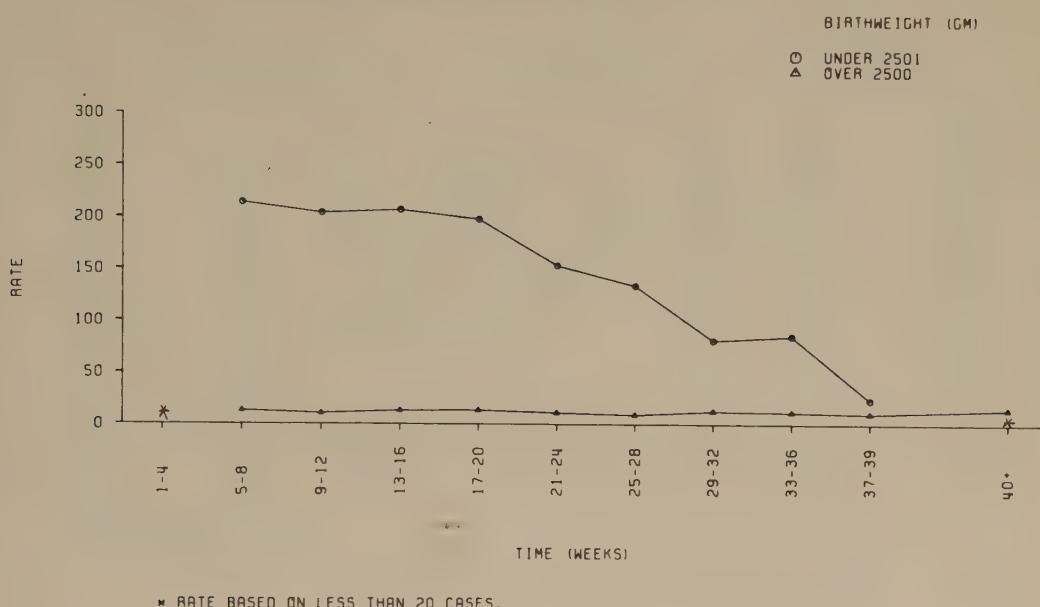
PERINATAL DEATHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - WHITE

WEEKS	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
1-4	1	0	0*	7	1	142.86*	9	2	222.22*
5-8	55	15	272.73	914	14	15.32	999	53	53.05
9-12	221	51	230.77	2787	20	7.18	3080	125	40.58
13-16	266	66	248.12	2848	20	7.02	3197	139	43.48
17-20	248	69	278.23	2446	22	8.99	2747	121	44.05
21-24	196	39	198.98	2208	13	5.89	2433	67	27.54
25-28	168	41	244.05	1782	19	10.66	1972	70	35.50
29-32	152	20	131.58	1544	20	12.95	1707	43	25.19
33-36	121	7	57.85	1473	14	9.50	1607	26	16.18
37-39	51	6	117.65	915	7	7.65	968	13	13.43
40+	8	1	125.00*	309	7	22.65	318	8	25.16
TOTAL	1487	315	211.84	17233	157	9.11	19037	667	35.04
UNKNOWN	0	0	-	10	0	0*	11	1	90.91*
GRAND TOTAL	1487	315	211.84	17243	157	9.11	19048	668	35.07

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - NEGRO

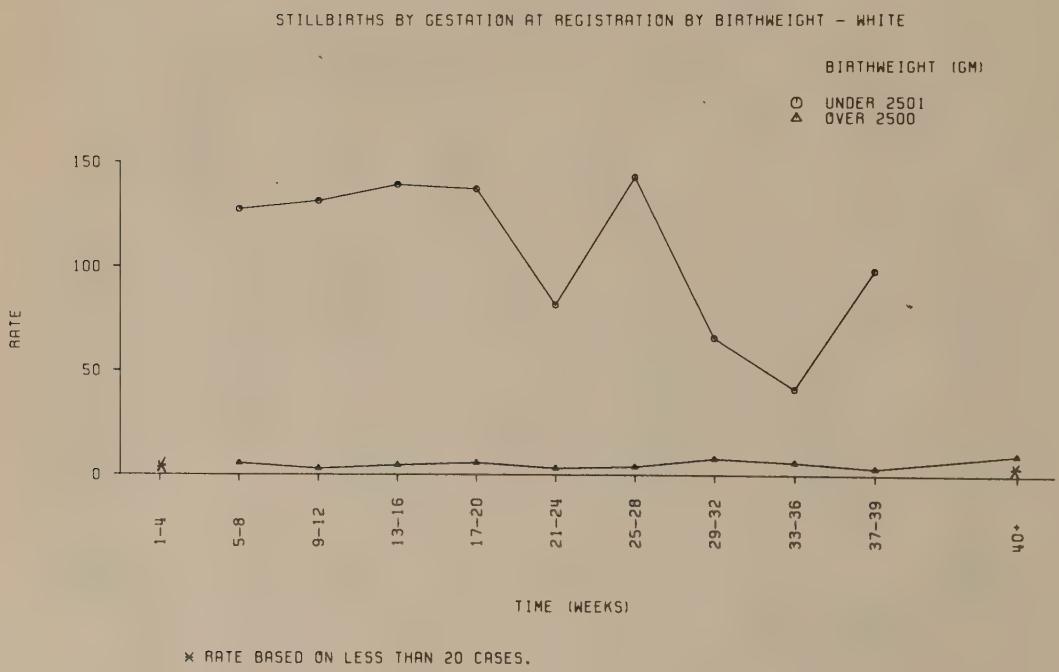
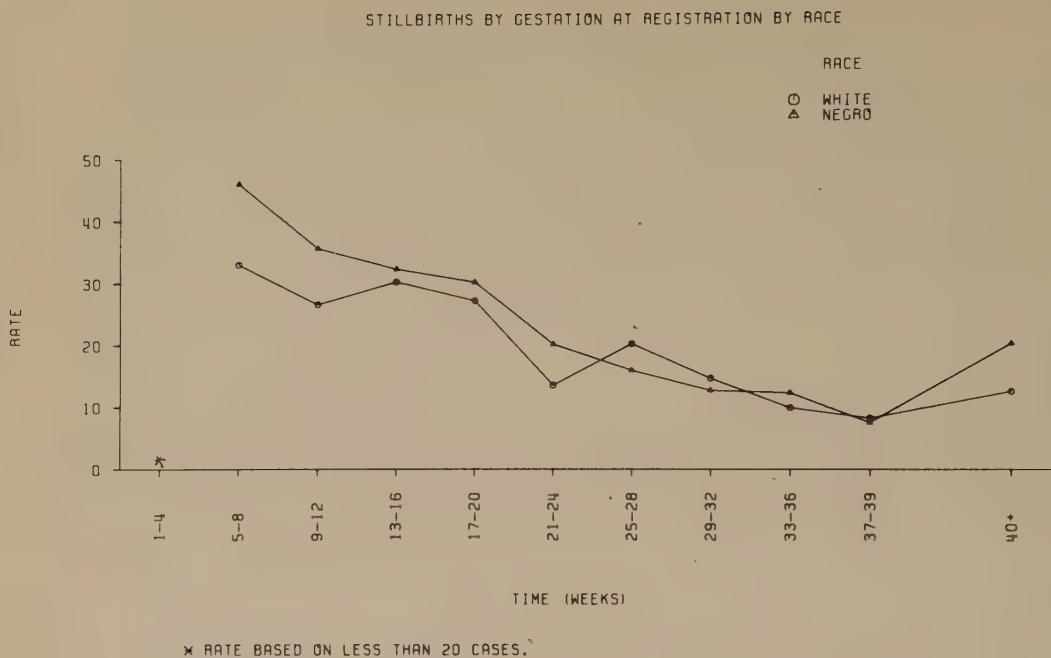


PERINATAL DEATHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - NEGRO

WEEKS	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
1-4	3	1	333.33*	9	0	0*	12	1	83.33*
5-8	42	9	214.29	229	3	13.10	282	22	78.01
9-12	186	38	204.30	1139	12	10.54	1372	75	54.66
13-16	361	75	207.76	2217	29	13.08	2655	160	60.26
17-20	543	108	198.90	3006	40	13.31	3634	207	56.96
21-24	635	98	154.33	3258	36	11.05	3953	163	41.23
25-28	460	62	134.78	2757	25	9.07	3250	101	31.08
29-32	368	30	81.52	2207	28	12.69	2598	64	24.63
33-36	163	14	85.89	1525	18	11.80	1706	36	21.10
37-39	42	1	23.81	485	5	10.31	531	6	11.30
40+	11	1	90.91*	137	2	14.60	148	3	20.27
TOTAL	2814	437	155.29	16969	198	11.67	20141	838	41.61
UNKNOWN	3	1	333.33*	18	0	0*	26	7	269.23*
GRAND TOTAL	2817	438	155.48	16987	198	11.66	20167	845	41.90

(1) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

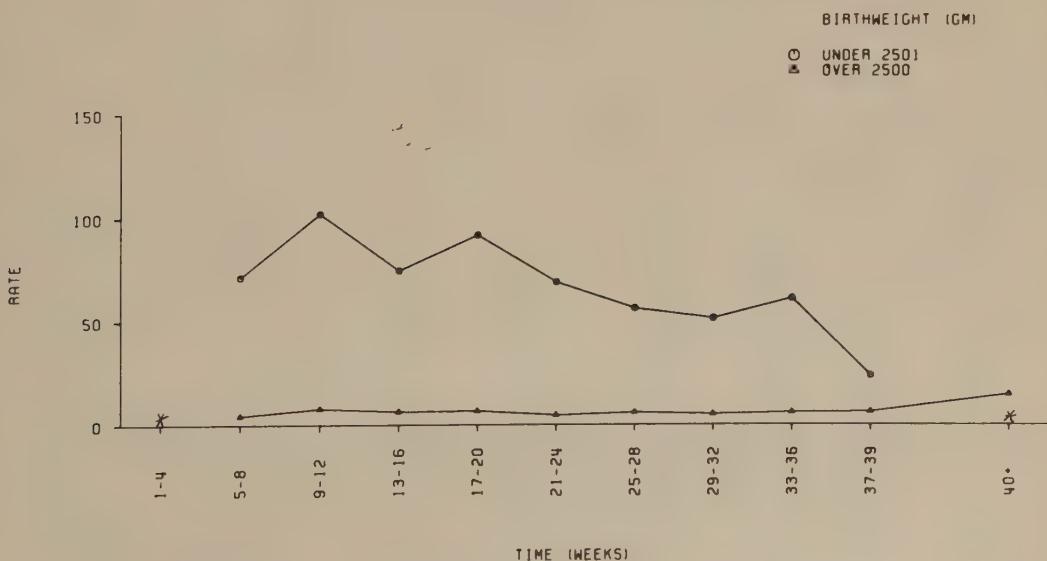


STILLBIRTHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - WHITE

WEEKS	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
1-4	1	0	0*	7	0	0*	9	1	111.11*
5-8	55	7	127.27	914	5	5.47	999	33	33.03
9-12	221	29	131.22	2787	8	2.87	3080	82	26.62
13-16	266	37	139.10	2848	13	4.56	3197	97	30.34
17-20	248	34	137.10	2446	14	5.72	2747	75	27.30
21-24	196	16	81.63	2208	7	3.17	2433	33	13.56
25-28	168	24	142.86	1782	7	3.93	1972	40	20.28
29-32	152	10	65.79	1544	12	7.77	1707	25	14.65
33-36	121	5	41.32	1473	9	6.11	1607	16	9.96
37-39	51	5	98.04	915	3	3.28	968	8	8.26
40+	8	1	125.00*	309	3	9.71	318	4	12.58
TOTAL	1487	168	112.98	17233	81	4.70	19037	414	21.75
UNKNOWN	0	0	-	10	0	0*	11	1	90.91*
GRAND TOTAL	1487	168	112.98	17243	81	4.70	19048	415	21.79

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.
*RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - NEGRO



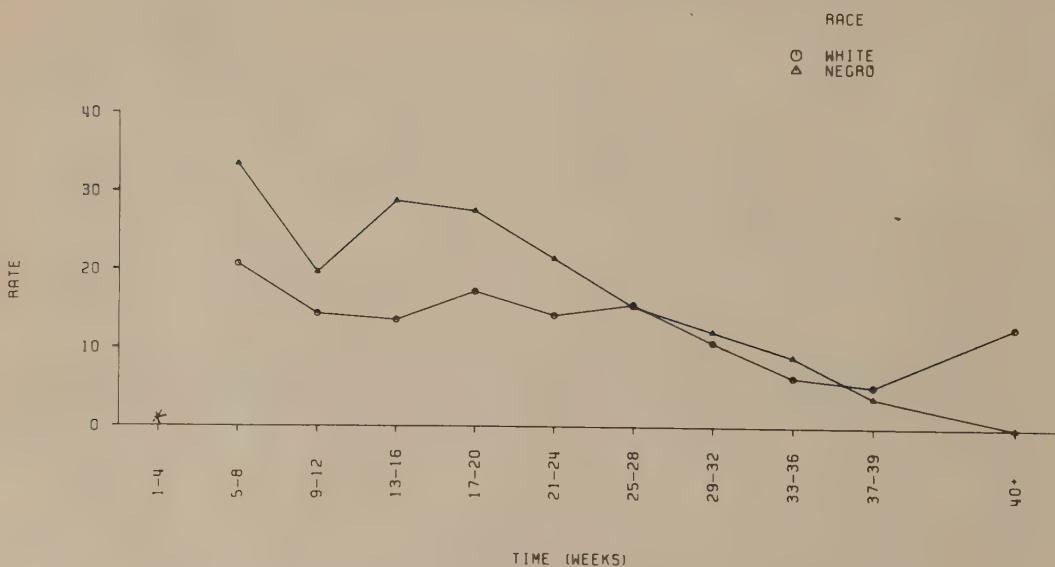
* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - NEGRO

WEEKS	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
1-4	3	0	0 *	9	0	0 *	12	0	0 *
5-8	42	3	71.43	229	1	4.37	282	13	46.10
9-12	186	19	102.15	1139	9	7.90	1372	9	35.71
13-16	361	27	74.79	2217	14	6.31	2655	86	32.39
17-20	543	50	92.08	3006	20	6.65	3634	110	30.27
21-24	635	44	69.29	3258	15	4.60	3953	80	20.24
25-28	460	26	56.52	2757	16	5.80	3250	52	16.00
29-32	368	19	51.63	2207	11	4.98	2598	33	12.70
33-36	163	10	61.35	1525	9	5.90	1706	21	12.31
37-39	42	1	23.81	485	3	6.19	531	4	7.53
40+	11	1	90.91*	137	2	14.60	148	3	20.27
TOTAL	2814	200	71.07	16969	100	5.89	20141	451	22.39
UNKNOWN	3	0	0 *	18	0	0 *	26	6	230.77
GRAND TOTAL	2817	200	71.00	16987	100	5.89	20167	457	22.66

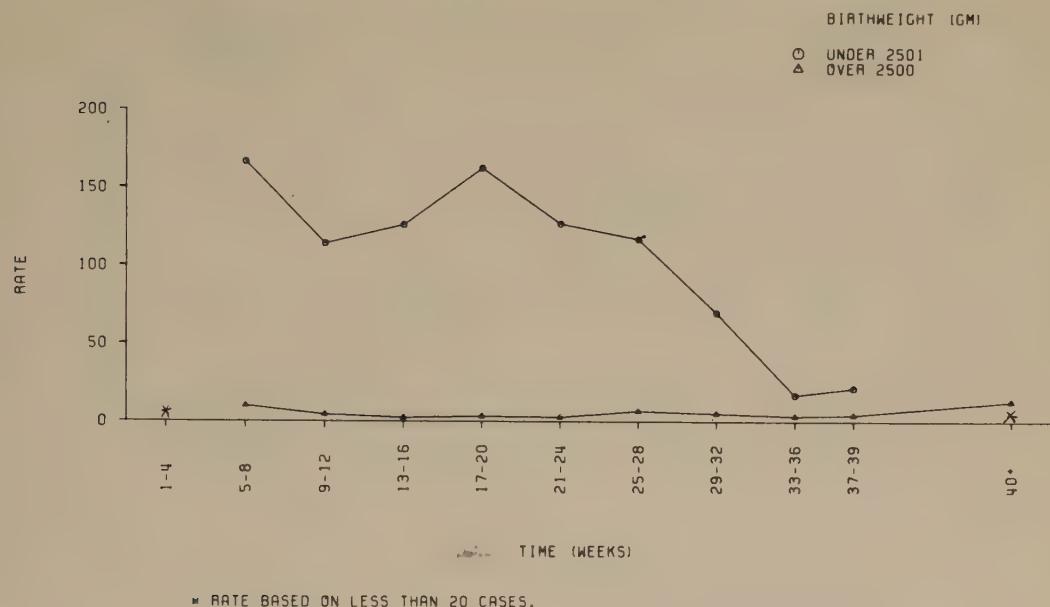
(1) INCLUDES UNKNOWN BIRTHWEIGHTS.
 * RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY GESTATION AT REGISTRATION BY RACE



* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - WHITE



NEONATAL DEATHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - WHITE

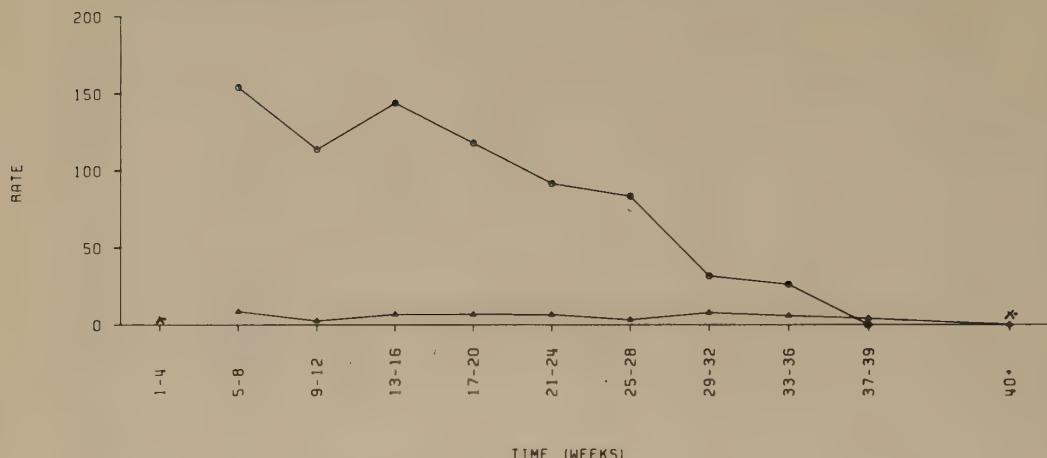
WEEKS	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
1-4	1	0	0 *	7	1	142.86*	8	1	125.00*
5-8	48	8	166.67	909	9	9.90	966	20	20.70
9-12	192	22	114.58	2779	12	4.32	2998	43	14.34
13-16	229	29	126.64	2835	7	2.47	3100	42	13.55
17-20	214	35	163.55	2432	8	3.29	2672	46	17.22
21-24	180	23	127.78	2201	6	2.73	2400	34	14.17
25-28	144	17	118.06	1775	12	6.76	1932	30	15.53
29-32	142	10	70.42	1532	8	5.22	1682	18	10.70
33-36	116	2	17.24	1464	5	3.42	1591	10	6.29
37-39	46	1	21.74	912	4	4.39	960	5	5.21
40+	7	0	0 *	306	4	13.07	314	4	12.74
TOTAL	1319	147	111.45	17152	76	4.43	18623	253	13.59
UNKNOWN	0	0		10	0	0 *	10	0	0 *
GRAND TOTAL	1319	147	111.45	17162	76	4.43	18633	253	13.58

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - NEGRO

BIRTHWEIGHT (GM)

(O) UNDER 2501
(△) OVER 2500

* RATE BASED ON LESS THAN 20 CASES.

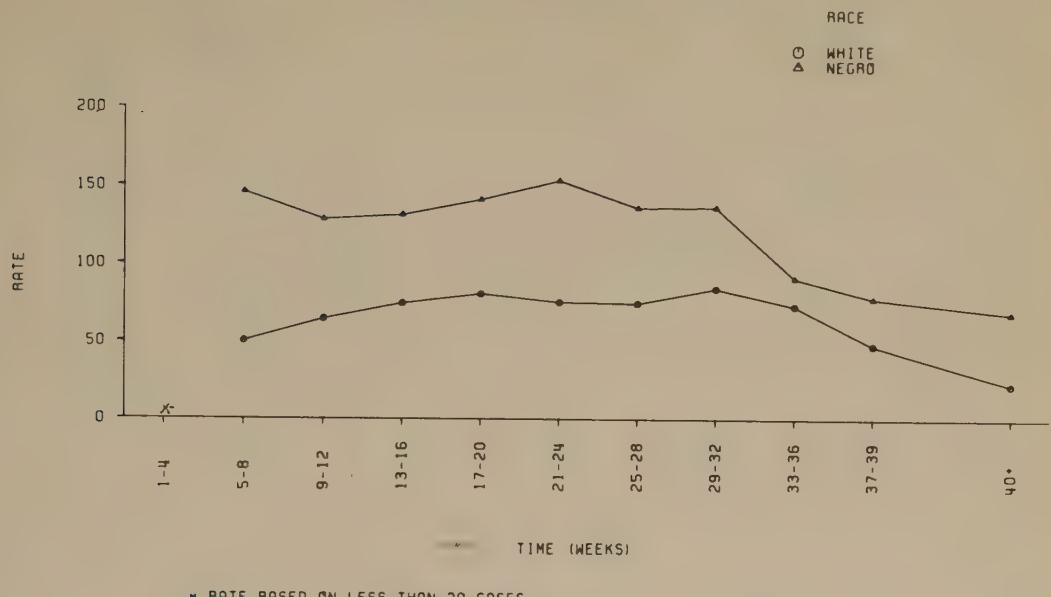
NEONATAL DEATHS BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - NEGRO

WEEKS	UNDER 2501 GM			OVER 2500 GM			TOTAL (1)		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
1-4	3	1	333.33*	9	0	0 *	12	1	83.33*
5-8	39	6	153.85	228	2	8.77	269	9	33.46
9-12	167	19	113.77	1130	3	2.65	1323	26	19.65
13-16	334	48	143.71	2203	15	6.81	2569	74	28.80
17-20	493	58	117.65	2986	20	6.70	3524	97	27.53
21-24	591	54	91.37	3243	21	6.48	3873	83	21.43
25-28	434	36	82.95	2741	9	3.28	3198	49	15.32
29-32	349	11	31.52	2196	17	7.74	2565	31	12.09
33-36	153	4	26.14	1516	9	5.94	1685	15	8.90
37-39	41	0	0	482	2	4.15	527	2	3.80
40+	10	0	0 *	135	0	0	145	0	0
TOTAL	2614	237	90.67	16869	98	5.81	19690	387	19.65
UNKNOWN	3	1	333.33*	18	0	0 *	20	1	50.00
GRAND TOTAL	2617	238	90.94	16887	98	5.80	19710	388	19.69

(1) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY GESTATION AT REGISTRATION BY RACE



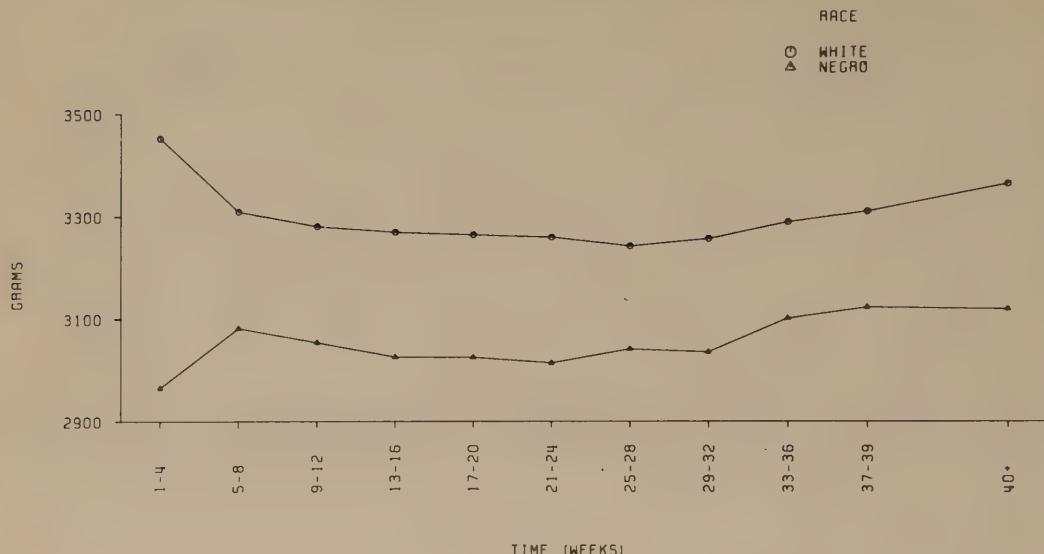
* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY GESTATION AT REGISTRATION BY RACE

WEEKS	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
1-4	8	1	125.00*	12	3	250.00*
5-8	957	48	50.16	267	39	146.07
9-12	2971	192	64.62	1297	167	128.76
13-16	3064	229	74.74	2537	334	131.65
17-20	2646	214	80.88	3479	493	141.71
21-24	2381	180	75.60	3834	591	154.15
25-28	1919	144	75.04	3175	434	136.69
29-32	1674	142	84.83	2545	349	137.13
33-36	1580	116	73.42	1670	153	91.62
37-39	958	46	48.02	523	41	78.39
40+	313	7	22.36	145	10	68.97
TOTAL	18471	1319	71.41	19484	2614	134.16
UNKNOWN	10	0	0 *	20	3	150.00*
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

* RATE BASED ON LESS THAN 20 CASES.

MEAN BIRTHWEIGHT BY GESTATION AT REGISTRATION BY RACE



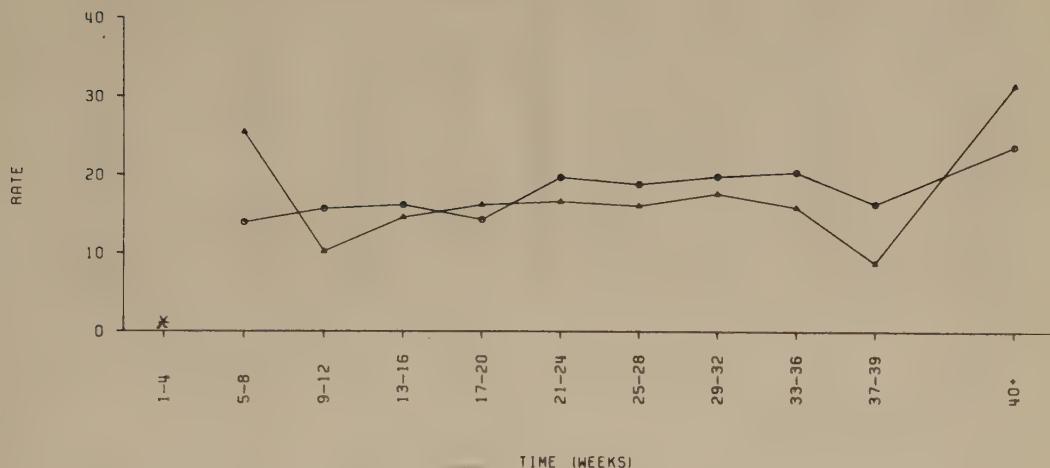
MEAN BIRTHWEIGHT BY GESTATION AT REGISTRATION BY RACE

WEEKS	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
1-4	8	3452	12	2965
5-8	957	3309	267	3082
9-12	2971	3280	1297	3054
13-16	3064	3269	2537	3026
17-20	2646	3264	3479	3025
21-24	2381	3259	3834	3014
25-28	1919	3241	3175	3041
29-32	1674	3255	2545	3035
33-36	1580	3287	1670	3100
37-39	998	3307	523	3121
40+	313	3360	145	3118
TOTAL	18471	3272	19484	3039
UNKNOWN	10	3220	20	3029
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY GESTATION AT REGISTRATION BY RACE

RACE

△○ WHITE
NEGRO

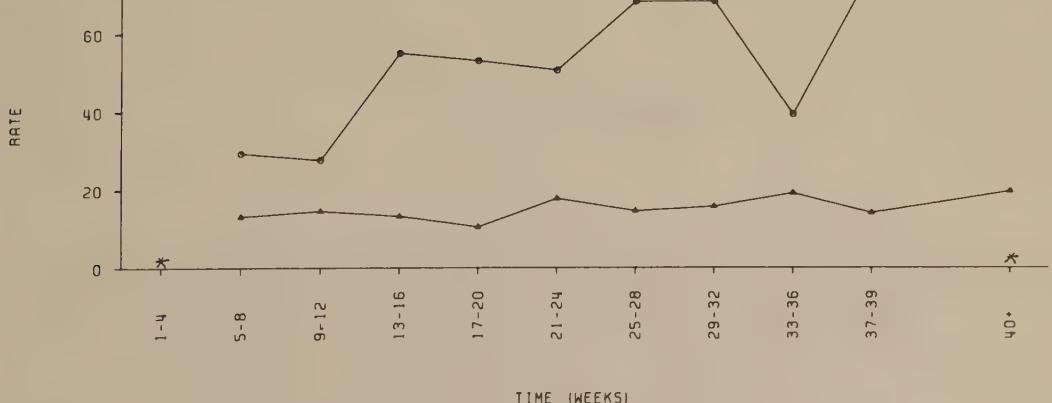


* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - WHITE

BIRTHWEIGHT (GM)

△○ UNDER 2501
△△ OVER 2500



* RATE BASED ON LESS THAN 20 CASES.

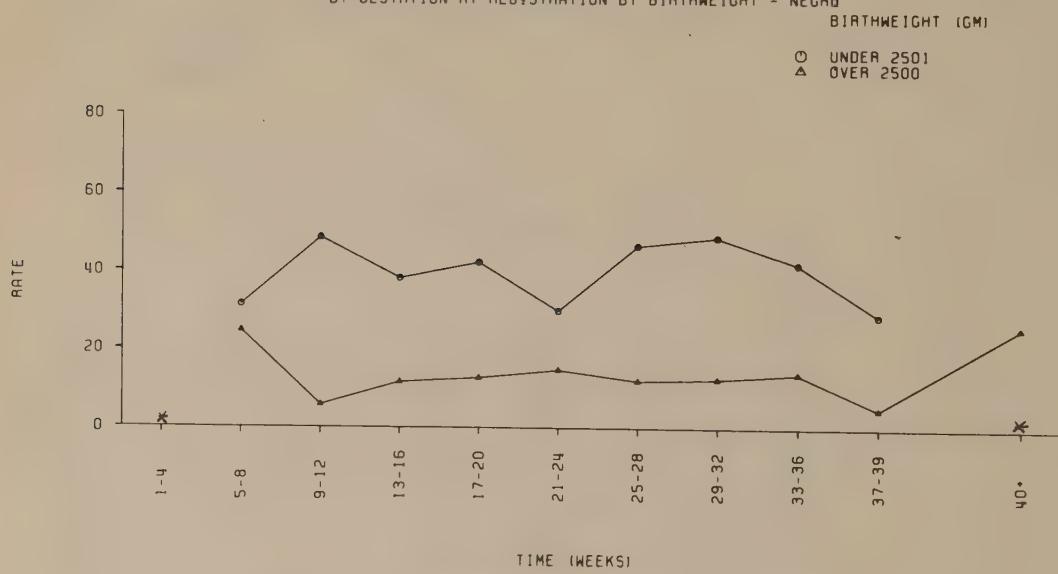
CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - WHITE

WEEKS	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
1-4	1	0	0 *	4	0	0 *	5	0	0 *
5-8	34	1	29.41	755	10	13.25	789	11	13.94
9-12	144	4	27.78	2391	35	14.64	2542	40	15.74
13-16	163	9	55.21	2408	32	13.29	2584	42	16.25
17-20	150	8	53.33	2001	21	10.49	2158	31	14.37
21-24	118	6	50.85	1736	31	17.86	1860	37	19.89
25-28	102	7	68.63	1365	20	14.65	1475	28	18.98
29-32	102	7	68.63	1146	18	15.71	1249	25	20.02
33-36	76	3	39.47	1041	20	19.21	1118	23	20.57
37-39	26	2	76.92	640	9	14.06	667	11	16.49
40+	5	1	200.00*	203	4	19.70	209	5	23.92
TOTAL	921	48	52.12	13690	200	14.61	14656	253	17.26
UNKNOWN	0	0	-	6	0	0 *	6	0	0 *
GRAND TOTAL	921	48	52.12	13696	200	14.60	14662	253	17.26

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY GESTATION AT REGISTRATION BY BIRTHWEIGHT - NEGRO



* RATE BASED ON LESS THAN 20 CASES.

WEEKS	UNDER 2501 GM			OVER 2500 GM			TOTAL (I)		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
1-4	2	1	500.00*	8	0	0 *	10	1	100.00*
5-8	32	1	31.25	203	5	24.63	235	6	25.53
9-12	124	6	48.39	1039	6	5.77	1168	12	10.27
13-16	263	10	38.02	1982	23	11.60	2253	33	14.65
17-20	380	16	42.11	2679	34	12.69	3069	50	16.29
21-24	471	14	29.72	2856	42	14.71	3342	56	16.76
25-28	345	16	46.38	2415	29	12.01	2772	45	16.23
29-32	309	15	48.54	1929	24	12.44	2248	40	17.79
33-36	120	5	41.67	1305	18	13.79	1432	23	16.06
37-39	35	1	28.57	413	2	4.84	451	4	8.87
40+	9	1	111.11*	117	3	25.64	126	4	31.75
TOTAL	2090	86	41.15	14946	186	12.44	17106	274	16.02
UNKNOWN	2	0	0 *	15	0	0 *	17	0	0 *
GRAND TOTAL	2092	86	41.11	14961	186	12.43	17123	274	16.00

(I) INCLUDES UNKNOWN BIRTHWEIGHTS.

* RATE BASED ON LESS THAN 20 CASES.

SECTION 4. GESTATION AT REGISTRATION AND PRENATAL VISITS

(Continued)

PRENATAL VISITS

Since women were selected for participation in the Collaborative Study from the prenatal clinic, all gravidas must have had at least one prenatal visit. A prenatal visit was recorded for each date on which the gravida appeared at the clinic for consultation or treatment, prior to delivery. The gravida with illness or

complication was seen more frequently than the gravida whose pregnancy was proceeding normally. Consequently, a large number of visits is associated with high risk gravidas, and poor outcome.

About six per cent of the Whites and Negroes had two visits or less. Thirty-four per cent of all Whites and fifteen per cent of all Negroes had twelve prenatal visits or more. Institutional differences are apparent and are a reflection of the difference in the proportion of women registering for prenatal care early or late in pregnancy. Obviously those women who registered early in pregnancy had more opportunity to make more visits than those who registered late.

NUMBER OF PRENATAL VISITS BY RACE

VISITS	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
1-2	1143	6.02	6.02	1309	6.50	6.50
3-5	2717	14.32	20.34	4653	23.12	29.62
6-8	3721	19.61	39.95	5898	29.31	58.93
9-11	4913	25.89	65.83	5166	25.67	84.60
12-14	4196	22.11	87.94	2360	11.73	96.33
15-18	2033	10.71	98.66	666	3.31	99.64
19+	255	1.34	100.00	73	0.36	100.00
TOTAL	18978	100.00	100.00	20125	100.00	100.00
UNKNOWN	70	0.37		42	0.21	
GRAND TOTAL	19048	100.00		20167	100.00	

NUMBER OF PRENATAL VISITS BY INSTITUTION - WHITE
NUMBER OF CASES

VISITS	INSTITUTION									
	BO	BU	CO	JH	VA	MN	NY	OR	PA	PR
1-2	295	9	13	25	73	287	10	254	63	109
3-5	712	36	80	90	254	522	49	474	165	328
6-8	1274	109	142	188	171	661	63	520	171	418
9-11	2143	386	213	213	149	690	83	378	199	458
12-14	2138	776	122	106	62	358	35	206	101	289
15-18	1071	598	29	40	24	96	12	54	22	136
19+	163	41	1	4	1	8	1	5	2	29
TOTAL	7796	1905	600	666	734	2622	253	1891	723	1767
UNKNOWN	27	21	3	1	7	1	0	3	5	2
GRAND TOTAL	7823	1926	603	667	741	2623	253	1894	728	1769

NUMBER OF PRENATAL VISITS BY INSTITUTION - WHITE
PERCENT OF CASES

VISITS	INSTITUTION									
	BO	BU	CO	JH	VA	MN	NY	OR	PA	PR
1-2	3.78	0.47	2.17	3.75	9.95	10.95	3.95	13.43	8.71	6.17
3-5	9.13	1.89	13.33	13.51	34.60	19.91	19.37	25.07	22.82	18.56
6-8	16.34	5.72	23.67	28.23	23.30	25.21	24.90	27.50	23.65	23.66
9-11	27.49	20.26	35.50	31.98	20.30	26.32	32.81	19.99	27.52	25.92
12-14	27.42	40.73	20.33	15.92	8.45	13.65	13.83	10.89	13.97	16.36
15-18	13.74	28.77	4.83	6.01	3.27	3.66	4.74	2.86	3.04	7.70
19+	2.09	2.15	0.17	0.60	0.14	0.31	0.40	0.26	0.28	1.64
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
UNKNOWN	0.35	1.09	0.50	0.15	0.94	0.04	0	0.16	0.69	0.11
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NUMBER OF PRENATAL VISITS BY INSTITUTION - WHITE
CUMULATIVE PERCENT OF CASES

VISITS	INSTITUTION									
	BO	BU	CO	JH	VA	MN	NY	OR	PA	PR
1-2	3.78	0.47	2.17	3.75	9.95	10.95	3.95	13.43	8.71	6.17
3-5	12.92	2.36	15.50	17.27	44.55	30.85	23.32	38.50	31.54	24.73
6-8	29.26	8.08	39.17	45.50	67.85	56.06	48.22	66.00	55.19	48.39
9-11	56.75	28.35	74.67	77.48	88.15	82.38	81.03	85.99	82.71	74.31
12-14	84.17	69.08	95.00	93.39	96.59	96.03	94.86	96.88	96.68	90.66
15-18	97.91	97.85	99.83	99.40	99.86	99.69	99.60	99.74	99.72	98.36
19+	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NUMBER OF PRENATAL VISITS BY INSTITUTION - NEGRO
NUMBER OF CASES

VISITS	INSTITUTION									
	BO	CH	CO	JH	VA	NY	OR	PA	PR	TN
1-2	39	114	33	106	169	43	62	366	49	327
3-5	84	480	133	318	639	299	154	1462	119	964
6-8	172	753	231	594	531	462	172	1829	129	1013
9-11	266	641	285	659	335	412	142	1607	117	684
12-14	225	311	123	387	120	184	57	694	64	169
15-18	99	75	30	122	41	53	15	169	17	34
19+	26	4	3	19	2	2	1	9	6	1
TOTAL	911	2378	838	2205	1837	1455	603	6136	501	3192
UNKNOWN	2	2	4	5	3	0	0	22	0	4
GRAND TOTAL	913	2380	842	2210	1840	1455	603	6158	501	3196

NUMBER OF PRENATAL VISITS BY INSTITUTION - NEGRO
PERCENT OF CASES

VISITS	INSTITUTION									
	BO	CH	CO	JH	VA	NY	OR	PA	PR	TN
1-2	4.28	4.79	3.94	4.81	9.20	2.96	10.28	5.96	9.78	10.24
3-5	9.22	20.19	15.87	14.42	34.78	20.55	25.54	23.83	23.75	30.20
6-8	18.88	31.67	27.57	26.94	28.91	31.75	28.52	29.81	25.75	31.74
9-11	29.20	26.96	34.01	29.89	18.24	28.32	23.55	26.19	23.35	21.43
12-14	24.70	13.08	14.68	17.55	6.53	12.65	9.45	11.31	12.77	5.29
15-18	10.87	3.15	3.58	5.53	2.23	3.64	2.49	2.75	3.39	1.07
19+	2.85	0.17	0.36	0.86	0.11	0.14	0.17	0.15	1.20	0.03
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
UNKNOWN	0.22	0.08	0.48	0.23	0.16	0	0	0.36	0	0.13
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NUMBER OF PRENATAL VISITS BY INSTITUTION - NEGRO
CUMULATIVE PERCENT OF CASES

VISITS	INSTITUTION									
	BO	CH	CO	JH	VA	NY	OR	PA	PR	TN
1-2	4.28	4.79	3.94	4.81	9.20	2.96	10.28	5.96	9.78	10.24
3-5	13.50	24.98	19.81	19.23	43.98	23.51	35.82	29.79	33.53	40.44
6-8	32.38	56.64	47.37	46.17	72.89	55.26	64.34	59.60	59.28	72.18
9-11	61.58	83.60	81.38	76.05	91.13	83.57	87.89	85.79	82.63	93.61
12-14	86.28	96.68	96.06	93.61	97.66	96.22	97.35	97.10	95.41	98.90
15-18	97.15	99.83	99.64	99.14	99.89	99.86	99.83	99.85	98.80	99.97
19+	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Chapter 8

MATERNAL CONDITIONS DURING PREGNANCY

INTRODUCTION

Coincidental complications of pregnancy, both medical and surgical, include those diagnosed or suspected at the time of the initial physical examination, at one of the follow-up visits, or at the time of hospital admission for delivery. The Obstetric Diagnostic Summary Form OB-60 may be seen in Appendix C, page 516. It was completed by a physician after review of all prenatal and labor records and the patient's hospital record. Thus the form was completed retrospectively after delivery on the prospectively collected data. The physician was directed to include diagnoses which were seriously considered, as well as those considered definite, by a physician. This practice, by intent, led to some over-reporting. It is less likely that diagnoses were missed. Thus, the recorded rate of a coincidental complication should not be considered to represent the true incidence of the condition. The review of the individual case histories with certain specific diagnoses has suggested that the rate of over-reporting, depending on the item reviewed, may be five to twenty per cent. One result of the over-reporting of diseases may be that a real association between the disease and adverse fetal outcome is made less strong by inclusion of patients without the condition. For example, if the group of cases diagnosed as bronchial asthma includes doubtful cases, the association of this disease with increased perinatal death rates may be even stronger than that shown in the data.

The Obstetric Diagnostic Summary Form OB-60 is divided into diseases or conditions pertaining to each organ system. For each system, the women who are in the subgroup "without condition" include only those who are free of all conditions within the system. For example, in the tabulations relating to organic heart disease, the "without condition" category consists of cases free of any cardiovascular conditions.

Certain disease states included in the analysis have been summarized with respect to their frequency of occurrence and their possible relationships with adverse fetal outcome and are not graphed in detail. These are included in the summary data tables. Cer-

tain other data were excluded altogether because of the small numbers of cases and/or lack of uniformity in diagnostic criteria.

SECTION 1. CARDIOVASCULAR CONDITIONS

ORGANIC HEART DISEASE

Information pertaining to organic heart disease was coded by the reviewing obstetrician on Form OB-60 in terms of the presence or absence of the condition and the specific diagnosis. The patients were then classified, where possible, according to the severity of their functional impairment as follows:

1. No symptoms on exertion
2. Symptoms on ordinary activity
3. Symptoms on limited activity
4. Symptoms at rest.

The diagnosis was recorded for 622 women during pregnancy (1.4 per cent of the White and 1.8 per cent of the Negro women). The fetal death rates are substantially increased in these women; in fact, the still-birth rate is doubled as compared with that of women without the diagnosis. This finding is consistent for women of both races and for the participating institutions. While rates of neonatal mortality and neurologic abnormality at one year are not significantly different for the two groups of women, those with a diagnosis of heart disease have a higher rate of delivery of small sized babies (below 2501 grams); also, the mean birthweights are lower (by 161 grams in Whites and 42 grams in Negro infants). The birthweight findings are consistent for both races and for the individual institutions participating in the Study.

When fetal outcome is examined by the degree of functional impairment suffered by the women with a diagnosis of heart disease, no clear-cut trends are noted. The possibility that significant relationships are masked by the small number of cases involved cannot be discounted.

The diagnosis of organic heart disease includes

rheumatic heart disease, hypertensive heart disease, and congenital heart disease.

It is of interest that Niswander, et al.⁶ identified 312 patients with congenital and rheumatic heart disease among some 32,000 pregnancies in the Collaborative Perinatal Study.

⁶ Niswander, Kenneth R. and Berendes, Heinz. "Effect of Maternal Cardiac Disease on the Infant," *Clinical Obstetrics and Gynecology*, 11:1026, 1968.

Perinatal Study. Fetal and neonatal death rates for this restricted group and the findings with respect to birthweight were similar. No evidence of fetal growth retardation was found.

In summary, the presence of organic heart disease during pregnancy significantly increased the risk of fetal death, and, if the infant was born alive, of delivery of a small (below 2501 grams) baby.

ORGANIC HEART DISEASE BY RACE

	ALL GRAVIDAS	WITH CONDITION	
		NUMBER	PERCENT
WHITE	18891	272	1.44
NEGRO	19932	350	1.76

PREGNANCY OUTCOMES OF GRAVIDAS WITH ORGANIC HEART DISEASE BY RACE

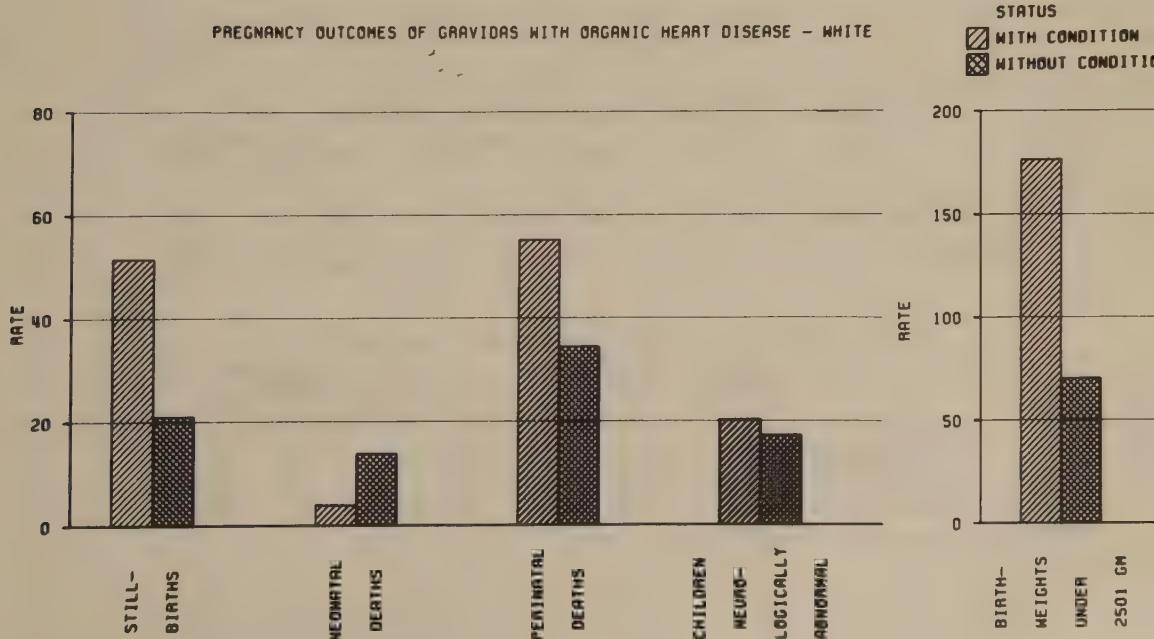
	BIRTHS	STILLBIRTHS NO.	RATE	LIVEBIRTHS	NO.	NEONATAL DEATHS NO.	RATE	BIRTHS	PERINATAL DEATHS NO.	PERINATAL DEATHS RATE
WHITE										
WITH CONDITION	272	14	51.47	258	1	3.88	272	15	55.15	
WITHOUT CONDITION (II)	18615	390	20.95	18225	250	13.72	18615	640	34.38	
NEGRO										
WITH CONDITION	350	19	54.29	331	6	18.13	350	25	71.43	
WITHOUT CONDITION (II)	19577	420	21.45	19158	369	19.26	19577	789	40.30	

PREGNANCY OUTCOMES OF GRAVIDAS WITH ORGANIC HEART DISEASE BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM. NO.	RATE	MEAN BWT. EXAMS	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO. RATE	
						WHITE	NEGRO
WHITE							
WITH CONDITION	255	45	176.47	3113	197	4	20.30
WITHOUT CONDITION (II)	18089	1268	70.10	3274	14369	248	17.26
NEGRO							
WITH CONDITION	328	62	189.02	2999	289	5	17.30
WITHOUT CONDITION (II)	18977	2516	132.58	3041	16685	263	15.78

(II) EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

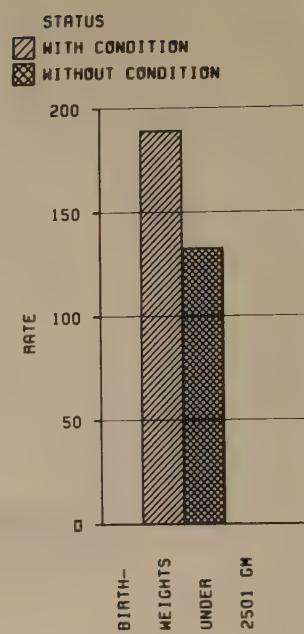
PREGNANCY OUTCOMES OF GRAVIDAS WITH ORGANIC HEART DISEASE - WHITE



STATUS

■ WITH CONDITION
▨ WITHOUT CONDITION

PREGNANCY OUTCOMES OF GRAVIDAS WITH ORGANIC HEART DISEASE - NEGRO



THROMBOSIS AND/OR PHLEBITIS BY RACE

	ALL GRAVIDAS	WITH CONDITION	
		NUMBER	PERCENT
WHITE	18891	71	0.38
NEGRO	19932	34	0.17

PREGNANCY OUTCOMES OF GRAVIDAS WITH THROMBOSIS AND/OR PHLEBITIS BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		PERINATAL DEATHS	
		NO.	RATE	NO.	RATE	NO.	RATE
WHITE							
WITH CONDITION	71	2	28.17	69	0	0	28.17
WITHOUT CONDITION (I)	18819	402	21.36	18417	251	13.63	18819
NEGRO							
WITH CONDITION	34	2	58.82	32	1	31.25	34
WITHOUT CONDITION (I)	19898	437	21.96	19461	374	19.22	19898

PREGNANCY OUTCOMES OF GRAVIDAS WITH THROMBOSIS AND/OR PHLEBITIS BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.		NEUROLOGICALLY ABNORMAL		
		NO.	RATE	MEAN BWT. EXAMS	NO.	RATE
WHITE						
WITH CONDITION	69	6	86.96	3419	54	0
WITHOUT CONDITION (I)	18278	1307	71.51	3271	14516	252
NEGRO						
WITH CONDITION	32	4	125.00	3063	21	0
WITHOUT CONDITION (I)	19277	2575	133.58	3040	16937	269

(I) EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

SUMMARY DATA FOR WHITE

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL				
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.		
ORGANIC HEART DISEASE	272	1.4	15	55.1	14	51.5	258	1	3.9	255	45	176.5	197	4	20.3	3113
NO SYMPTOMS ON EXERTION	140	0.7	8	57.1	8	57.1	132	0	0	130	16	123.1	101	3	29.7	3201
SYMPTOMS ON ORDINARY ACTIVITY	50	0.3	2	40.0	2	40.0	48	0	0	48	7	145.8	40	1	25.0	3120
SYMPTOMS ON LIMITED ACTIVITY	16	0.1	2	125.0	2	125.0	14	0	0	14	5	357.1	11	0	0	2835
SYMPTOMS ON BED REST	16	0.1	2	125.0	1	62.5	15	1	66.7	15	3	200.0	11	0	0	3090
RHEUMATIC FEVER, ACUTE OR RECURRENT	14	0.1	0	0	0	0	14	0	0	14	2	142.9	12	0	0	3147
THROMBOSIS AND/OR PHLEBITIS WITH EMBOLIZATION	71	0.4	2	28.2	2	28.2	69	0	0	69	6	87.0	54	0	0	3063
	5	0.0	1	200.0	1	200.0	4	0	0	4	0	0	0	0	-	3884
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL				
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.		
ORGANIC HEART DISEASE	350	1.8	25	71.4	19	54.3	331	6	18.1	328	62	189.0	209	5	17.3	2999
NO SYMPTOMS ON EXERTION	194	1.0	11	56.7	9	46.4	185	2	10.8	183	36	196.7	167	5	29.9	3021
SYMPTOMS ON ORDINARY ACTIVITY	49	0.2	5	102.0	4	81.6	45	1	22.2	45	11	244.4	38	0	0	2947
SYMPTOMS ON LIMITED ACTIVITY	9	0.0	0	0	0	0	9	0	0	9	1	111.1	7	0	0	3015
SYMPTOMS ON BED REST	8	0.0	0	0	0	0	8	0	0	8	3	375.0	8	1	125.0	2729
RHEUMATIC FEVER, ACUTE OR RECURRENT	12	0.1	0	0	0	0	12	0	0	12	1	83.3	12	1	83.3	3036
THROMBOSIS AND/OR PHLEBITIS WITH EMBOLIZATION	34	0.2	3	88.2	2	58.8	32	1	31.3	32	4	125.0	21	0	0	3419
	2	0.0	0	0	0	0	2	0	0	2	0	0	0	0	-	3459
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 2. PULMONARY DISEASES

TUBERCULOSIS

The recording of only 9 cases of active tuberculosis during pregnancy among 18,892 White women (0.04 per cent), and only 14 among 19,947 Negroes

(0.07 per cent), is surprising, considering that the great majority of the Study mothers live in large urban centers and that the Negroes, particularly, tended to be drawn from lower socio-economic levels. The figures reflect rates for women obtaining care in large medical centers; they are unlikely to represent rates for the local communities. The very small number of cases precludes any evaluation of the effect of this variable on fetal outcome.

ACTIVE TUBERCULOSIS BY RACE

	ALL GRAVIDAS	WITH CONDITION	
	NUMBER	PERCENT	
WHITE	18901	9	0.05
NEGRO	19963	14	0.07

PREGNANCY OUTCOMES OF GRAVIDAS WITH ACTIVE TUBERCULOSIS BY RACE

BIRTHS	STILLBIRTHS		NEONATAL DEATHS	PERINATAL DEATHS	BIRTHS	DEATHS
	NO.	RATE				
WHITE						
WITH CONDITION	9	0	0	0	9	0
WITHOUT CONDITION (I)	18892	406	21.49	18466	250	13.52
NEGRO						
WITH CONDITION	14	0	0	14	1	71.43*
WITHOUT CONDITION (I)	19947	439	22.01	19508	375	19.22

PREGNANCY OUTCOMES OF GRAVIDAS WITH ACTIVE TUBERCULOSIS BY RACE

LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.			ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	RATE
	NO.	RATE	MEAN BWT.			
WHITE						
WITH CONDITION	9	1	111.11*	3147	7	0
WITHOUT CONDITION (I)	18348	1313	71.56	3272	14567	252
NEGRO						
WITH CONDITION	14	4	285.71*	2754	10	0
WITHOUT CONDITION (I)	19323	2579	133.47	3041	16972	269

* RATE BASED ON LESS THAN 20 CASES.

(I) EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

PNEUMONIA

A total of 108 of the White and 88 of the Negro women were reported on the obstetric diagnostic summary form to have had pneumonia during pregnancy. Of these, 67 White and 52 Negro women had significant findings upon x-ray of the chest. No clear-cut relationship was established between a diagnosis of pneumonia and adverse fetal outcome, with respect to the parameters examined. It is uncertain whether such a relationship exists, or whether the small number of cases recorded and the recognized heterogeneity of the condition make it impossible to establish such a relationship.

PNEUMONIA DURING PREGNANCY BY RACE

	ALL GRAVIDAS	WITH CONDITION	
	NUMBER	PERCENT	
WHITE	18901	108	0.57
NEGRO	19963	88	0.44

PREGNANCY OUTCOMES OF GRAVIDAS WITH PNEUMONIA DURING PREGNANCY BY RACE

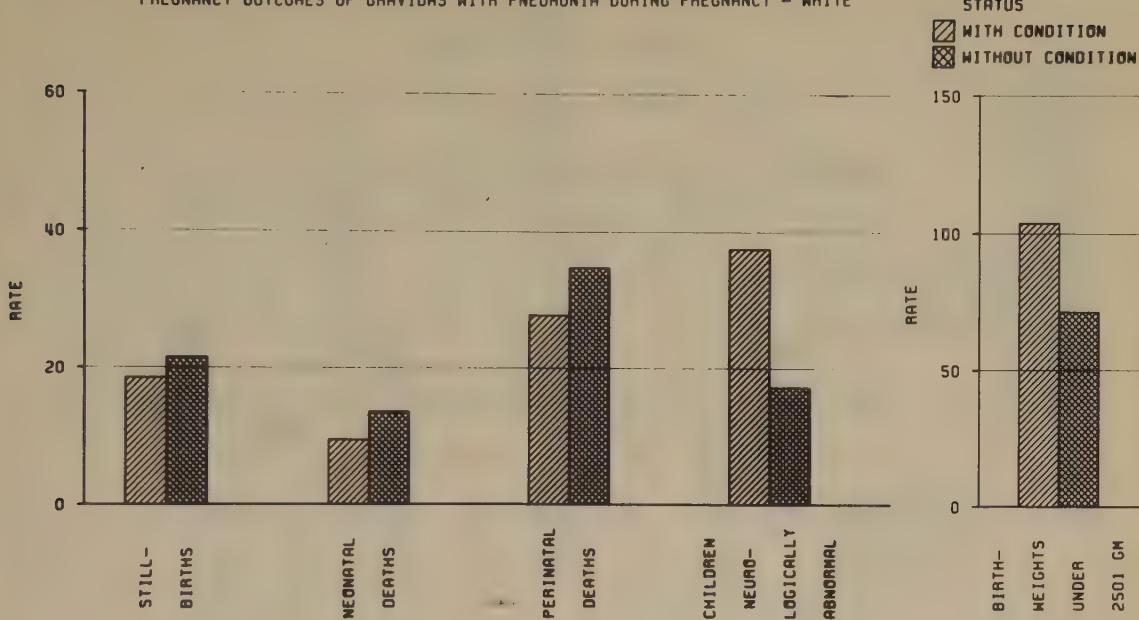
BIRTHS	STILLBIRTHS		NEONATAL DEATHS	PERINATAL DEATHS	BIRTHS	DEATHS
	NO.	RATE				
WHITE						
WITH CONDITION	108	2	18.52	106	1	9.43
WITHOUT CONDITION (I)	18791	404	21.50	18387	249	13.54
NEGRO						
WITH CONDITION	88	2	22.73	86	3	34.88
WITHOUT CONDITION (I)	19875	437	21.99	19438	373	19.19

PREGNANCY OUTCOMES OF GRAVIDAS WITH PNEUMONIA DURING PREGNANCY BY RACE

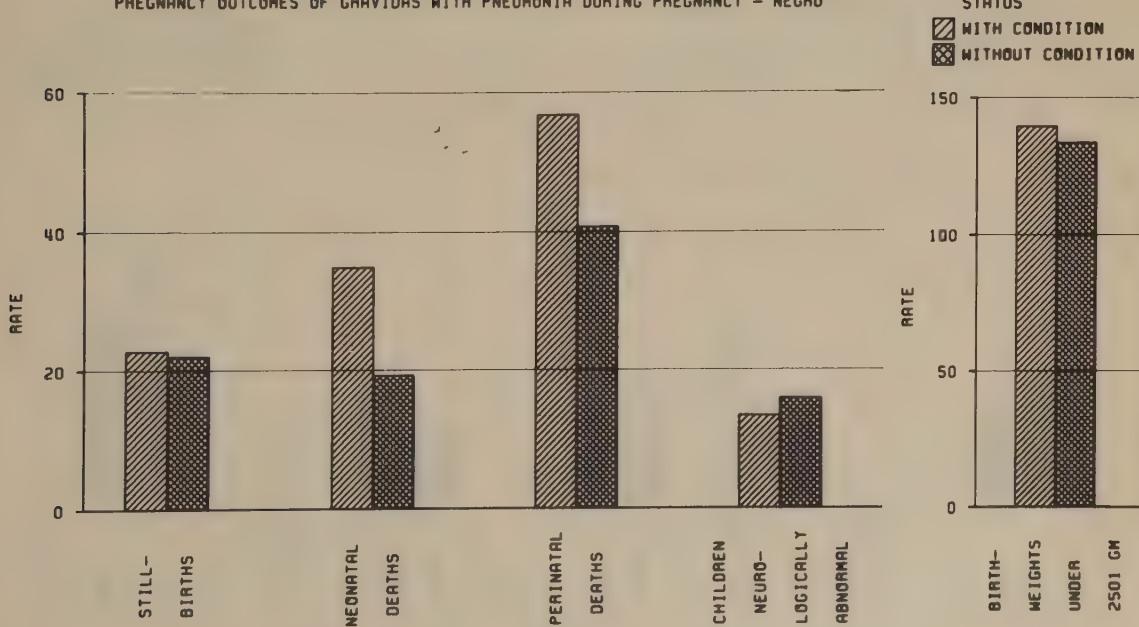
LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.			ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	RATE
	NO.	RATE	MEAN BWT.			
WHITE						
WITH CONDITION	108	11	103.77	3258	80	3
WITHOUT CONDITION (I)	18249	1302	71.35	3272	14492	249
NEGRO						
WITH CONDITION	86	12	139.53	3044	75	1
WITHOUT CONDITION (I)	19253	2572	133.59	3040	16909	268

(I) EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

PREGNANCY OUTCOMES OF GRAVIDAS WITH PNEUMONIA DURING PREGNANCY - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH PNEUMONIA DURING PREGNANCY - NEGRO



PNEUMONIA DURING PREGNANCY WITH POSITIVE CHEST X-RAY BY RACE

		WITH CONDITION	
ALL GRAVIDAS		NUMBER	PERCENT
WHITE	18901	67	0.35
NEGRO	19963	52	0.26

PREGNANCY OUTCOMES OF GRAVIDAS WITH PNEUMONIA DURING PREGNANCY WITH POSITIVE CHEST X-RAY BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		PERINATAL DEATHS			
		NO.	RATE	LIVEBIRTHS	NO.	RATE	BIRTHS	NO.	RATE
WHITE									
WITH CONDITION	67	2	29.85	65	0	0	67	2	29.85
WITHOUT CONDITION (I)	18791	404	21.50	18387	249	13.54	18791	653	36.75
NEGRO									
WITH CONDITION	52	2	38.46	50	3	60.00	52	5	96.15
WITHOUT CONDITION (II)	19875	437	21.99	19438	373	19.19	19875	810	40.75

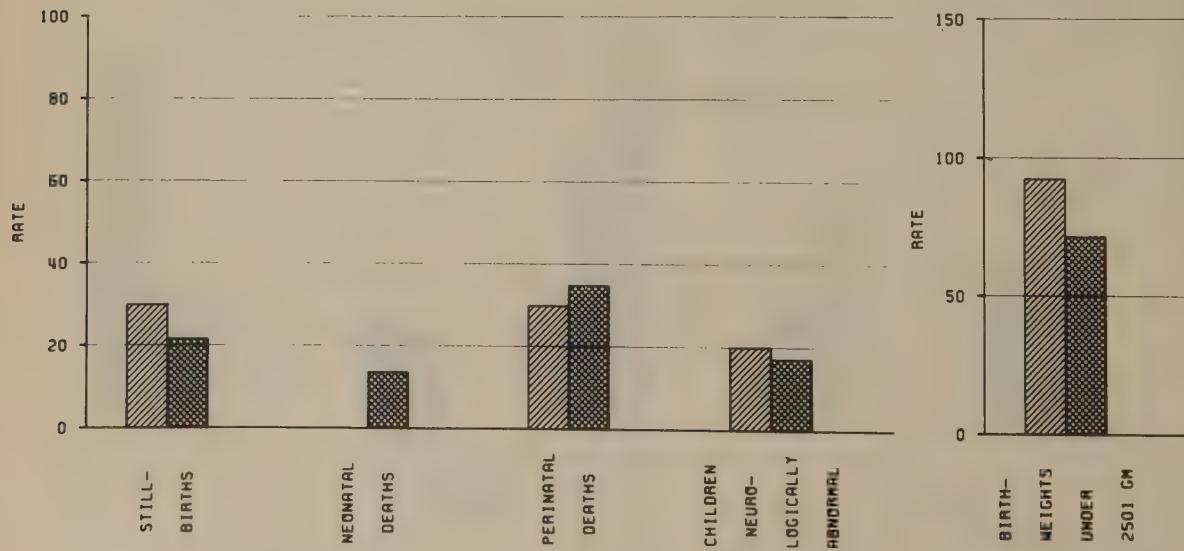
PREGNANCY OUTCOMES OF GRAVIDAS WITH PNEUMONIA DURING PREGNANCY WITH POSITIVE CHEST X-RAY BY RACE

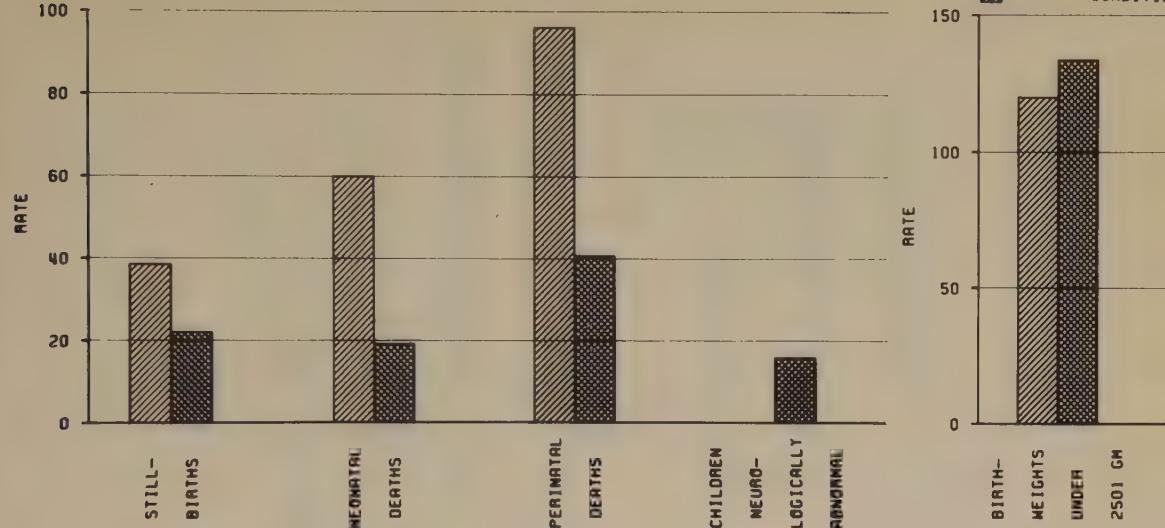
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.		NEUROLOGICALLY ABNORMAL			
		NO.	RATE	MEAN BWT.	ONE YEAR EXAMS	NO.	RATE
WHITE							
WITH CONDITION	65	6	92.31	3331	50	1	20.00
WITHOUT CONDITION (I)	18249	1302	71.35	3272	14492	249	17.18
NEGRO							
WITH CONDITION	50	6	120.00	3002	42	0	0
WITHOUT CONDITION (II)	19253	2572	133.59	3040	16910	268	15.85

(I) EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

PREGNANCY OUTCOMES OF GRAVIDAS WITH PNEUMONIA DURING PREGNANCY WITH POSITIVE CHEST X-RAY - WHITE STATUS

■ WITH CONDITION
▨ WITHOUT CONDITION





SECTION 2. PULMONARY DISEASES

(Continued)

BRONCHIAL ASTHMA

Bronchial asthma was recorded for 176 White and 284 Negro patients by physicians completing the obstetric diagnostic summary form. Of these, 46 Whites and 124 Negroes were diagnosed as having acute bronchial asthma; 27 patients experienced status asthmaticus.

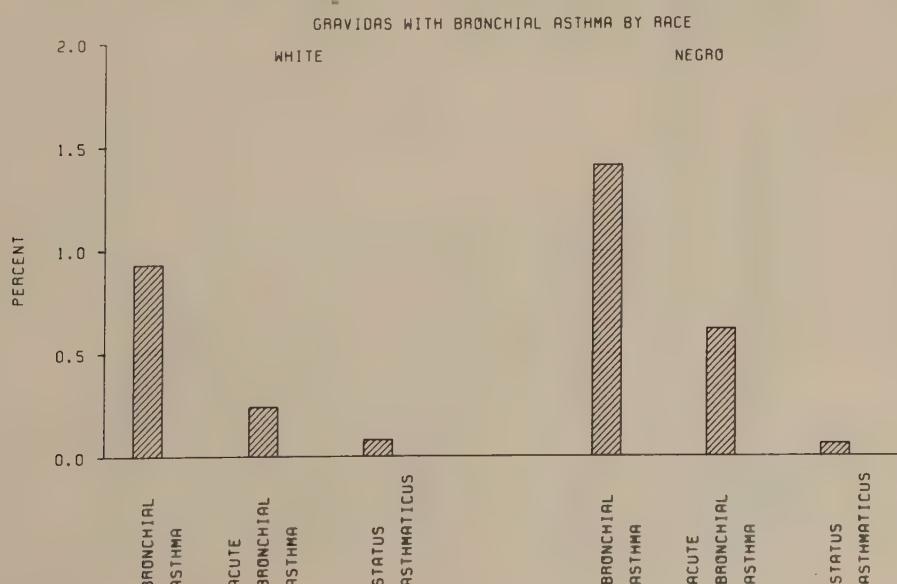
Stillbirth and neonatal mortality rates are higher for Negro gravidae with bronchial asthma, but not for Whites with the condition. Low birthweight rates are increased in both Whites and Negroes, but the dif-

ferences are small, as shown by the minimal decreases in mean birthweight. The incidence of neurologically abnormal one-year infants is higher in both races.

When acute asthmatic attacks have complicated the antepartum course, the number of children with an abnormal one-year neurological exam is increased.

Extensive discussion of this condition may be found in a more detailed study of these data by Gordon, et al.⁶

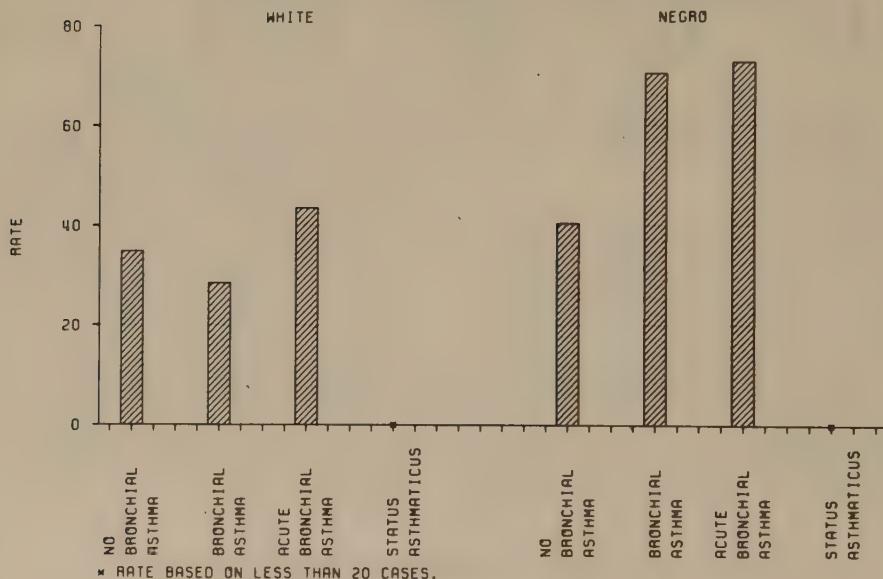
⁶Gordon, Myron, Niswander, Kenneth R., Berende Heinz, and Kantor, Anne G. "Fetal Morbidity Following Potentially Anoxigenic Obstetric Conditions—VII. Bronchial Asthma," *American Journal of Obstetrics and Gynecology* 3:421, 1970.



GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

	WHITE	NEGRO		
	NUMBER	PERCENT	NUMBER	PERCENT
BRONCHIAL ASTHMA	176	0.93	284	1.42
ACUTE BRONCHIAL ASTHMA	46	0.24	124	0.62
STATUS ASTHMATICUS	16	0.08	11	0.06
ALL GRAVIDAS	18901		19963	

PERINATAL DEATHS - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

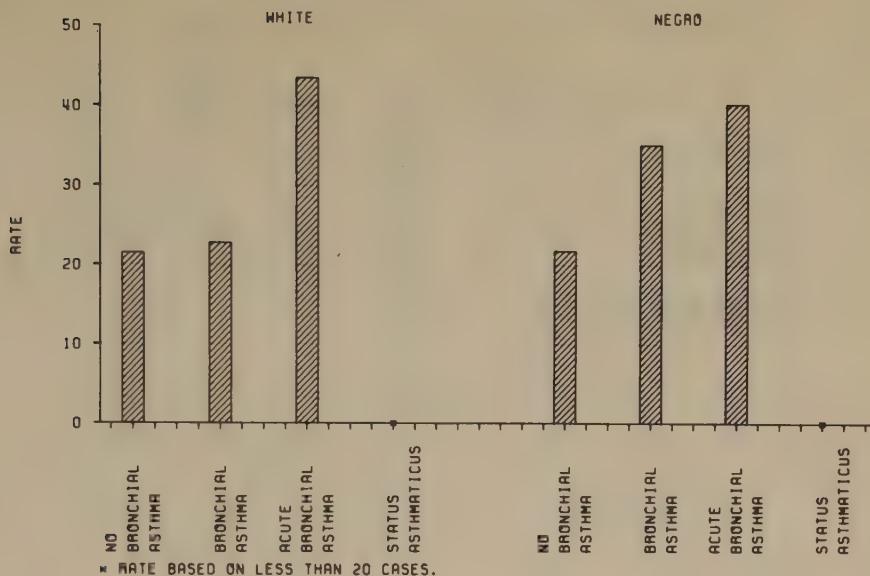


PERINATAL DEATHS - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

	WHITE	NEGRO				
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NO BRONCHIAL ASTHMA	18722	651	34.77	19678	795	40.40
BRONCHIAL ASTHMA	176	5	28.41	284	20	70.42
ACUTE BRONCHIAL ASTHMA	46	2	43.48	124	9	72.58
STATUS ASTHMATICUS	16	1	62.50*	11	2	181.82*

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

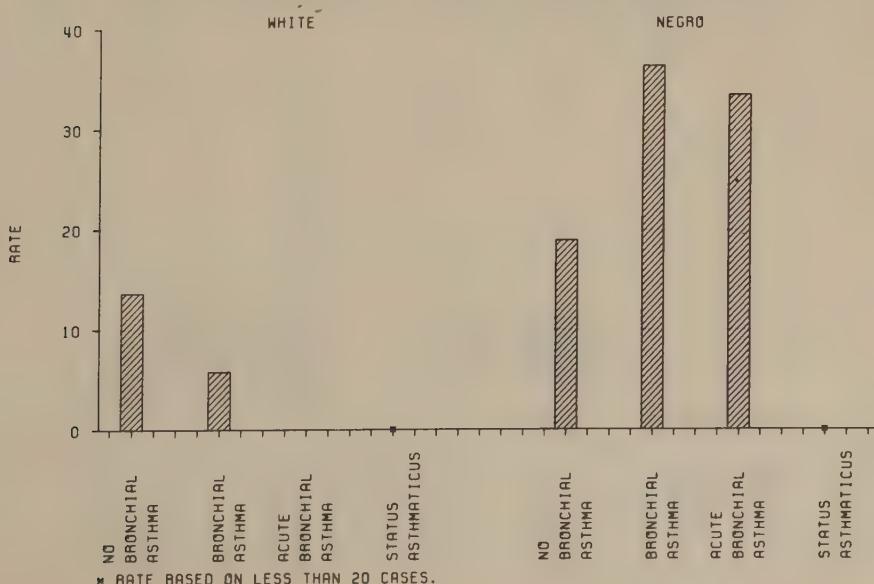


STILLBIRTHS - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NO BRONCHIAL ASTHMA	18722	402	21.47	19678	429	21.80
BRONCHIAL ASTHMA	176	4	22.73	284	10	35.21
ACUTE BRONCHIAL ASTHMA	46	2	43.48	124	5	40.32
STATUS ASTHMATICUS	16	1	62.50*	11	2	181.82*

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

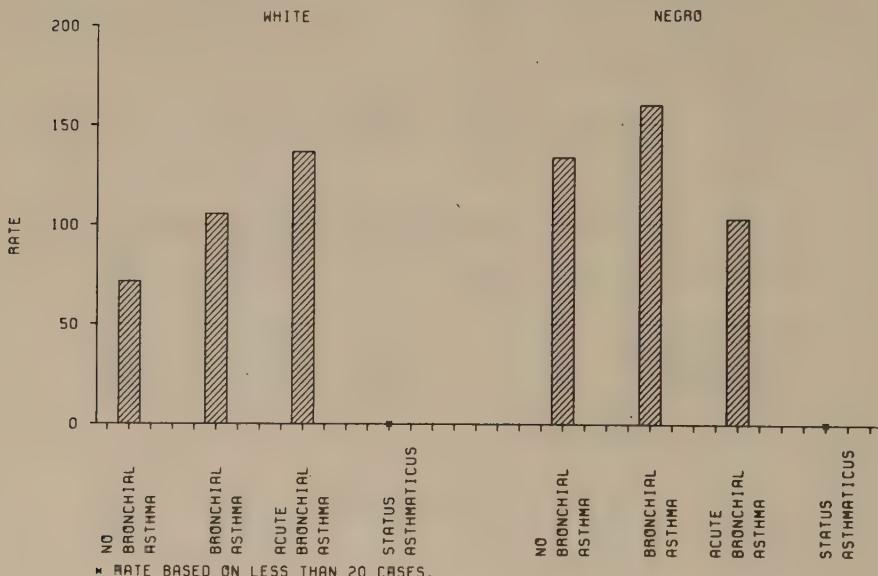


NEONATAL DEATHS - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NO BRONCHIAL ASTHMA	18320	249	13.59	19249	366	19.01
BRONCHIAL ASTHMA	172	1	5.81	274	10	36.50
ACUTE BRONCHIAL ASTHMA	44	0	0	119	4	33.61
STATUS ASTHMATICUS	15	0	0 *	9	0	0 *

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

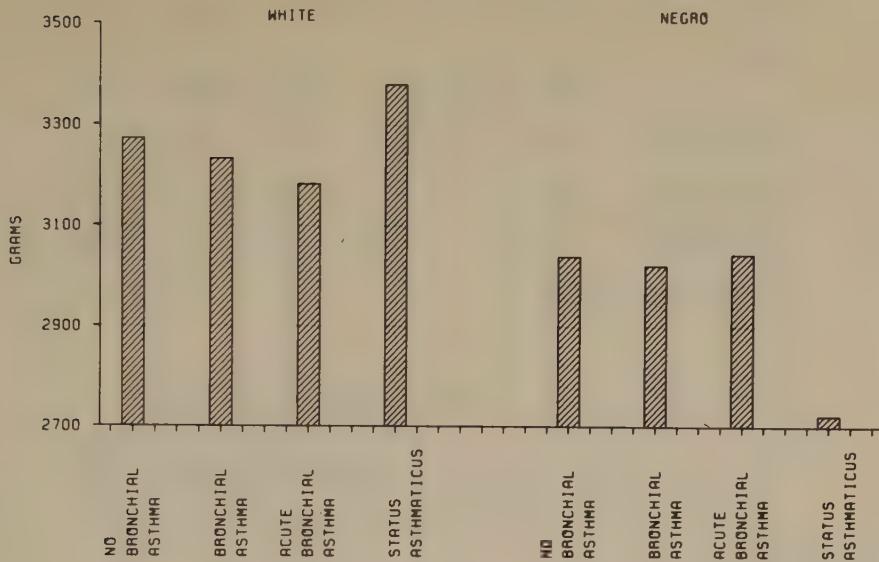


BIRTHWEIGHTS UNDER 2501 GM. - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NO BRONCHIAL ASTHMA	18183	1296	71.28	19068	2541	133.26
BRONCHIAL ASTHMA	171	18	105.26	270	43	159.26
ACUTE BRONCHIAL ASTHMA	44	6	136.36	117	12	102.56
STATUS ASTHMATICUS	15	0	0 *	8	2	250.00*

* RATE BASED ON LESS THAN 20 CASES.

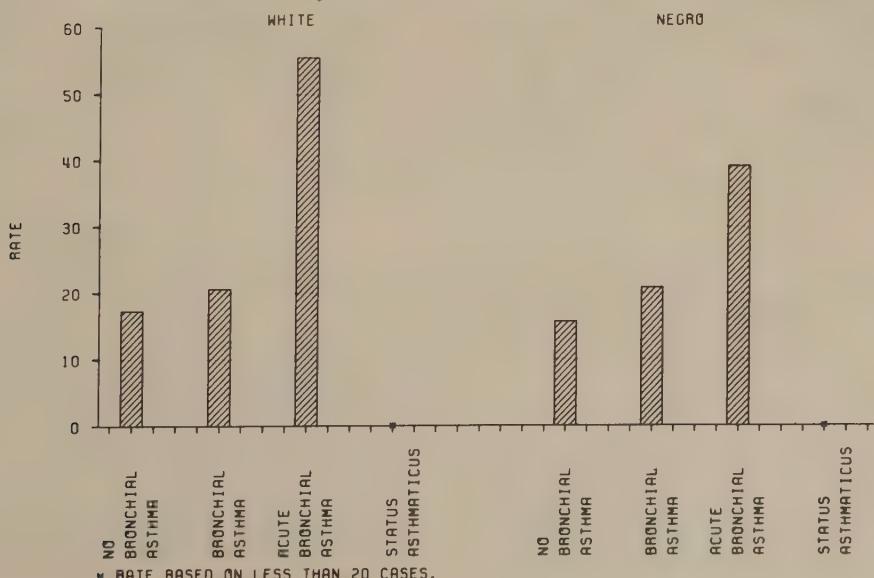
MEAN BIRTHWEIGHT - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE



MEAN BIRTHWEIGHT - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

	WHITE	NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NO BRONCHIAL ASTHMA	18183	3272	19068	3040
BRONCHIAL ASTHMA	171	3233	270	3022
ACUTE BRONCHIAL ASTHMA	44	3183	117	3045
STATUS ASTHMATICUS	15	3381	8	2722

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR - GRAVIDAS WITH BRONCHIAL ASTHMA BY RACE

	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
NO BRONCHIAL ASTHMA	14425	249	17.26	16743	263	15.71
BRONCHIAL ASTHMA	146	3	20.55	240	5	20.83
ACUTE BRONCHIAL ASTHMA	36	2	55.56	102	4	39.22
STATUS ASTHMATICUS	14	1	71.43*	8	1	125.00*

* RATE BASED ON LESS THAN 20 CASES.

SUMMARY DATA FOR WHITE

ITEM	BIRTHS			PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL				
	NO.	%	NO.	NO.	RATE	NO.	NO.	RATE	NO.	NO.	NO.	NO.	1 YR EXAMS	NO.	RATE	MEAN BWT.	
ACTIVE TUBERCULOSIS	9	0.0	0	0	0	0	0	0	9	0	0	9	1	111.1	7	0	0
INACTIVE TUBERCULOSIS	148	0.8	4	27.0	2	13.5	146	2	13.7	146	11	75.3	116	3	25.9	3264	
PNEUMONIA DURING PREGNANCY	108	0.6	3	27.8	2	18.5	106	1	9.4	106	11	103.8	80	3	37.5	3258	
WITH POSITIVE CHEST X-RAY	67	0.4	2	29.9	2	29.9	65	0	0	65	6	92.3	50	1	20.0	3331	
BRONCHIAL ASTHMA	176	0.9	5	28.4	4	22.7	172	1	5.8	171	18	105.3	146	3	20.5	3233	
ACUTE BRONCHIAL ASTHMA	46	0.2	2	43.5	2	43.5	44	0	0	44	6	136.4	36	2	55.6	3183	
STATUS ASTHMATICUS	16	0.1	1	62.5	1	62.5	15	0	0	15	0	0	14	1	71.4	3381	
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272	

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS			PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL			
	NO.	%	NO.	NO.	RATE	NO.	NO.	RATE	NO.	NO.	NO.	NO.	1 YR EXAMS	NO.	RATE	MEAN BWT.
ACTIVE TUBERCULOSIS	14	0.1	1	71.4	0	0	14	1	71.4	14	4	285.7	10	0	0	2754
INACTIVE TUBERCULOSIS	270	1.4	11	40.7	6	22.2	264	5	18.9	261	36	137.9	234	3	12.8	3020
PNEUMONIA DURING PREGNANCY	88	0.4	5	56.8	2	22.7	86	3	34.9	86	12	139.5	75	1	13.3	3044
WITH POSITIVE CHEST X-RAY	52	0.3	5	96.2	2	38.5	50	3	60.0	50	6	120.0	42	0	0	3002
BRONCHIAL ASTHMA	284	1.4	20	70.4	10	35.2	274	10	36.5	270	43	159.3	240	5	20.8	3022
ACUTE BRONCHIAL ASTHMA	124	0.6	9	72.6	5	40.3	119	4	33.6	117	12	102.6	102	4	39.2	3045
STATUS ASTHMATICUS	11	0.1	2	181.8	2	181.8	9	0	0	8	2	250.0	8	1	125.0	2722
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 3. ANEMIA

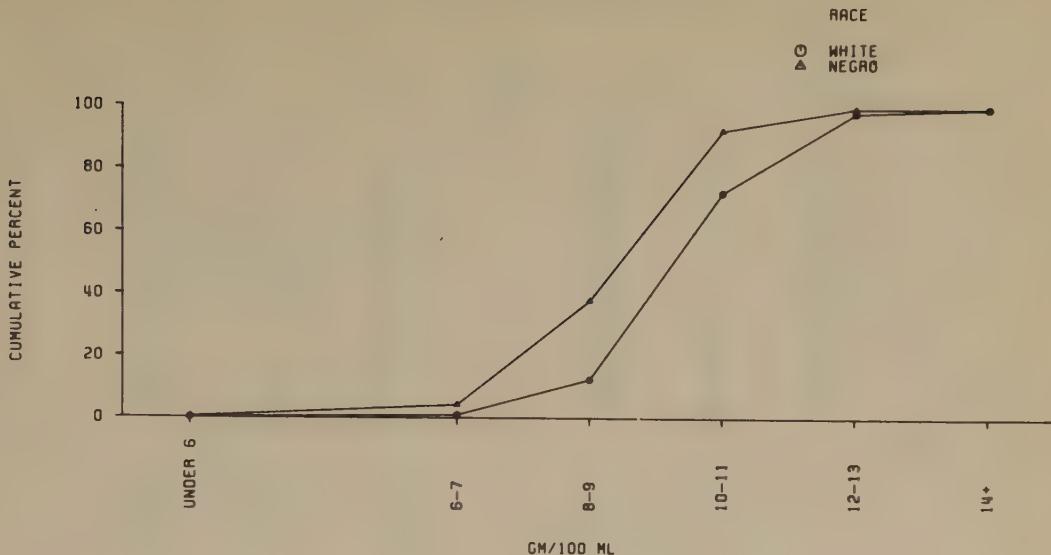
LOWEST HEMOGLOBIN

The distribution of "lowest" level of hemoglobin recorded on laboratory sheets during pregnancy is shown for the White and Negro patients in the Study population. Measurements of hemoglobin level are available for approximately 70 per cent of the White

stances values for both determinations are present. Only the distribution of lowest hemoglobin are shown here because relationships between the lowest levels (anemia) and fetal outcome are obscured by temporal, physiologic, and pathologic factors. A detailed study taking cognizance of these factors is required to elucidate these relationships.

and 75 per cent of the Negro gravidae. Hematocrit levels only are available in 29 per cent of the White and 24 per cent of the Negro women. In many in-

LOWEST HEMOGLOBIN RECORDED FOR GRAVIDA BY RACE



LOWEST HEMOGLOBIN RECORDED FOR GRAVIDA BY RACE

GM/100 ML	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
UNDER 6	11	0.08	0.08	46	0.30	0.30
6-7	120	0.90	0.98	591	3.92	4.22
8-9	1544	11.56	12.54	5089	33.71	37.93
10-11	8038	60.18	72.72	8274	54.81	92.75
12-13	3423	25.63	98.35	1075	7.12	99.87
14+	220	1.65	100.00	20	0.13	100.00
TOTAL	13356	100.00	100.00	15095	100.00	100.00
HEMATOCRIT ONLY	5471	28.72		4822	23.91	
UNKNOWN	221	1.16		250	1.24	
GRAND TOTAL	19048	100.00		20167	100.00	

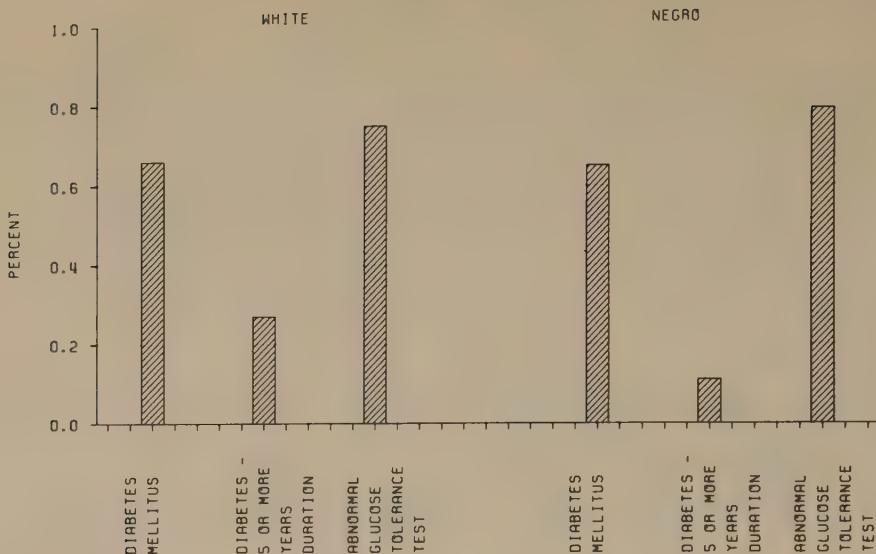
SECTION 4. METABOLIC AND ENDOCRINE CONDITIONS**DIABETES MELLITUS**

Frank diabetes mellitus complicated about 0.7 per cent of pregnancies among White and Negro gravidas. Diabetes had been present for five years or more in 0.3 per cent of White gravidas and 0.1 per cent of Negro gravidas. Gestational diabetes, recognized by an abnormal glucose tolerance test only during pregnancy, occurred more frequently in both races than did frank diabetes.

Frank diabetes had a markedly adverse effect on perinatal mortality, both fetal and neonatal death rates, as well as on the incidence of neurologic abnormality at one year. When diabetes had existed for five years, similar but, in general, more striking effects were found. As might be expected, gestational diabetes showed less marked and less consistent effects.

The increase in mean birthweight often noted in the infants of diabetic mothers is not consistently present in these data. This is probably the result of a combination of factors, including meticulous control of the diabetes and elective early termination of pregnancy.

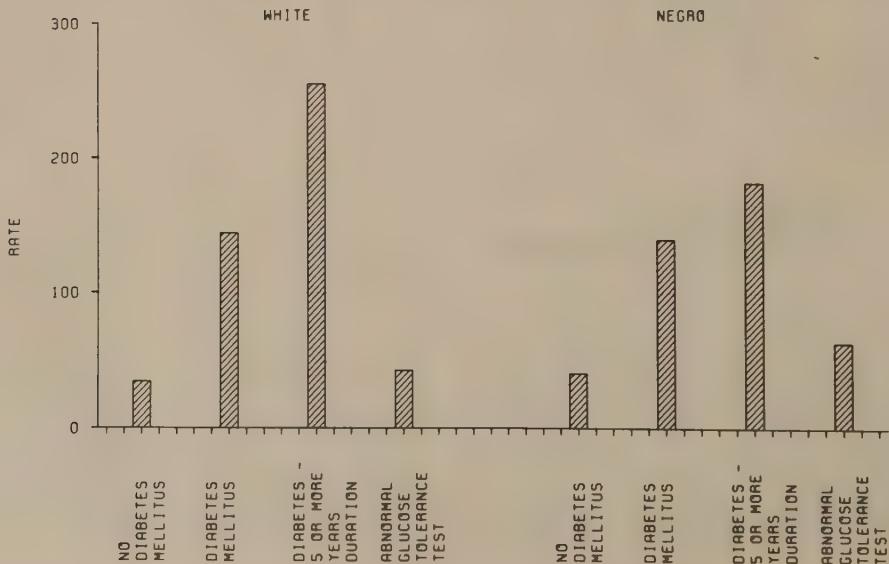
GRAVIDAS WITH DIABETES BY RACE



GRAVIDAS WITH DIABETES BY RACE

	WHITE			
	NUMBER	PERCENT	NUMBER	PERCENT
DIABETES MELLITUS	125	0.66	129	0.65
DIABETES - 5 OR MORE YEARS DURATION	51	0.27	22	0.11
ABNORMAL GLUCOSE TOLERANCE TEST	141	0.75	158	0.79
ALL GRAVIDAS	18915		19966	

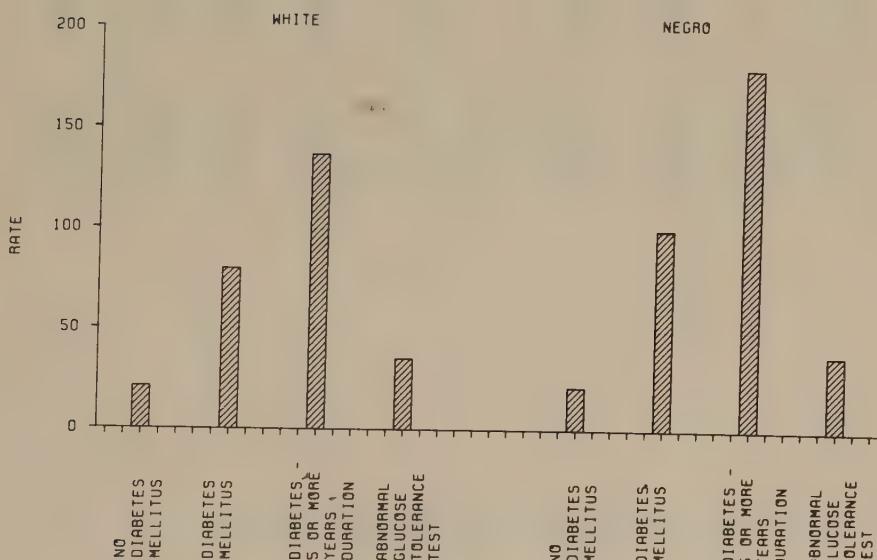
PERINATAL DEATHS - GRAVIDAS WITH DIABETES BY RACE



PERINATAL DEATHS - GRAVIDAS WITH DIABETES BY RACE

	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NO DIABETES MELLITUS	18789	638	33.96	19833	797	40.19
DIABETES MELLITUS	125	18	144.00	129	18	139.53
DIABETES - 5 OR MORE YEARS DURATION	51	13	254.90	22	4	181.82
ABNORMAL GLUCOSE TOLERANCE TEST	141	6	42.55	158	10	63.29

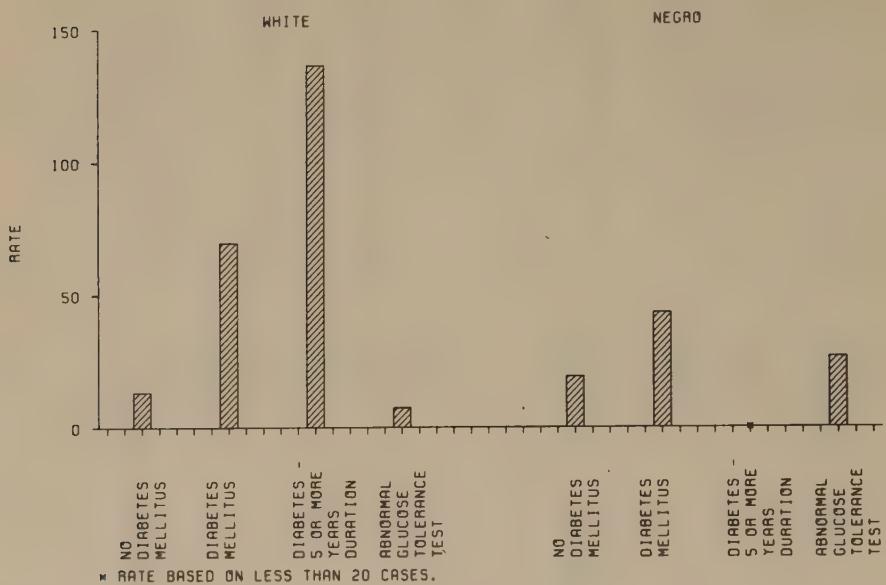
STILLBIRTHS - GRAVIDAS WITH DIABETES BY RACE



STILLBIRTHS - GRAVIDAS WITH DIABETES BY RACE

	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NO DIABETES MELLITUS	18789	395	21.02	19833	425	21.43
DIABETES MELLITUS	125	10	80.00	129	13	100.78
DIABETES - 5 OR MORE YEARS DURATION	51	7	137.25	22	4	181.82
ABNORMAL GLUCOSE TOLERANCE TEST	141	5	35.46	158	6	37.97

NEONATAL DEATHS - GRAVIDAS WITH DIABETES BY RACE

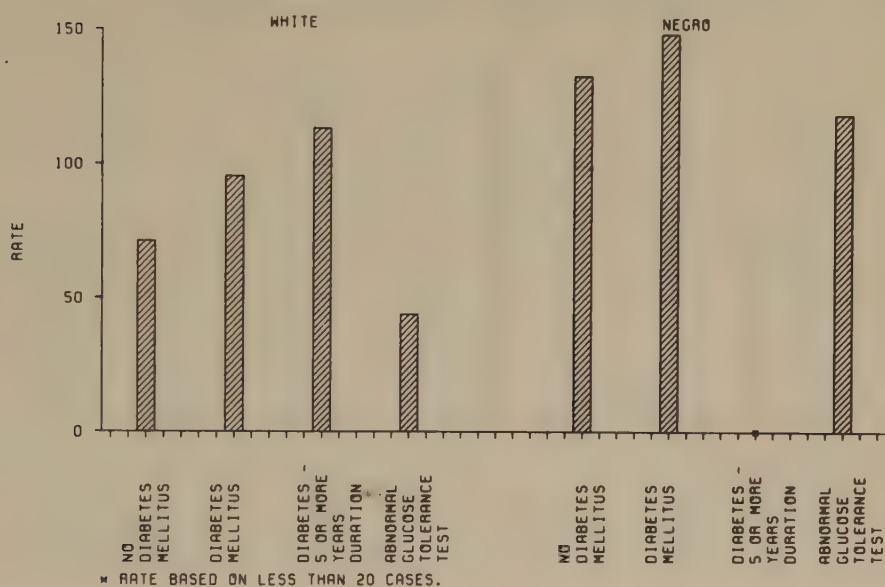


NEONATAL DEATHS - GRAVIDAS WITH DIABETES BY RACE

	WHITE	NEGRO				
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NO DIABETES MELLITUS	18394	243	13.21	19408	372	19.17
DIABETES MELLITUS	115	8	69.57	116	5	43.10
DIABETES - 5 OR MORE YEARS DURATION	44	6	136.36	18	0	0 *
ABNORMAL GLUCOSE TOLERANCE TEST	136	1	7.35	152	4	26.32

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. - GRAVIDAS WITH DIABETES BY RACE

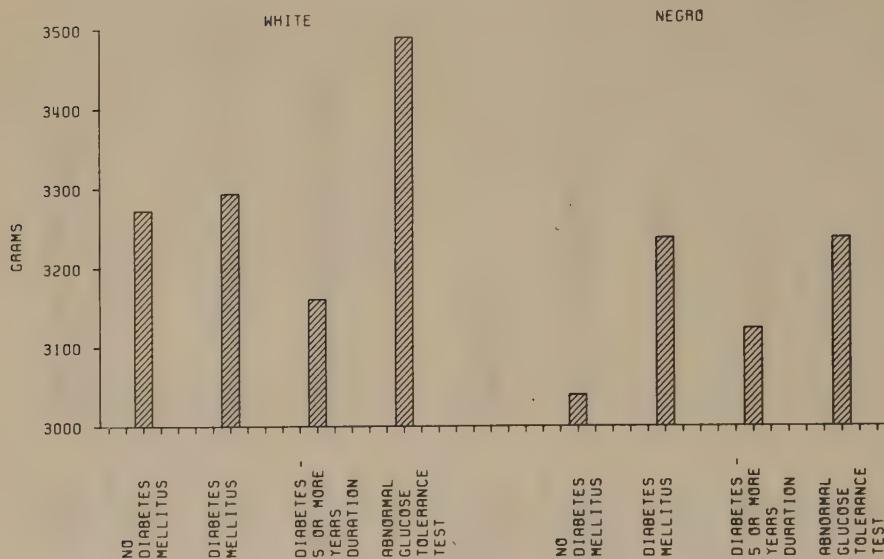


BIRTHWEIGHTS UNDER 2501 GM. - GRAVIDAS WITH DIABETES BY RACE

	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NO DIABETES MELLITUS	18257	1300	71.21	19227	2564	133.35
DIABETES MELLITUS	115	11	95.65	114	17	149.12
DIABETES - 5 OR MORE YEARS DURATION	44	5	113.64	17	2	117.65*
ABNORMAL GLUCOSE TOLERANCE TEST	136	6	44.12	151	18	119.21

* RATE BASED ON LESS THAN 20 CASES.

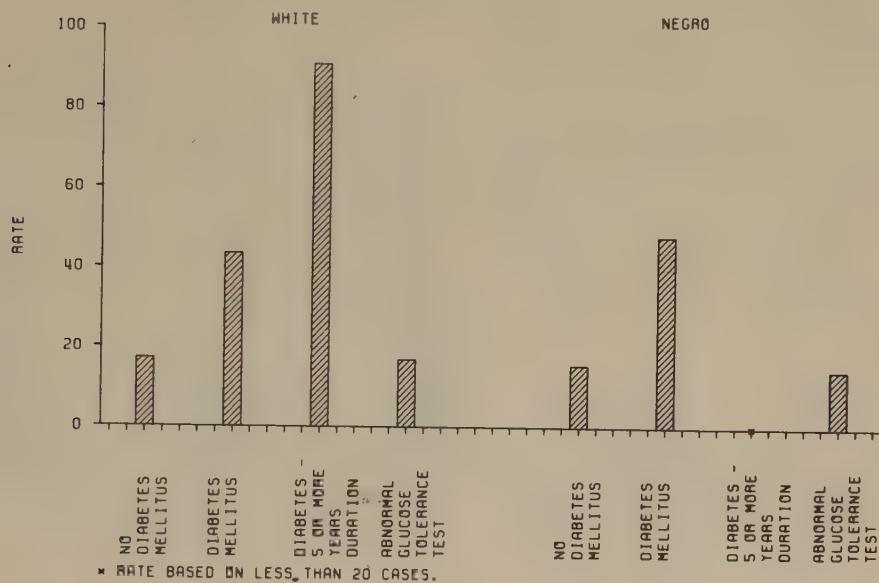
MEAN BIRTHWEIGHT - GRAVIDAS WITH DIABETES BY RACE



MEAN BIRTHWEIGHT - GRAVIDAS WITH DIABETES BY RACE

	WHITE	NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
No Diabetes Mellitus	18257	3272	19227	3039
Diabetes Mellitus 5 or More Years Duration	115	3293	114	3236
Abnormal Glucose Tolerance Test	44	3160	17	3122
	136	3488	151	3235

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR - GRAVIDAS WITH DIABETES BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR - GRAVIDAS WITH DIABETES BY RACE

	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
NO DIABETES MELLITUS	14501	248	17.10	16881	263	15.58
DIABETES MELLITUS	92	4	43.48	104	5	48.08
DIABETES - 5 OR MORE YEARS DURATION	33	3	90.91	17	3	176.47*
ABNORMAL GLUCOSE TOLERANCE TEST	118	2	16.95	138	2	14.49

* RATE BASED ON LESS THAN 20 CASES.

SECTION 4. METABOLIC AND ENDOCRINE CONDITIONS (Continued)

THYROID DYSFUNCTION

While prior to this Study no large-scale prospective information had been available, thyroid dysfunction is generally regarded as being a relatively common occurrence among pregnant women, and as having an unfavorable effect upon the fetus.

Thyroid dysfunction was coded on Form OB-60 by the reviewing physician on the basis of the clinical and laboratory evidence available in the patient's record. Since laboratory tests were not required routinely for all gravidae, but were done only when requested by the physician, thyroid dysfunction is probably under-reported.

HYPOTHYROIDISM

Among White gravidae, the diagnosis was recorded in 181 cases, (0.9 per cent), which was in excess of the 63 cases (0.3 per cent) observed in Negroes.

A clear-cut relationship is observed with stillbirth

rates for both races, which are approximately doubled for women with hypothyroidism. The relationships between neonatal death rates, the rates of neurologic abnormalities, and birthweight are much less clear, perhaps as a result of the small sample size.

HYPERTHYROIDISM

This type of dysfunction was observed with even smaller frequency; 42 White women (0.22 per cent) and 33 Negro women (0.17 per cent) had the condition. While such small numbers preclude definite statements, it would appear that the rates of stillbirths and neonatal deaths are slightly higher, and the low birth-weight rate appreciably higher, for these women. The mean birthweight of infants of mothers with hyperthyroidism is 363 grams lower for Whites and 184 grams lower for Negroes than for those without the condition.

In summary, thyroid disease appears to have an adverse effect on pregnancy outcome. Hypothyroidism results primarily in an increase in the stillbirth rate. Hyperthyroidism shows a slight association with increased neonatal mortality rate, a significant increase in the frequency of delivery of low birthweight infants, and a concomitant drop in the mean birthweight.

HYPOTHYROIDISM BY RACE

	ALL GRAVIDAS		WITH CONDITION	
	NUMBER	PERCENT	NUMBER	PERCENT
WHITE	18915		181	0.96
NEGRO	19966		63	0.32

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPOTHYROIDISM BY RACE

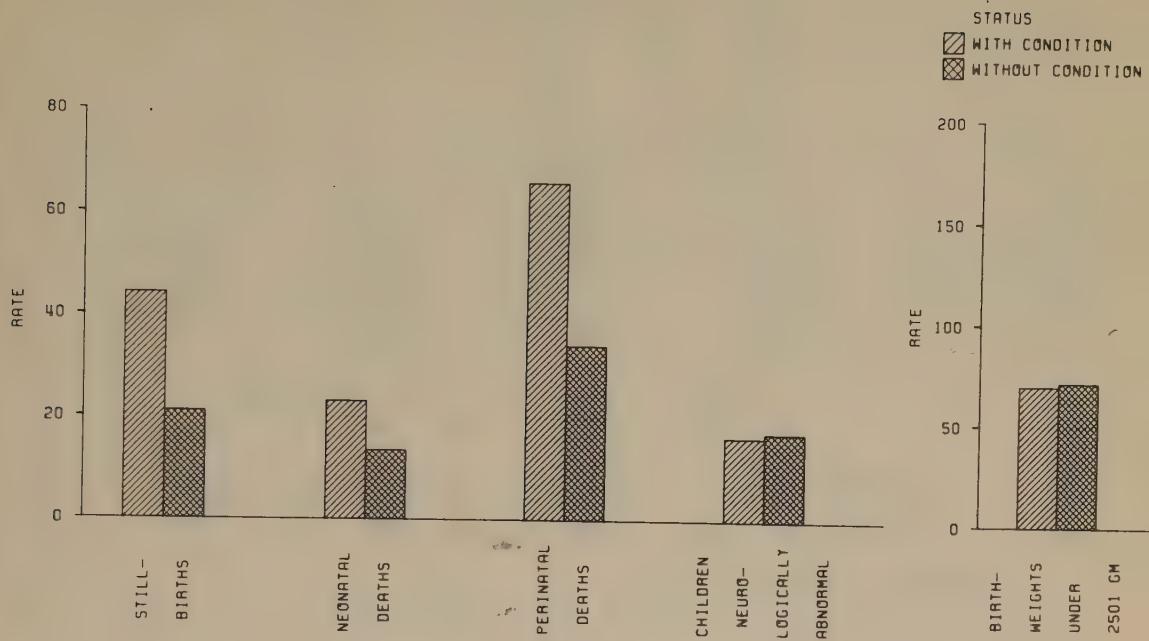
	BIRTHS	STILLBIRTHS		LIVEBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS	RATE
		NO.	RATE	NO.	RATE	NO.	RATE			
WHITE										
WITH CONDITION	181	8	44.20	173	4	23.12	181	12	66.30	
WITHOUT CONDITION (1)	18590	392	21.09	18198	246	13.52	18590	638	34.32	
NEGRO										
WITH CONDITION	63	3	47.62	60	1	16.67	63	4	63.49	
WITHOUT CONDITION (1)	19745	430	21.78	19315	372	19.26	19745	802	40.62	

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPERTHYROIDISM BY RACE

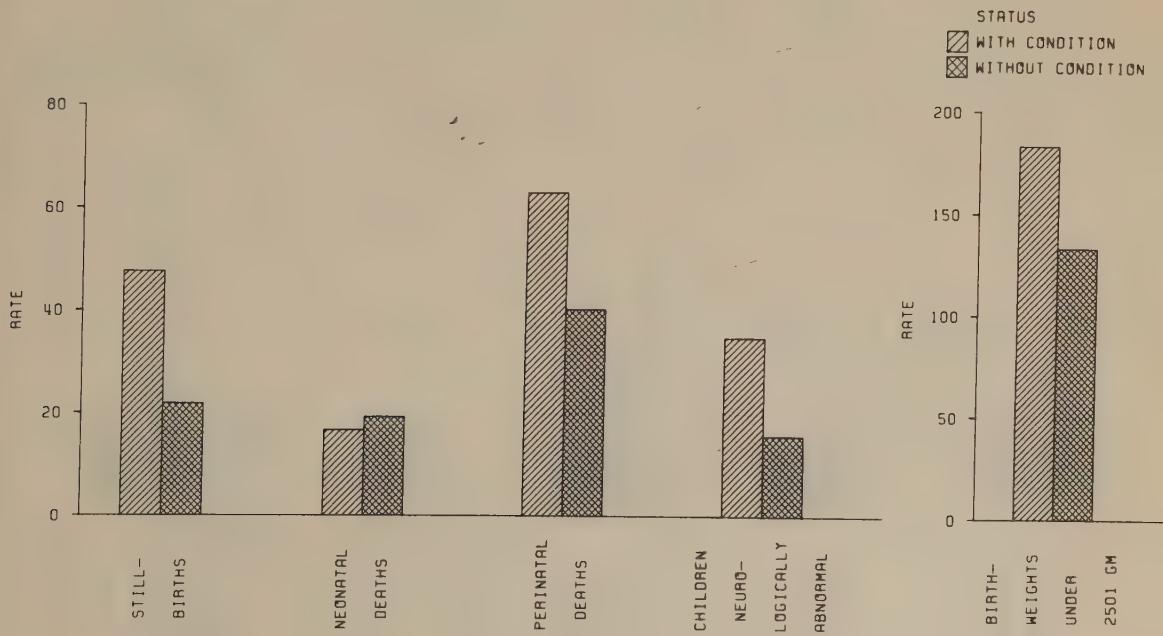
	LIVEBIRTHS	BWT. UNDER 2501 GM.		ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	RATE
		WITH KNOWN BIRTHWEIGHT	NO.	RATE	MEAN BWT.	
WHITE						
WITH CONDITION	172	12	69.77	3272	122	2 16.39
WITHOUT CONDITION (1)	18062	1293	71.59	3270	14351	248 17.28
NEGRO						
WITH CONDITION	60	11	183.33	3046	57	2 35.09
WITHOUT CONDITION (1)	19131	2552	133.40	3039	16791	264 15.72

(1) EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPOTHYROIDISM - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPOTHYROIDISM - NEGRO



HYPERTHYROIDISM BY RACE

	ALL GRAVIDAS	WITH CONDITION
	NUMBER	PERCENT
WHITE	18915	42
NEGRO	19966	33

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPERTHYROIDISM BY RACE

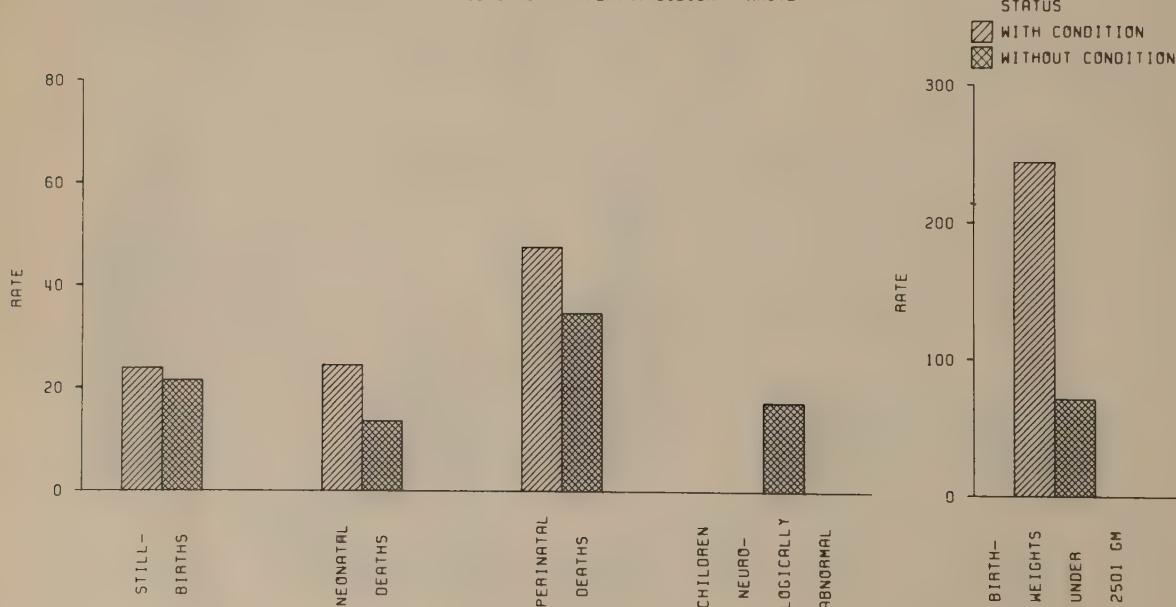
	BIRTHS	STILLBIRTHS NO.	STILLBIRTHS RATE	LIVEBIRTHS	NEONATAL DEATHS NO.	NEONATAL DEATHS RATE	BIRTHS	PERINATAL DEATHS NO.	PERINATAL DEATHS RATE
WHITE									
WITH CONDITION	42	1	23.81	41	1	24.39	42	2	47.62
WITHOUT CONDITION (I)	18871	404	21.41	18467	250	13.54	18871	654	34.66
NEGRO									
WITH CONDITION	33	1	30.30	32	1	31.25	33	2	60.61
WITHOUT CONDITION (I)	19933	438	21.97	19495	376	19.29	19933	814	40.84

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPERTHYROIDISM BY RACE

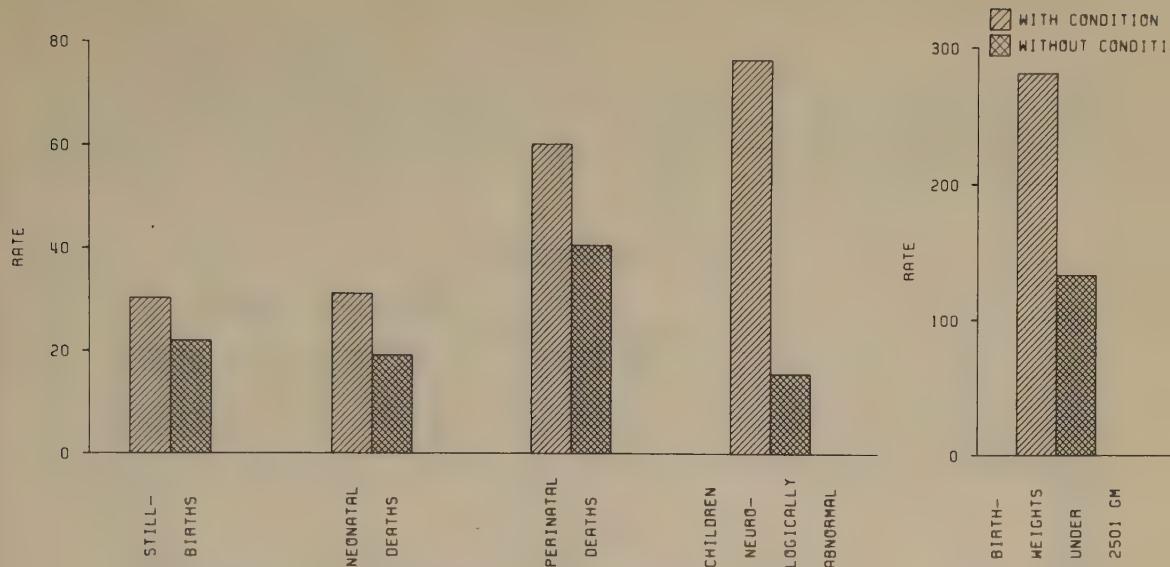
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM. NO.	BWT. UNDER 2501 GM. RATE	MEAN BWT. EXAMS	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	NEUROLOGICALLY ABNORMAL RATE
WHITE							
WITH CONDITION	41	10	243.90	2910	25	0	0
WITHOUT CONDITION (I)	18330	1300	70.92	3273	14566	252	17.30
NEGRO							
WITH CONDITION	32	9	281.25	2857	26	2	76.92
WITHOUT CONDITION (I)	19310	2572	133.20	3041	16960	266	15.68

(I) EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPERTHYROIDISM - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPERTHYROIDISM - NEGRO



SUMMARY DATA FOR WHITE

ITEM	BIRTHS			PERINATAL DEATHS		STILLBIRTHS		LIVE-BIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	NO.	RATE	NO.	RATE	NO.	NO.	1 YR EXAMS	NO.	RATE	MEAN BWT.	
DIABETES MELLITUS	125	0.7	18	144.0	10	80.0	115	8	69.6	115	11	95.7	92	4	43.5	3293	
ANY BLOOD SUGAR 200+ MG. PERCENT	75	0.4	13	173.3	8	106.7	67	5	74.6	67	7	104.5	53	3	56.6	3222	
INSULIN OR ORAL ANALOGUE	68	0.4	15	220.6	8	117.6	60	7	116.7	60	7	116.7	46	1	21.7	3236	
INSULIN REACTION	43	0.2	9	209.3	4	93.0	39	5	128.2	39	4	102.6	30	1	33.3	3251	
KETO-ACIDOSIS	18	0.1	6	333.3	4	222.2	14	2	142.9	14	3	214.3	11	0	0	3280	
DIABETIC COMA	2	0.0	2	X	0	0	2	2	X	2	1	500.0	0	0	-	1928	
5 OR MORE YEARS DURATION	51	0.3	13	254.9	7	137.3	44	6	136.4	44	5	113.6	33	3	90.9	3160	
ABNORMAL GLUCOSE TOLERANCE TEST	141	0.7	6	42.6	5	35.5	136	1	7.4	136	6	44.1	118	2	16.9	3488	
HYPOTHYROIDISM	181	1.0	12	66.3	8	44.2	173	4	23.1	172	12	69.8	122	2	16.4	3272	
HYPERTHYROIDISM	42	0.2	2	47.6	1	23.8	41	1	24.4	41	10	243.9	25	0	0	2910	
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272	

X RATE IS 1000.0.

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS			PERINATAL DEATHS		STILLBIRTHS		LIVE-BIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	NO.	RATE	NO.	RATE	NO.	NO.	1 YR EXAMS	NO.	RATE	MEAN BWT.	
DIABETES MELLITUS	129	0.6	18	139.5	13	100.8	116	5	43.1	114	17	149.1	104	5	48.1	3236	
ANY BLOOD SUGAR 200+ MG. PERCENT	53	0.3	11	207.5	9	169.8	44	2	45.5	44	9	204.5	39	2	51.3	3198	
INSULIN OR ORAL ANALOGUE	69	0.3	13	188.4	11	159.4	58	2	34.5	56	7	125.0	54	4	74.1	3306	
INSULIN REACTION	9	0.0	2	222.2	2	222.2	7	0	0	7	1	142.9	6	0	0	3309	
KETO-ACIDOSIS	21	0.1	6	285.7	4	190.5	17	2	117.6	17	2	117.6	15	0	0	3224	
DIABETIC COMA	1	0.0	1	X	1	X	0	0	0	0	0	0	0	0	0	-	
5 OR MORE YEARS DURATION	22	0.1	4	181.8	4	181.8	18	0	0	17	2	117.6	17	3	176.5	3122	
ABNORMAL GLUCOSE TOLERANCE TEST	158	0.8	10	63.3	6	38.0	152	4	26.3	151	18	119.2	138	2	14.5	3235	
HYPOTHYROIDISM	63	0.3	4	63.5	3	47.6	60	1	16.7	60	11	189.3	57	2	35.1	3046	
HYPERTHYROIDISM	33	0.2	2	60.6	1	30.3	32	1	31.3	32	9	281.3	26	2	76.9	2857	
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039	

X RATE IS 1000.0.

SECTION 5. VENEREAL DISEASES

A positive serologic test for syphilis was obtained in 63 (0.31 per cent) of the White gravidae, and in 635 (3.2 per cent) of the Negro gravidae. No association with fetal outcome was apparent in either group. It should be recognized that positive serologic findings

alone give no indication as to the likelihood of fetal infection.

Gonorrhea in pregnancy was diagnosed very infrequently. It was undoubtedly greatly underreported, as it is a difficult diagnosis to establish. The examination of routine stained vaginal smears or of cervical cultures would be necessary in order to obtain any meaningful data.

SUMMARY DATA FOR WHITE

ITEM	BIRTHS				PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.		
SYPHILIS WITH POSITIVE SEROLOGY	63	0.3	2	31.7	1	15.9	62	1	16.1	62	6	96.8	49	0	0	3288
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS				PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.		
SYPHILIS WITH POSITIVE SEROLOGY	635	3.2	26	40.9	18	28.3	617	8	13.0	616	74	120.1	535	9	16.8	3091
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 6. URINARY TRACT INFECTIONS

GLOMERULONEPHRITIS

This renal disease was infrequently recorded for women in the Collaborative Study. The category in-

cluded both the acute and chronic forms of the disease. It was recorded for 21 of the 18,886 White women and for 29 of the 19,960 Negro women. These data, even though the number of cases is small, support the strong clinical impression that glomerulonephritis has a strong adverse effect on fetal outcome, very possibly because of its association with other chronic disease.

GLOMERULONEPHRITIS BY RACE

	ALL GRAVIDORS		WITH CONDITION	
	WHITE	NEGRO	NUMBER	PERCENT
	18886	19960	21	0.11
			29	0.15

PREGNANCY OUTCOMES OF GRAVIDAS WITH GLOMERULONEPHRITIS BY RACE

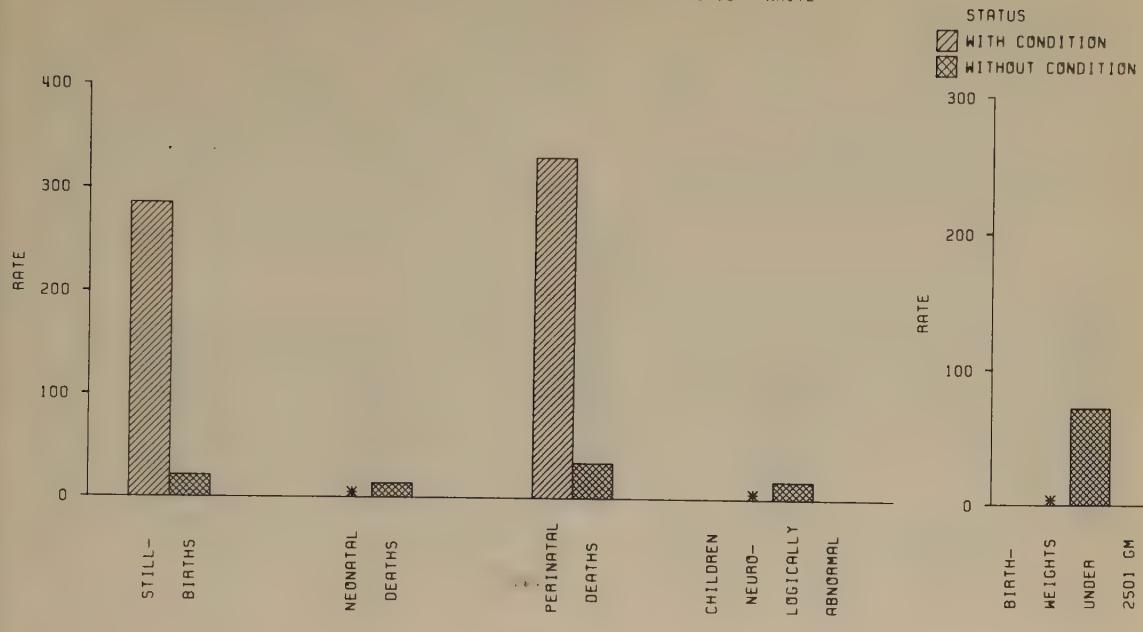
WHITE	BIRTHS		STILLBIRTHS		LIVEBIRTHS		NEONATAL DEATHS		BIRTHS		PERINATAL DEATHS	
	NO.	NO.	NO.	RATE	LIVEBIRTHS	NO.	NO.	RATE	BIRTHS	NO.	NO.	RATE
WITH CONDITION	21	6	285.71		15	1	66.67*		21	7	333.33	
WITHOUT CONDITION	18865	396	20.99		18469	250	13.54		18865	646	34.24	
NEGRO	29	2	68.97		27	0	0		29	2	68.97	
WITH CONDITION	29	2	68.97		27	0	0		29	2	68.97	
WITHOUT CONDITION	19931	436	21.88		19495	376	19.29		19931	812	40.74	

PREGNANCY OUTCOMES OF GRAVIDAS WITH GLOMERULONEPHRITIS BY RACE

WHITE	LIVEBIRTHS		BWT. UNDER 2501 GM.		NEUROLOGICALLY ABNORMAL			
	WITH KNOWN BIRTHWEIGHT	NO.	NO.	RATE	MEAN BWT.	ONE YEAR EXAMS	NO.	RATE
WITH CONDITION	15	4	266.67*		2731	13	1	76.92*
WITHOUT CONDITION	18336	1309	71.39		3272	14568	251	17.23
NEGRO	27	7	259.26		3043	24	1	41.67
WITH CONDITION	27	7	259.26		3043	24	1	41.67
WITHOUT CONDITION	19312	2575	133.34		3040	16960	268	15.80

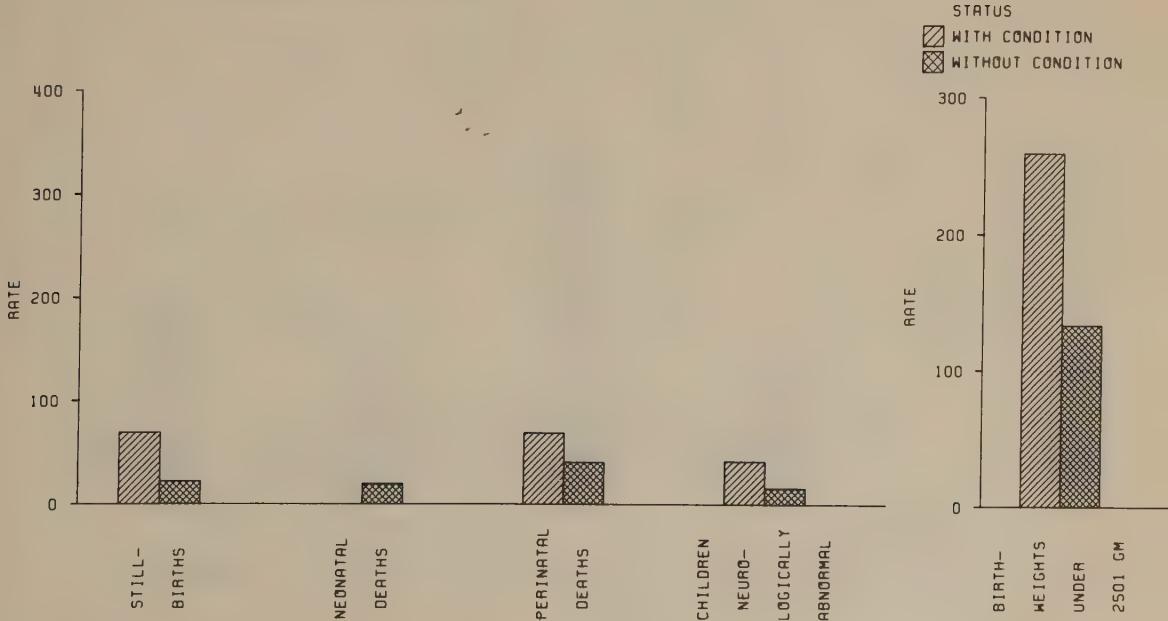
* RATE BASED ON LESS THAN 20 CASES.

PREGNANCY OUTCOMES OF GRAVIDAS WITH GLOMERULONEPHRITIS - WHITE



* RATE BASED ON LESS THAN 20 CASES.

PREGNANCY OUTCOMES OF GRAVIDAS WITH GLOMERULONEPHRITIS - NEGRO



SECTION 6. URINARY TRACT INFECTIONS

(Continued)

KIDNEY-URINARY BLADDER INFECTION

The diagnosis of KUB infection was made on the basis of evidence in the record. For example, asymptomatic bacteriuria or pyuria may have been the basis. Those patients with fever of 100.4° F or greater, or those with a positive urine culture, on the other hand, probably were symptomatic and suffered active infection.

A diagnosis of KUB infection at some time during pregnancy is recorded for 1972 (10 per cent) of the White women and 3939 (20 per cent) of the Negro women. When the criteria for diagnosis are restricted to those with fever, the number of cases is reduced to 239 (1.27 per cent) White and 347 (1.74 per cent) Negro women, considerably reducing the difference between the races with respect to the incidence of the condition.

With fever present there is an increased risk of fetal and neonatal death for women of both races. The increased risk of low birthweight is consistent across

institutions, as is the lowered mean birthweight, although the differences in mean birthweight were very small. When a positive urine culture is the diagnostic criterion for recording the diagnosis, the relationship between disease and poor outcome is less evident. While the perinatal death rate for these women is higher for both Whites and Negroes, some inconsistency in these findings between institutions is noted; similar associations are noted for neurologic abnormalities at one year. Although the relative frequency of low birthweight is higher for infants whose mothers had a "positive" urine culture and is consistent across the institutions, the difference in birthweight is small. When nonspecific diagnostic criteria are used the relationships disappear.

These observations emphasize the importance of describing the specific diagnostic criteria used in classification and the difficulty entailed in comparing results where these have not been spelled out.

In summary, where the diagnosis of KUB infection is based on criteria suggesting an active infective process, an increased risk of adverse fetal outcome, as measured by all the parameters, is observed. However, when less specific findings are the basis for the diagnosis, the relationships are not clear.

KIDNEY-URINARY BLADDER INFECTION BY RACE

	ALL GRAVIDAS	WITH CONDITION	
	NUMBER	PERCENT	
WHITE	18886	1972	10.44
NEGRO	19960	3939	19.73

PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION BY RACE

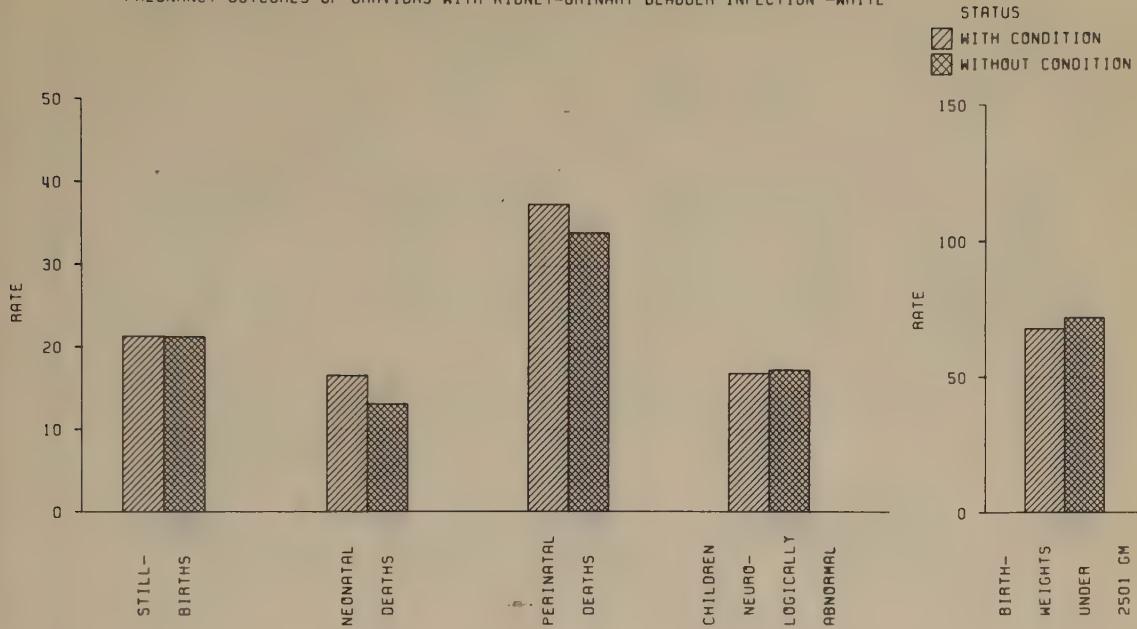
	BIRTHS	STILLBIRTHS NO.	STILLBIRTHS RATE	LIVEBIRTHS	NO.	NEONATAL DEATHS NO.	NEONATAL DEATHS RATE	BIRTHS	PERINATAL DEATHS NO.	PERINATAL DEATHS RATE
WHITE										
WITH CONDITION	1972	42	21.30	1930	32	16.58	1972	74	37.53	
WITHOUT CONDITION (1)	16905	359	21.24	16546	217	13.11	16905	576	34.07	
NEGRO										
WITH CONDITION	3939	95	24.13	3844	76	19.78	3939	171	43.43	
WITHOUT CONDITION (1)	15982	341	21.34	15641	300	19.18	15982	641	40.11	

PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION BY RACE

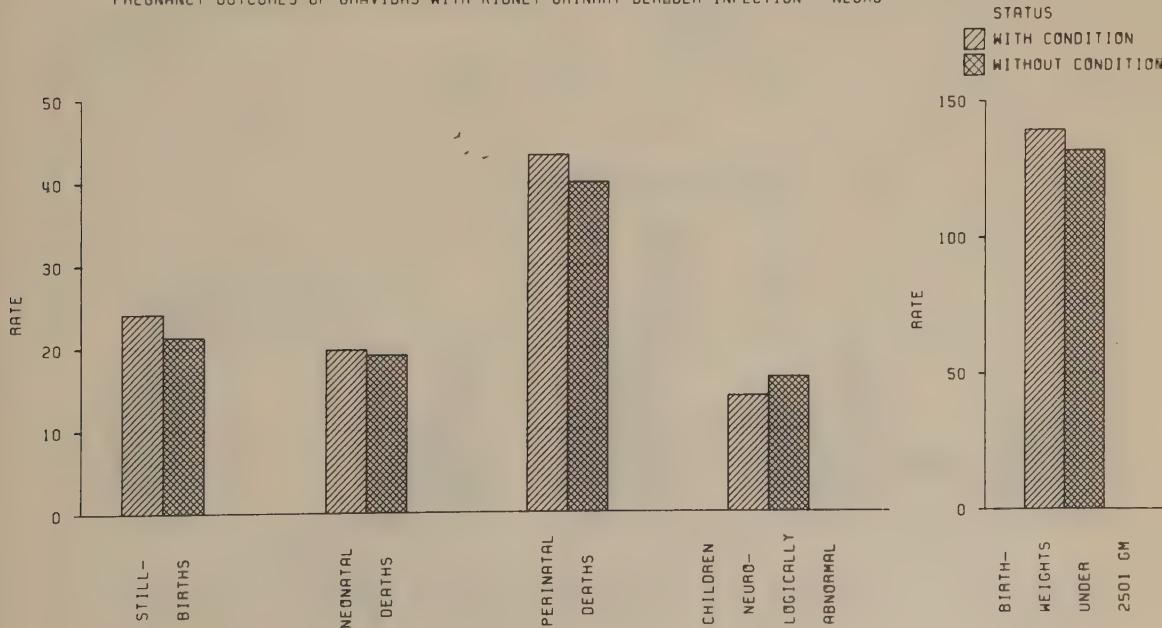
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM. NO.	BWT. UNDER 2501 GM. RATE	MEAN BWT. ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	NEUROLOGICALLY ABNORMAL RATE
WHITE						
WITH CONDITION	1915	130	67.89	3247	1479	25
WITHOUT CONDITION (1)	16428	1182	71.95	3275	13096	227
NEGRO						
WITH CONDITION	3808	531	139.44	3013	3346	47
WITHOUT CONDITION (1)	15492	2045	132.00	3047	13605	222

(1) EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION - NEGRO



KIDNEY-URINARY BLADDER INFECTION, FEVER 100.4 DEG F BY RACE

	ALL GRAVIDAS	WITH CONDITION
	NUMBER	PERCENT
WHITE	18886	239
NEGRO	19960	347

PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION, FEVER 100.4 DEG F BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS	
		NO.	RATE	LIVEBIRTHS	NO.	RATE	NO.	RATE
WHITE								
WITH CONDITION	239	6	25.10	233	8	34.33	239	14
WITHOUT CONDITION (1)	16905	359	21.24	16546	217	13.11	16905	576
NEGRO								
WITH CONDITION	347	16	46.11	331	8	24.17	347	24
WITHOUT CONDITION (1)	15982	341	21.34	15641	300	19.18	15982	641

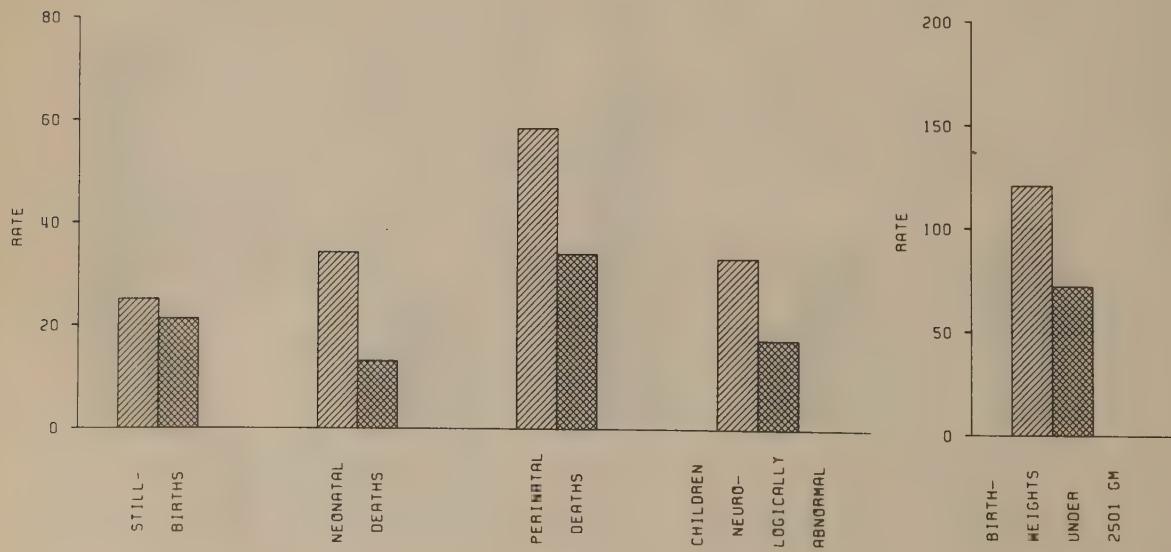
PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION, FEVER 100.4 DEG F BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.		ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	RATE
		NO.	RATE			
WHITE						
WITH CONDITION	232	28	120.69	3195	181	6
WITHOUT CONDITION (1)	16428	1182	71.95	3275	13096	227
NEGRO						
WITH CONDITION	328	61	185.98	2967	282	7
WITHOUT CONDITION (1)	15492	2045	132.00	3047	13605	222

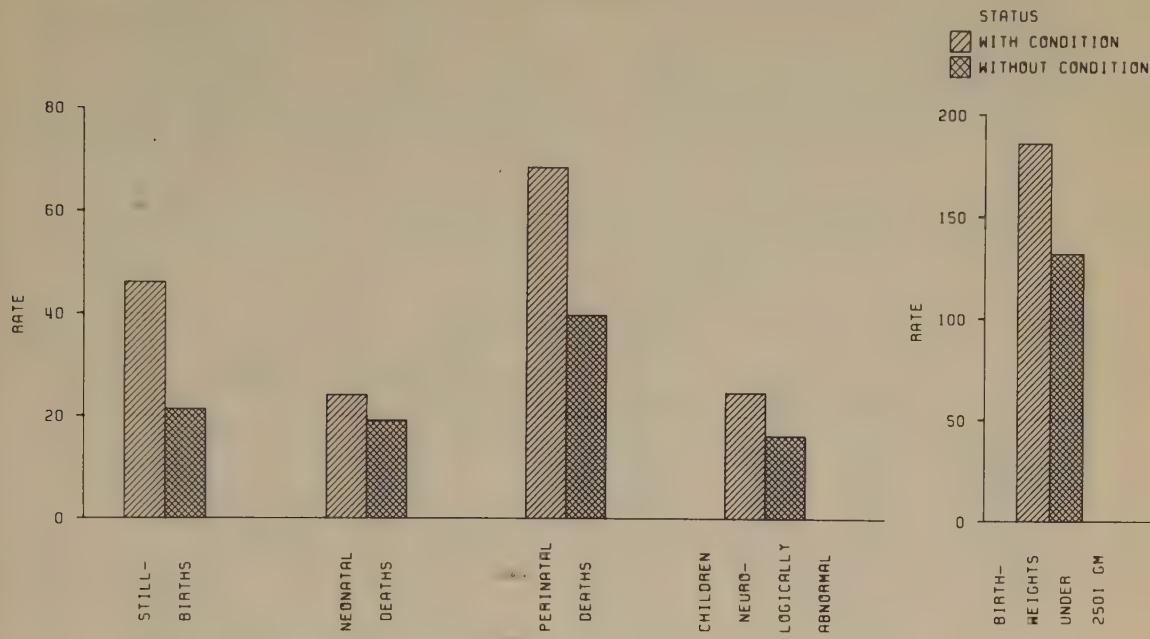
(1) EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION, FEVER 100.4 DEG F - WHITE STATUS

■ WITH CONDITION
▨ WITHOUT CONDITION



PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION, FEVER 100.4 DEG F - NEGRO



KIDNEY-URINARY BLADDER INFECTION WITH POSITIVE URINE CULTURE, BY RACE

	ALL GRAVIDORS	WITH CONDITION	
		NUMBER	PERCENT
WHITE	15885	587	3.11
NEGRO	19960	728	3.65

PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION WITH POSITIVE URINE CULTURE BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS		
		NO.	RATE	NO.	RATE		NO.	RATE	
WHITE									
WITH CONDITION	587	19	32.37	568	11	19.37	587	30	51.11
WITHOUT CONDITION*	16905	359	21.24	16546	217	13.11	16905	576	34.07
NEGRO									
WITH CONDITION	728	28	38.46	700	11	15.71	728	39	53.57
WITHOUT CONDITION*	15982	341	21.34	15641	300	19.18	15982	641	40.11

PREGNANCY OUTCOMES OF GRAVIDAS WITH KIDNEY-URINARY BLADDER INFECTION WITH POSITIVE URINE CULTURE BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.		ONE YEAR MEAN BWT. EXAMS	NEUROLOGICALLY ABNORMAL		
		NO.	RATE		NO.	RATE	
WHITE							
WITH CONDITION	564	44	78.01	3213	443	9	20.32
WITHOUT CONDITION*	16428	1182	71.95	3275	13096	227	17.33
NEGRO							
WITH CONDITION	692	103	148.84	3026	600	14	23.33
WITHOUT CONDITION*	15492	2045	132.00	3047	13605	222	16.32

* EXCLUDES CASES WITH OTHER CONDITIONS WITHIN THE SYSTEM.

SUMMARY DATA FOR WHITE

ITEM	PERINATAL DEATHS				STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	BIRTHS	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.		
GLomerulonephritis	21	0.1	7	333.3	6	285.7	15	1	66.7	15	4	266.7	13	1	76.9	2791
KIDNEY, URINARY																
BLADDER INFECTION	1972	10.4	74	37.5	42	21.3	1930	32	16.6	1915	130	67.9	1479	25	16.9	3247
FEVER 100.4 DEG F OR ABOVE	239	1.3	14	58.6	6	25.1	233	8	34.3	232	28	120.7	181	6	33.1	3195
POSITIVE URINE CULTURE	587	3.1	30	51.1	19	32.4	568	11	19.4	564	44	78.0	443	9	20.3	3213
PYURIA (15 WBC/HPF)	875	4.6	32	36.6	15	17.1	860	17	19.8	851	60	70.5	649	15	23.1	3259
HEMATURIA (15 RBC/HPF)	279	1.5	12	43.0	5	17.9	274	7	25.5	273	18	65.9	222	2	9.0	3228
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272

SUMMARY DATA FOR NEGRO

ITEM	PERINATAL DEATHS				STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	BIRTHS	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.		
GLomerulonephritis	29	0.1	2	69.0	2	69.0	27	0	0	27	7	259.3	24	1	41.7	3043
KIDNEY, URINARY																
BLADDER INFECTION	3939	19.7	171	43.4	95	24.1	3844	76	19.8	3808	531	139.4	3346	47	14.0	3013
FEVER 100.4 DEG F OR ABOVE	347	1.7	24	69.2	16	46.1	331	8	24.2	328	61	186.0	282	7	24.8	2967
POSITIVE URINE CULTURE	728	3.6	39	53.6	28	38.5	700	11	15.7	692	103	148.8	600	14	23.3	3026
PYURIA (15 WBC/HPF)	2599	13.0	113	43.5	67	25.8	2532	46	18.2	2512	351	139.7	2229	32	14.4	3009
HEMATURIA (15 RBC/HPF)	607	3.0	30	49.4	22	36.2	585	8	13.7	582	62	106.5	520	11	21.2	3096
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 7. GYNECOLOGICAL CONDITIONS

Vaginitis was diagnosed more frequently in the Negro than in the White, as was leiomyoma. The former condition shows no relationship to outcomes,

while the latter shows an observed increase in the relative frequency of perinatal death. Since therapeutic procedures might be expected to change the effect of these diseases on the fetus and the neonate, a more detailed study of the effects of these conditions on pregnancy is required.

SUMMARY DATA FOR WHITE

ITEM	PERINATAL DEATHS				STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	BIRTHS	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.		
VAGINITIS	3182	16.8	96	30.2	48	15.1	3134	48	15.3	3112	244	78.4	2475	50	20.2	3251
LEIOMYOMA	121	0.6	7	57.9	5	41.3	116	2	17.2	115	9	78.3	100	1	10.0	3289
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272

SUMMARY DATA FOR NEGRO

ITEM	PERINATAL DEATHS				STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	BIRTHS	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.		
VAGINITIS	4876	24.4	161	33.0	86	17.6	4790	75	15.7	4748	608	128.1	4216	75	17.8	3044
LEIOMYOMA	320	1.6	21	65.6	12	37.5	308	9	29.2	305	50	163.9	280	6	21.4	3031
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 8. NEUROLOGIC AND PSYCHIATRIC CONDITIONS

CONVULSIVE DISORDERS, NOT ECLAMPTIC

Among Whites, 103 women (0.5 per cent) and among Negroes, 66 women (0.3 per cent) are recorded as having convulsive disorders during pregnancy. In

general, this is synonymous with a diagnosis of epilepsy. Of these 169 women, 66 of the White and 42 of the Negro are reported to have suffered one or more convulsive episodes during the pregnancy under study.

While the number of cases is small, there appears to be some relationship between an increase in perinatal deaths, particularly stillbirths, and the presence of maternal convulsive disorder. The relationship seems to be somewhat stronger among Negroes, where the actual number of cases is smaller.

HISTORY OF CONVULSIVE DISORDERS, NOT ECLAMPTIC BY RACE

	ALL GRAVIDAS	WITH CONDITION	NUMBER	PERCENT
WHITE	18867	103	0.55	
NEGRO	19942	66	0.33	

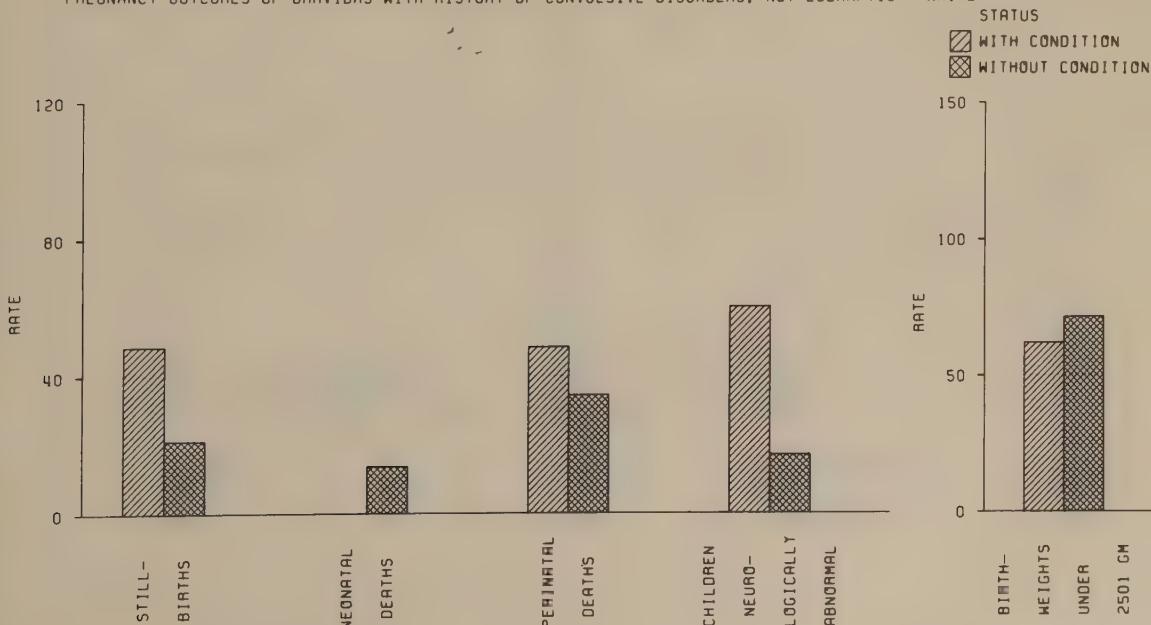
PREGNANCY OUTCOMES OF GRAVIDAS WITH HISTORY OF CONVULSIVE DISORDERS, NOT ECLAMPTIC BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS	
		NO.	RATE	NO.	RATE		NO.	RATE
WHITE	103	5	48.54	98	0	103	5	48.54
	18764	396	21.10	18368	249	18764	645	34.37
NEGRO	66	5	75.76	61	2	32.79	66	7
	19876	430	21.63	19446	375	19.28	19876	805

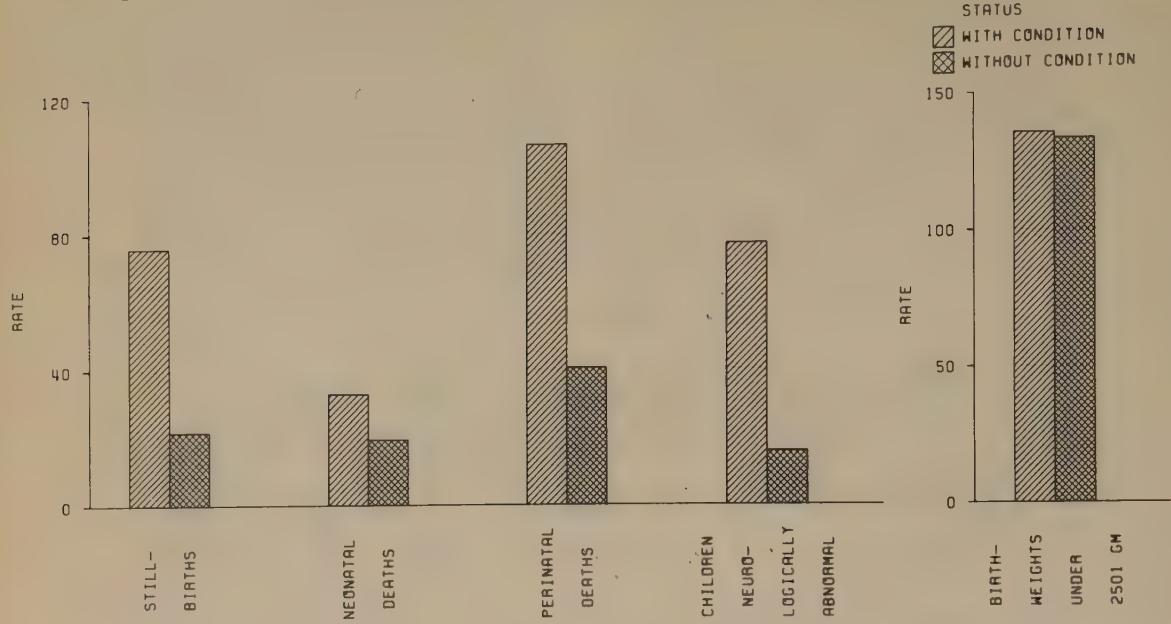
PREGNANCY OUTCOMES OF GRAVIDAS WITH HISTORY OF CONVULSIVE DISORDERS, NOT ECLAMPTIC BY RACE

	LIVEBIRTHS	BWT. UNDER 2501 GM.		NEUROLOGICALLY			
		WITH KNOWN BIRTHWEIGHT	NO.	RATE	MEAN BWT. EXAMS	ABNORMAL NO.	RATE
WHITE	97	6	61.86	3247	83	5	60.24
	18231	1301	71.36	3272	14471	246	17.00
NEGRO	59	8	135.59	3078	52	4	76.92
	19260	2571	133.49	3040	16911	265	15.67

PREGNANCY OUTCOMES OF GRAVIDAS WITH HISTORY OF CONVULSIVE DISORDERS, NOT ECLAMPTIC - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH HISTORY OF CONVULSIVE DISORDERS, NOT ECLAMPTIC - NEGRO



CONVULSIONS, NOT ECLAMPTIC BY RACE

	ALL GRAVIDAS	NUMBER	PERCENT
WHITE	18867	66	0.35
NEGRO	19942	42	0.21

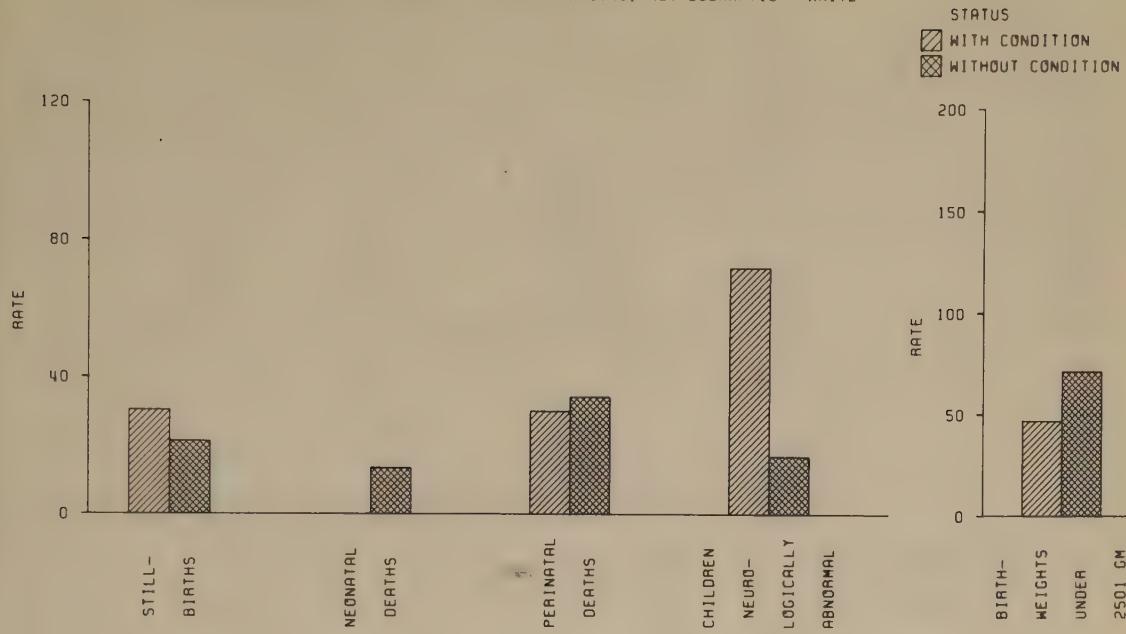
PREGNANCY OUTCOMES OF GRAVIDAS WITH CONVULSIONS, NOT ECLAMPTIC BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		PERINATAL DEATHS	
		NO.	RATE	NO.	RATE	NO.	RATE
WHITE							
WITH CONDITION	66	2	30.30	64	0	2	30.30
WITHOUT CONDITION	18801	399	21.22	18402	249	648	34.47
NEGRO							
WITH CONDITION	42	4	95.24	38	1	5	119.05
WITHOUT CONDITION	19900	431	21.66	19469	376	807	40.55

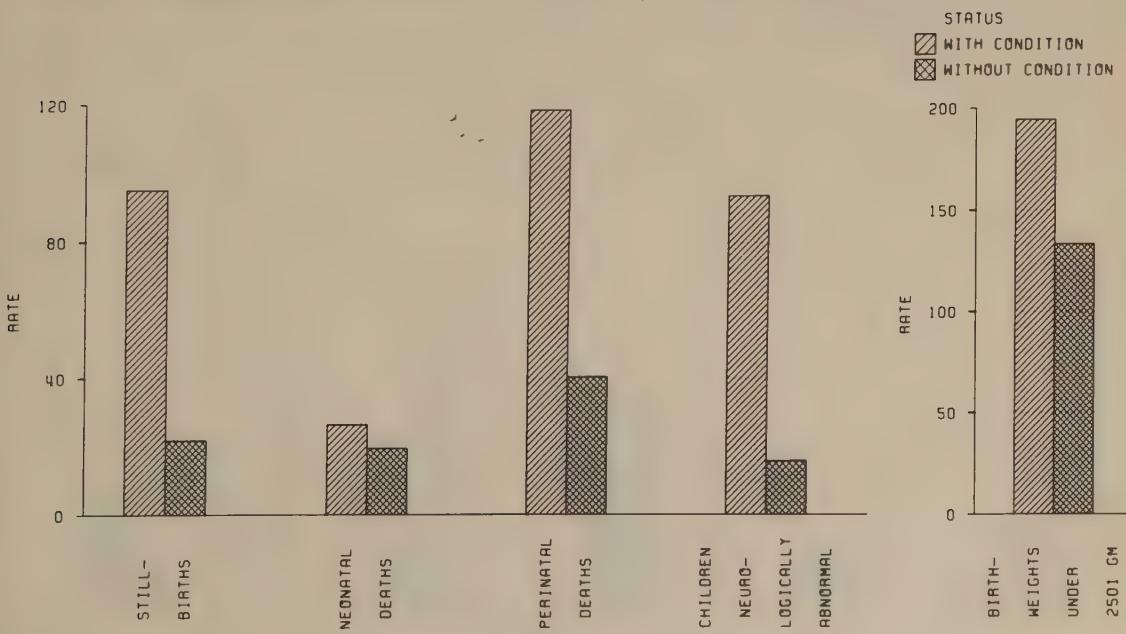
PREGNANCY OUTCOMES OF GRAVIDAS WITH CONVULSIONS, NOT ECLAMPTIC BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.		ONE YEAR MEAN BWT. EXAMS	NEUROLOGICALLY ABNORMAL		
		NO.	RATE		NO.	RATE	
WHITE							
WITH CONDITION	64	3	46.88	3262	55	72.73	
WITHOUT CONDITION	18264	1304	71.40	3272	14499	247	17.04
NEGRO							
WITH CONDITION	36	7	194.44	3010	32	93.75	
WITHOUT CONDITION	19283	2572	133.38	3041	16931	266	15.71

PREGNANCY OUTCOMES OF GRAVIDAS WITH CONVULSIONS, NOT ECLAMPTIC - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH CONVULSIONS, NOT ECLAMPTIC - NEGRO



SECTION 8. NEUROLOGIC AND PSYCHIATRIC CONDITIONS (Continued)

MENTAL RETARDATION

In the Collaborative Study there were 78 White (0.4 per cent) and 86 Negro gravidas (0.4 per cent) judged to be mentally retarded. As the judgment often depended upon rather subjective criteria such as physical examination, evaluation of school performance, other history and observed behavior, rather than on psychologic measurements, this probably represents a

considerable underestimate of the frequency, as many of the higher grade retardates were undoubtedly not recognized as such in the obstetric clinic.

No consistent trends are noted in the relationships between maternal mental retardation and perinatal death rates. There is no consistent increase in the frequency of delivery of small-sized babies. The mean birthweight is slightly less for the babies of retardates (68 grams less for White infants, 100 grams less for Negro infants) than the mean weight for babies of mothers who are not judged to be retarded. The rate of neurologic abnormalities at one year is approximately four times as high for the babies of retarded mothers.

MENTAL RETARDATION BY RACE

	ALL GRAVIDAS	WITH CONDITION	PERCENT
WHITE	18867	78	0.41
NEGRO	19942	86	0.43

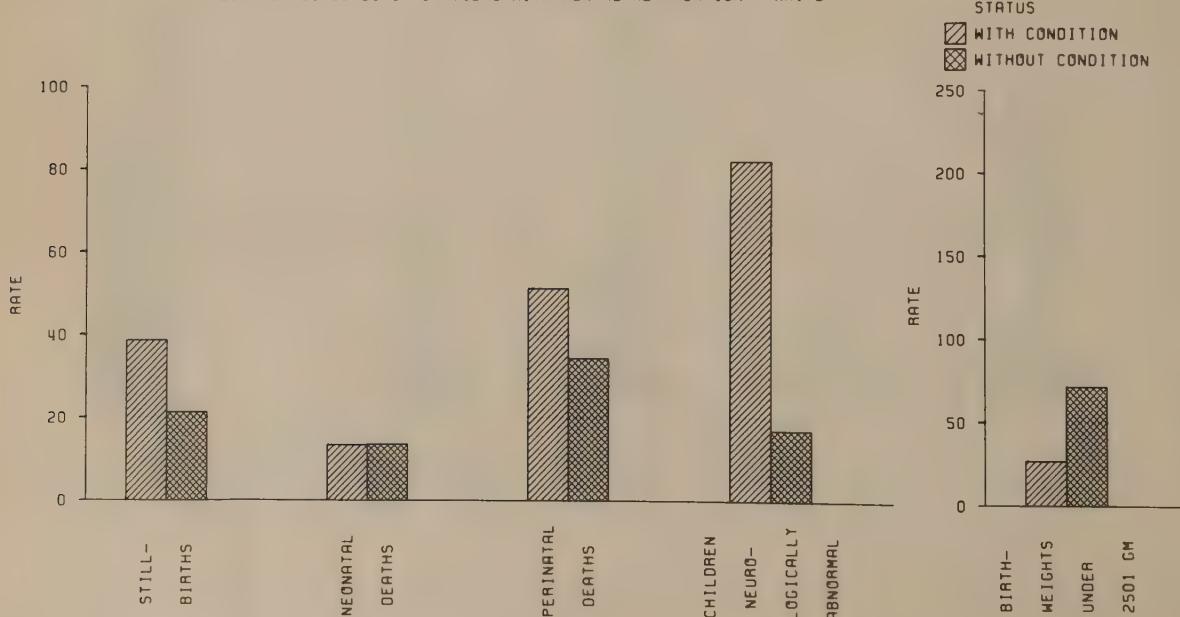
PREGNANCY OUTCOMES OF GRAVIDAS WITH MENTAL RETARDATION BY RACE

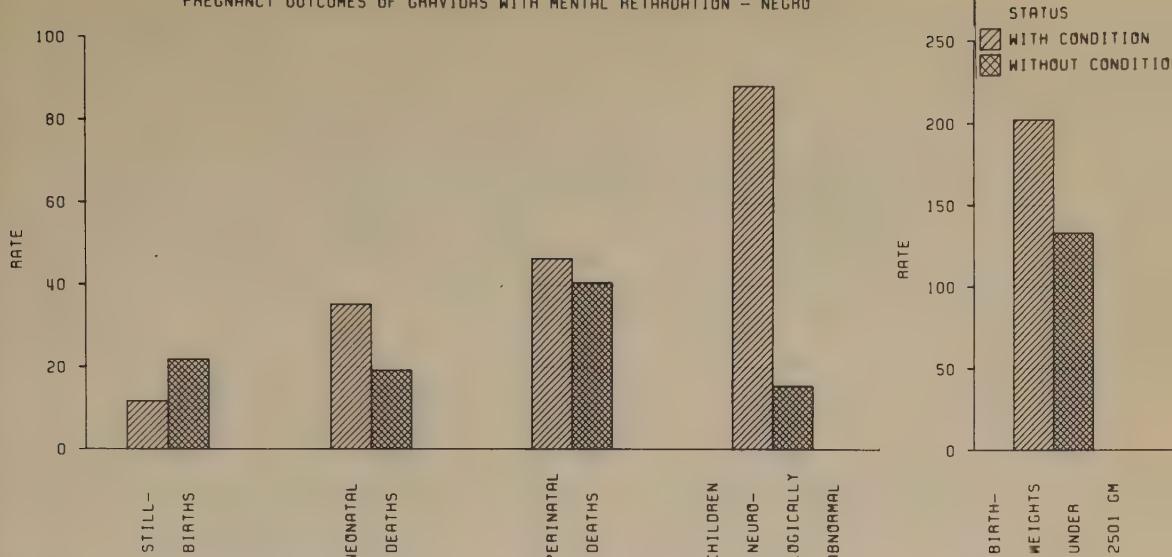
	BIRTHS	STILLBIRTHS NO.	STILLBIRTHS RATE	LIVEBIRTHS	NEONATAL DEATHS NO.	NEONATAL DEATHS RATE	BIRTHS	PERINATAL DEATHS NO.	PERINATAL DEATHS RATE
WHITE									
WITH CONDITION	78	3	38.46	75	1	13.33	78	4	51.28
WITHOUT CONDITION	18789	398	21.18	18391	248	13.48	18789	646	34.38
NEGRO									
WITH CONDITION	86	1	11.63	85	3	35.29	86	4	46.51
WITHOUT CONDITION	19856	434	21.86	19422	374	19.26	19856	808	40.69

PREGNANCY OUTCOMES OF GRAVIDAS WITH MENTAL RETARDATION BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM. NO.	BWT. UNDER 2501 GM. RATE	MEAN BWT. ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	NEUROLOGICALLY ABNORMAL RATE
WHITE						
WITH CONDITION	75	2	26.67	3204	61	81.97
WITHOUT CONDITION	18253	1305	71.50	3272	14493	246
NEGRO						
WITH CONDITION	84	17	202.38	2941	79	88.61
WITHOUT CONDITION	19235	2562	133.19	3041	16884	262

PREGNANCY OUTCOMES OF GRAVIDAS WITH MENTAL RETARDATION - WHITE





SECTION 8. NEUROLOGIC AND PSYCHIATRIC CONDITIONS (Continued)

PSYCHOSIS AND NEUROSIS

A total of 888 White women (4.7 per cent) and 338 Negro women (1.70 per cent) were noted on Form OB-60 to have psychosis or neurosis. These patients showed no increased risk of adverse fetal outcome over those without the diagnosis.

NEUROLOGIC DISEASE

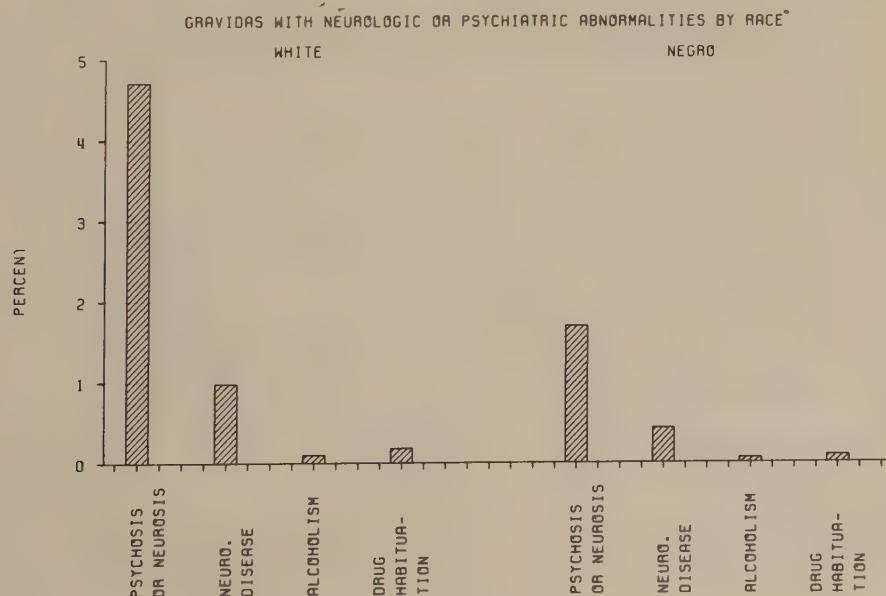
In all, 185 White (0.98 percent) and 85 Negro (0.43 per cent) gravidae had neurologic or neuromuscular

disease other than seizures or psychiatric illness. In the children of women of both races, the risk of neurologic abnormality at one year was considerably increased over those whose mothers were neurologically normal.

ALCOHOLISM AND DRUG ADDICTION

Alcoholism was recorded in only 30 cases. The mean birthweight was lower in the babies of both Negro and White women who were alcoholics.

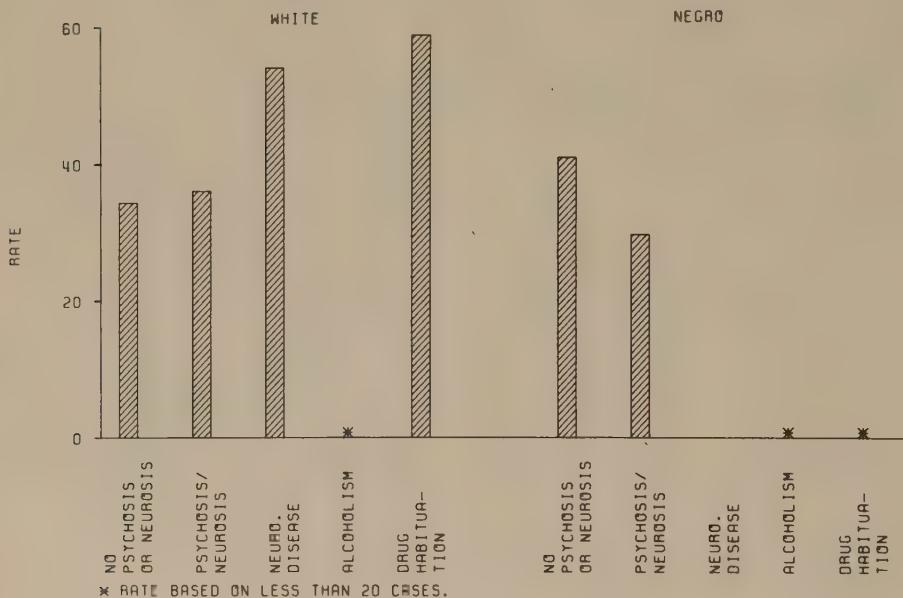
Drug addiction was reported in 51 women. The small number of patients with either condition precludes evaluation of fetal risks. There must be much under-reporting of these conditions.



GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE

	WHITE	NEGRO		
	NUMBER	PERCENT	NUMBER	PERCENT
PSYCHOSIS OR NEUROSIS	888	4.71	338	1.69
NEURO. DISEASE	185	0.98	85	0.43
ALCOHOLISM	18	0.10	12	0.06
DRUG HABITUATION	34	0.18	17	0.09
ALL GRAVIDAS	18867		19942	

PERINATAL DEATHS - GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE

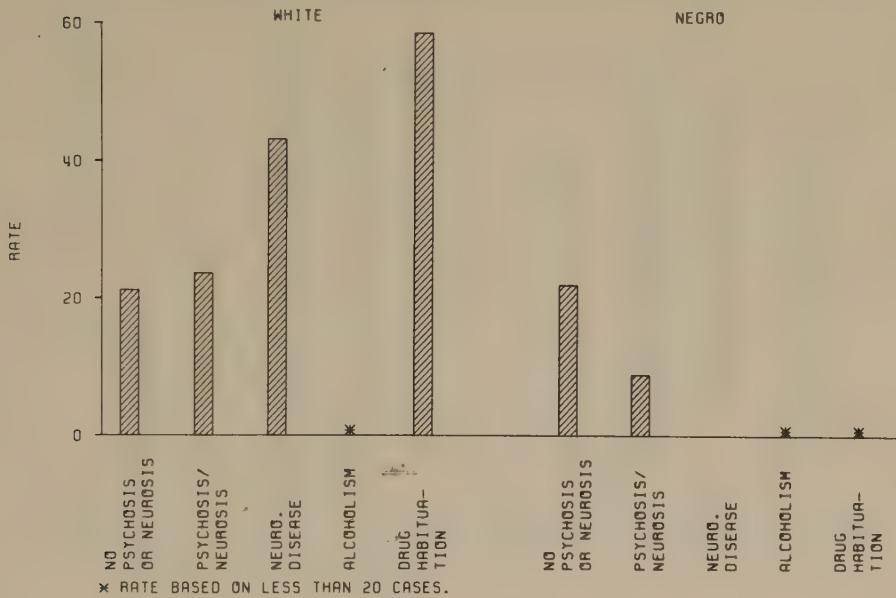


PERINATAL DEATHS - GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE

	WHITE	NEGRO				
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NO PSYCHOSIS OR NEUROSIS	17979	618	34.37	19604	802	40.91
PSYCHOSIS/NEUROSIS	888	32	36.04	338	10	29.59
NEURO. DISEASE	185	10	54.05	85	0	0
ALCOHOLISM	18	2	111.11*	12	1	83.33*
DRUG HABITUATION	34	2	58.82	17	1	58.82*

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS - GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE

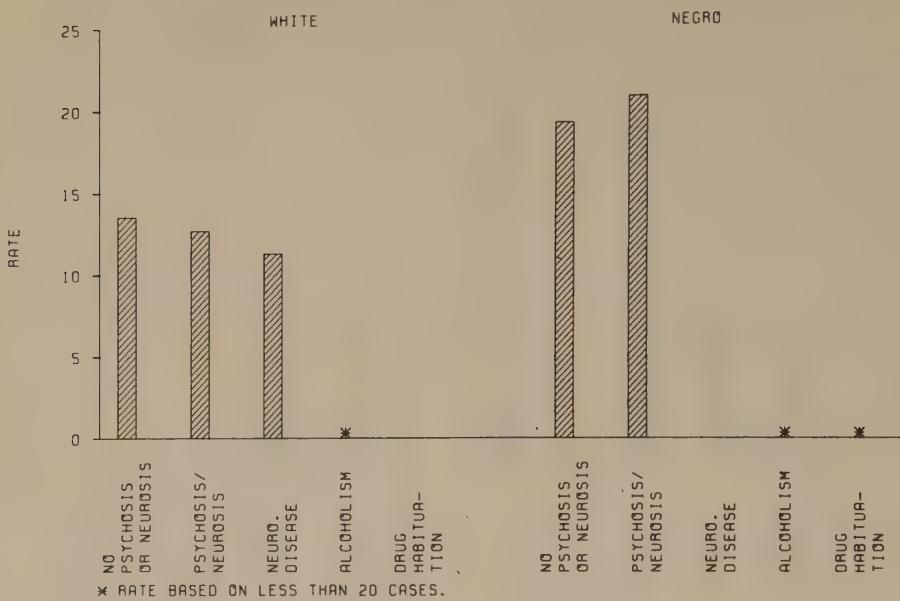


STILLBIRTHS - GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE

	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NO PSYCHOSIS OR NEUROSIS	17979	380	21.14	19604	432	22.04
PSYCHOSIS/NEUROSIS	888	21	23.65	338	3	8.88
NEURO. DISEASE	185	8	43.24	85	0	0
ALCOHOLISM	18	1	55.56*	12	0	0 *
DRUG HABITUATION	34	2	58.82	17	0	0 *

* RATE BASED ON LESS THAN 20 CASES.

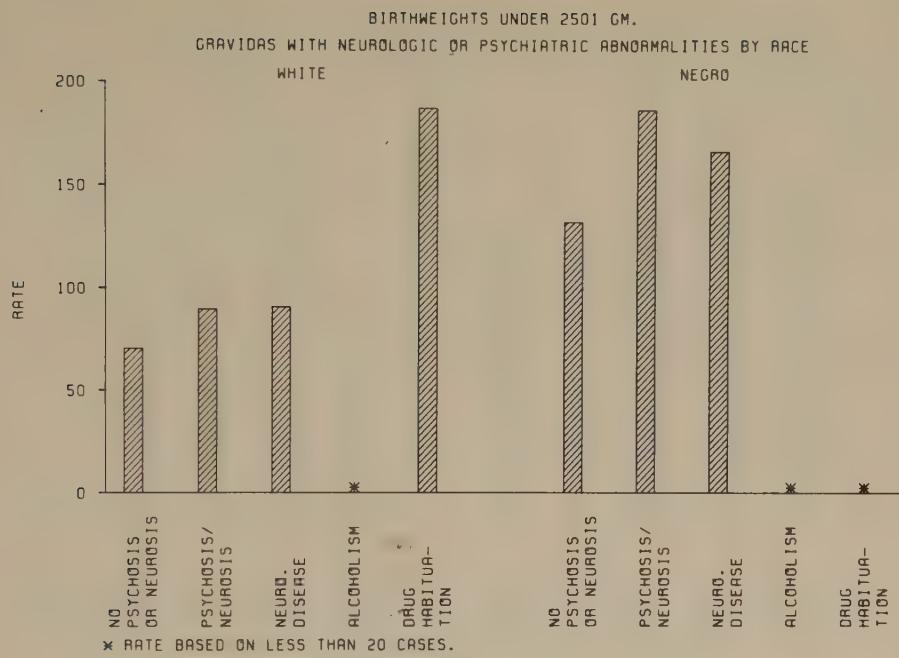
NEONATAL DEATHS - GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE



NEONATAL DEATHS - GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE

	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NO PSYCHOSIS OR NEUROSIS	17599	238	13.52	19172	370	19.30
PSYCHOSIS/NEUROSIS	867	11	12.69	335	7	20.90
NEURO. DISEASE	177	2	11.30	85	0	0
ALCOHOLISM	17	1	58.82*	12	1	83.33*
DRUG HABITUATION	32	0	0	17	1	58.82*

* RATE BASED ON LESS THAN 20 CASES.

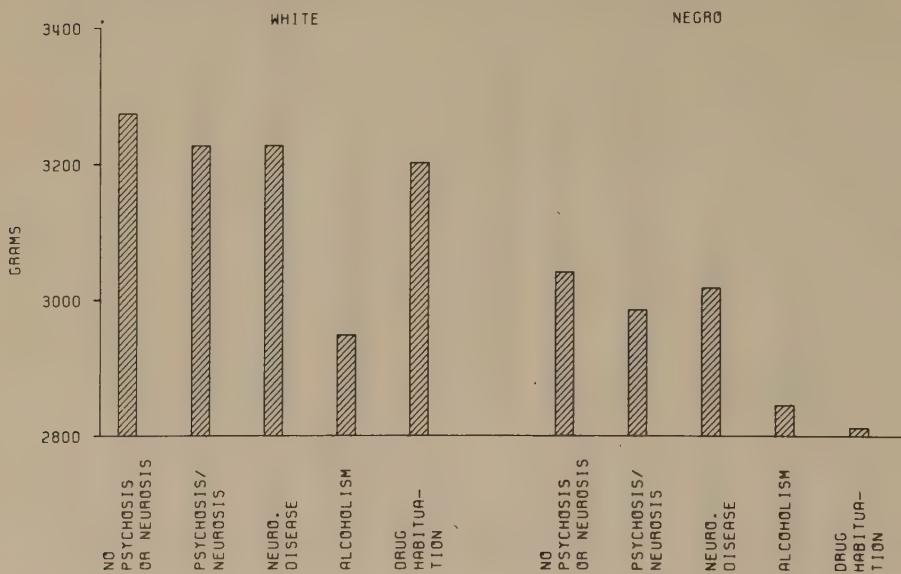


BIRTHWEIGHTS UNDER 2501 GM.
GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE

	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NO PSYCHOSIS OR NEUROSIS	17470	1230	70.41	18987	2517	132.56
PSYCHOSIS/NEUROSIS	858	77	89.74	332	62	186.75
NEURO. DISEASE	176	16	90.91	84	14	166.67
ALCOHOLISM	16	6	375.00*	12	2	166.67*
DRUG HABITUATION	32	6	187.50	17	5	294.12*

* RATE BASED ON LESS THAN 20 CASES.

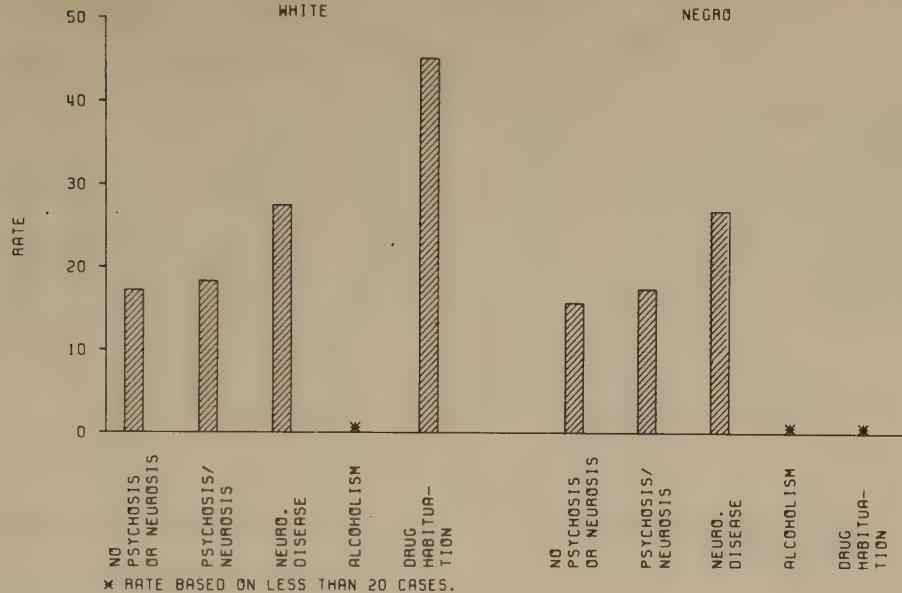
MEAN BIRTHWEIGHT - GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE



MEAN BIRTHWEIGHT - GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE

	WHITE	NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NO PSYCHOSIS OR NEUROSIS	17470	3274	18987	3041
PSYCHOSIS/NEUROSIS	858	3227	332	2985
NEURO. DISEASE	176	3227	84	3017
ALCOHOLISM	16	2948	12	2845
DRUG HABITUATION	32	3202	17	2812

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
GRAVIDAS WITH NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES BY RACE

	ONE YEAR EXAMS	WHITE			NEGRO		
		ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE	
NO PSYCHOSIS OR NEUROSIS	13899	239	17.20	16678	264	15.83	
PSYCHOSIS/NEUROSIS	655	12	18.32	285	5	17.54	
NEURO. DISEASE	145	4	27.59	74	2	27.03	
ALCOHOLISM	8	2	250.00*	10	0	0	x
DRUG HABITUATION	22	1	45.45	15	0	0	x

* RATE BASED ON LESS THAN 20 CASES.

SUMMARY DATA FOR WHITE

ITEM	BIRTHS			PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL			
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.		
HISTORY OF CONVULSIVE DISORDERS, NOT ECLAMPTIC	103	0.5	5	48.5	5	48.5	98	0	0	97	6	61.9	83	5	60.2	3247
ECLAMPTIC, NOT CONVULSIVE	66	0.3	2	30.3	2	30.3	64	0	0	64	3	46.9	55	4	72.7	3262
MENTAL RETARDATION	78	0.4	4	51.3	3	38.5	75	1	13.3	75	2	26.7	61	5	82.0	3204
ORGANIC BRAIN DISEASE	14	0.1	0	0	0	0	14	0	0	14	0	0	11	2	181.8	3420
PSYCHOSIS/NEUROSIS	888	4.7	32	36.0	21	23.6	867	11	12.7	858	77	89.7	655	12	18.3	3227
NEUR. DISEASE	185	1.0	10	54.1	8	43.2	177	2	11.3	176	16	90.9	145	4	27.6	3227
ALCOHOLISM	18	0.1	2	111.1	1	55.6	17	1	58.8	16	6	375.0	8	2	250.0	2948
DRUG HABITUATION	34	0.2	2	58.8	2	58.8	32	0	0	32	6	187.5	22	1	45.5	3202
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT		NEUROLOGICALLY ABNORMAL		MEAN BWT.			
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE			
HISTORY OF CONVULSIVE DISORDERS, NOT ECLAMPTIC																
ECLAMPTIC	66	0.3	7	106.1	5	75.8	61	2	32.8	59	8	135.6	52	4	76.9	3078
CONVULSIONS, NOT ECLAMPTIC	42	0.2	5	119.0	4	95.2	38	1	26.3	36	7	194.4	32	3	93.8	3010
MENTAL RETARDATION	86	0.4	4	46.5	1	111.1	85	3	35.3	84	17	202.4	79	7	88.6	2941
ORGANIC BRAIN DISEASE	9	0.0	1	111.1	1	111.1	8	0	0	8	0	0	6	2	333.3	3356
PSYCHOSIS/NEUROSES	338	1.7	10	29.6	3	8.9	335	7	20.9	332	62	186.7	285	5	17.5	2985
NEUR. DISEASE	85	0.4	0	0	0	0	85	0	0	84	14	166.7	74	2	27.0	3017
ALCOHOLISM	12	0.1	1	83.3	0	0	12	1	83.3	12	2	166.7	10	0	0	2845
DRUG HABITUATION	17	0.1	1	58.8	0	0	17	1	58.8	17	5	294.1	15	0	0	2812
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 9. GASTROINTESTINAL CONDITIONS

CHOLECYSTITIS AND CHOLELITHIASIS

The presence of disease of the gall bladder during pregnancy was recorded on Form OB-60, in terms of the presence of the acute condition with and without the presence of stones. The information available was

examined for possible relationships with adverse fetal outcome.

Cholecystitis was recognized in 43 (0.2 per cent) White gravidae and 23 (0.1 per cent) Negro gravidae. The reason for the difference in incidence is unclear.

Cholelithiasis, as might be anticipated, was noted to be even less frequent; 31 cases were recorded for the White women, 12 for the Negro.

No clear-cut relationships were observed between either condition and the various parameters of fetal outcome examined.

CHOLECYSTITIS BY RACE

	ALL GRAVIDAS	WITH CONDITION	
		NUMBER	PERCENT
WHITE	18892	43	0.23
NEGRO	19935	23	0.12

PREGNANCY OUTCOMES OF GRAVIDAS WITH CHOLECYSTITIS BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS		
		NO.	RATE	LIVEBIRTHS	NO.		NO.	RATE	
WHITE									
WITH CONDITION	43	1	23.26	42	2	47.62	43	3	69.77
WITHOUT CONDITION	18849	402	21.33	18447	249	13.50	18849	651	34.54
NEGRO									
WITH CONDITION	23	1	43.48	22	0	0	23	1	43.48
WITHOUT CONDITION	19912	437	21.95	19475	377	19.36	19912	814	40.88

PREGNANCY OUTCOMES OF GRAVIDAS WITH CHOLECYSTITIS BY RACE

	LIVEBIRTHS	BWT. UNDER 2501 GM.		ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL		
		WITH KNOWN BIRTHWEIGHT	NO.		MEAN BWT.	NO.	
WHITE							
WITH CONDITION	41	3	73.17	3259	37	0	0
WITHOUT CONDITION	18306	1307	71.40	3272	14534	251	17.27
NEGRO							
WITH CONDITION	22	3	136.36	3253	18	0	0
WITHOUT CONDITION	19289	2575	133.50	3040	16941	268	15.82

* RATE BASED ON LESS THAN 20 CASES.

CHOLELITHIASIS BY RACE

	ALL GRAVIDARS	WITH CONDITION NUMBER	WITH CONDITION PERCENT
WHITE	18892	31	0.16
NEGRO	19935	12	0.06

PREGNANCY OUTCOMES OF GRAVIDARS WITH CHOLELITHIASIS BY RACE

	BIRTHS	STILLBIRTHS		LIVEBIRTHS	NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS	
		NO.	RATE		NO.	RATE		NO.	RATE
WHITE									
WITH CONDITION	31	1	32.26	30	0	0	31	1	32.26
WITHOUT CONDITION	18861	402	21.31	18459	251	13.60	18861	653	34.62
NEGRO									
WITH CONDITION	12	0	0 *	12	0	0 *	12	0	0 *
WITHOUT CONDITION	19923	438	21.98	19485	377	19.35	19923	815	40.91

PREGNANCY OUTCOMES OF GRAVIDARS WITH CHOLELITHIASIS BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.			ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL	
		NO.	RATE	MEAN BWT.		NO.	RATE
WHITE							
WITH CONDITION	30	4	133.33	3248	21	1	47.62
WITHOUT CONDITION	18317	1306	71.30	3272	14550	250	17.18
NEGRO							
WITH CONDITION	12	3	250.00*	3140	8	0	0 *
WITHOUT CONDITION	19299	2575	133.43	3040	16951	268	15.81

* RATE BASED ON LESS THAN 20 CASES.

OTHER GASTROINTESTINAL CONDITIONS

Gastrointestinal conditions were rather infrequently reported on Form OB-60. They produced no observable effect on the risk of adverse pregnancy, with the exception of hepatitis and appendicitis.

Hepatitis was reported in seventeen White and eight Negro patients. This disease appeared to be associated with a decreased mean birthweight and an increase in the risk of low birthweight.

Appendicitis increased the fetal death rate and increased the risk of low birthweight in both races.

HEPATITIS BY RACE

	ALL GRAVIDARS	WITH CONDITION NUMBER	WITH CONDITION PERCENT
WHITE	18892	17	0.09
NEGRO	19935	8	0.04

PREGNANCY OUTCOMES OF GRAVIDARS WITH HEPATITIS BY RACE

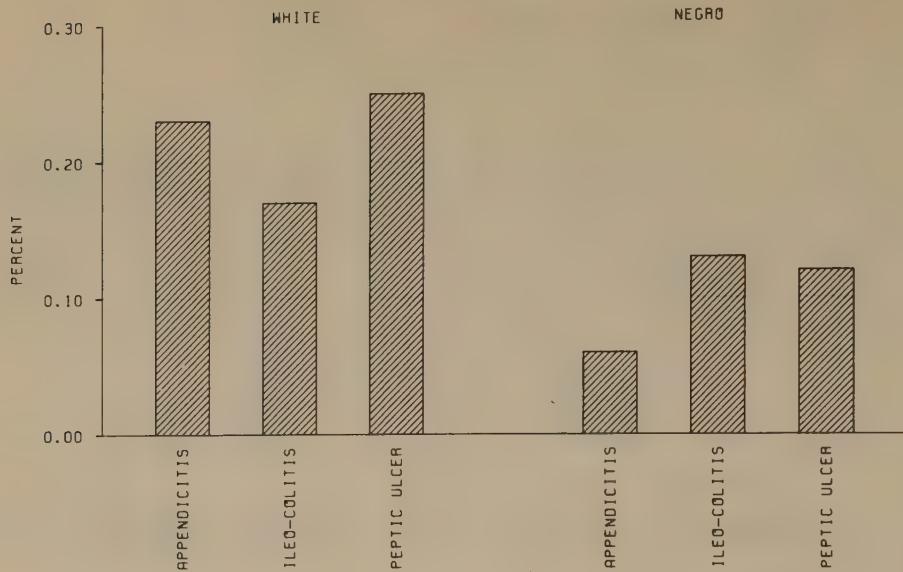
	BIRTHS	STILLBIRTHS		LIVEBIRTHS	NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS	
		NO.	RATE		NO.	RATE		NO.	RATE
WHITE									
WITH CONDITION	17	1	58.82*	16	1	62.50*	17	2	117.65*
WITHOUT CONDITION	18875	402	21.30	18473	250	13.53	18875	652	34.54
NEGRO									
WITH CONDITION	8	0	0 *	8	0	0 *	8	0	0 *
WITHOUT CONDITION	19927	438	21.98	19489	377	19.34	19927	815	40.90

PREGNANCY OUTCOMES OF GRAVIDARS WITH HEPATITIS BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.			ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL	
		NO.	RATE	MEAN BWT.		NO.	RATE
WHITE							
WITH CONDITION	16	4	250.00*	2985	12	0	0 *
WITHOUT CONDITION	18331	1306	71.25	3272	14559	251	17.24
NEGRO							
WITH CONDITION	8	2	250.00*	2842	6	0	0 *
WITHOUT CONDITION	19303	2576	133.45	3040	16953	268	15.81

* RATE BASED ON LESS THAN 20 CASES.

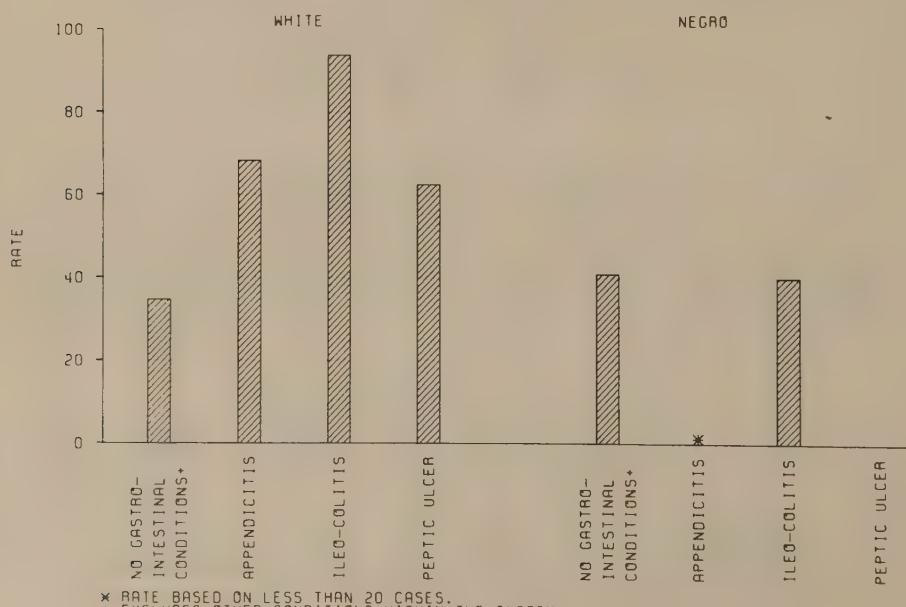
GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE



GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE

	WHITE	NEGRO		
	NUMBER	PERCENT	NUMBER	PERCENT
APPENDICITIS	44	0.23	12	0.06
ILEO-COLITIS	32	0.17	25	0.13
PEPTIC ULCER	48	0.25	23	0.12
ALL GRAVIDAS	18892		19935	

PERINATAL DEATHS - GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE



* RATE BASED ON LESS THAN 20 CASES.
* EXCLUDES OTHER CONDITIONS WITHIN THE SYSTEM.

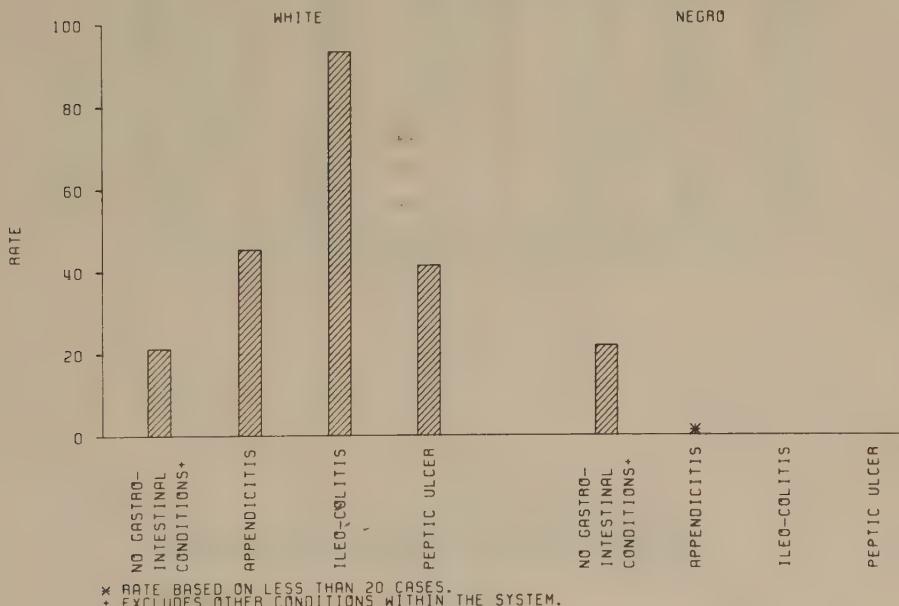
PERINATAL DEATHS - GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE

	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NO GASTROINTESTINAL CONDITIONS*	18844	651	34.55	19910	815	40.93
APPENDICITIS	44	3	68.18	12	1	83.33*
ILEO-COLITIS	32	3	93.75	25	1	40.00
PEPTIC ULCER	48	3	62.50	23	0	0

* EXCLUDES OTHER CONDITIONS WITHIN THE SYSTEM.

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS - GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE



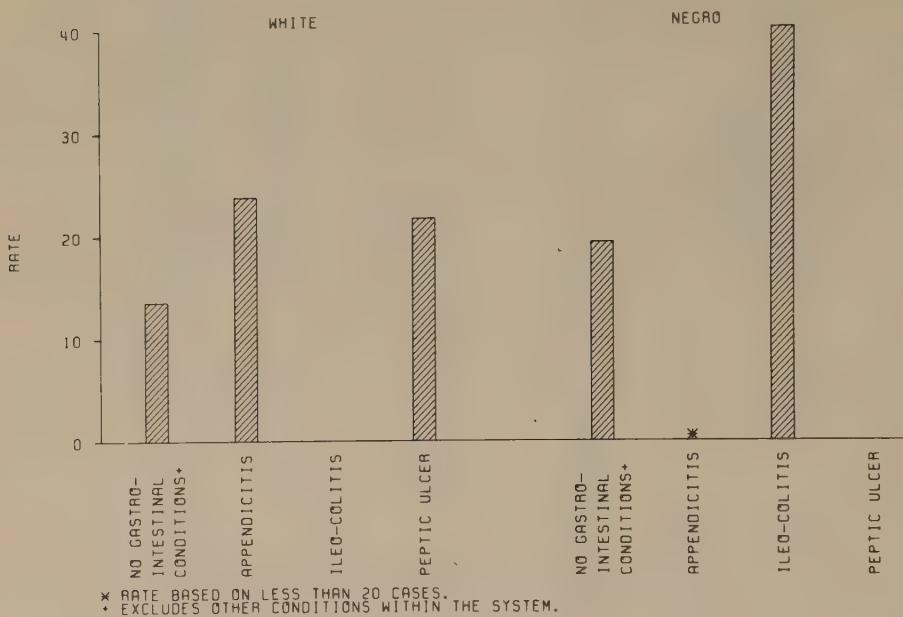
STILLBIRTHS - GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE

	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NO GASTROINTESTINAL CONDITIONS*	18844	401	21.28	19910	438	22.00
APPENDICITIS	44	2	45.45	12	1	83.33*
ILEO-COLITIS	32	3	93.75	25	0	0
PEPTIC ULCER	48	2	41.67	23	0	0

* EXCLUDES OTHER CONDITIONS WITHIN THE SYSTEM.

* RATE BASED ON LESS THAN 20 CASES.

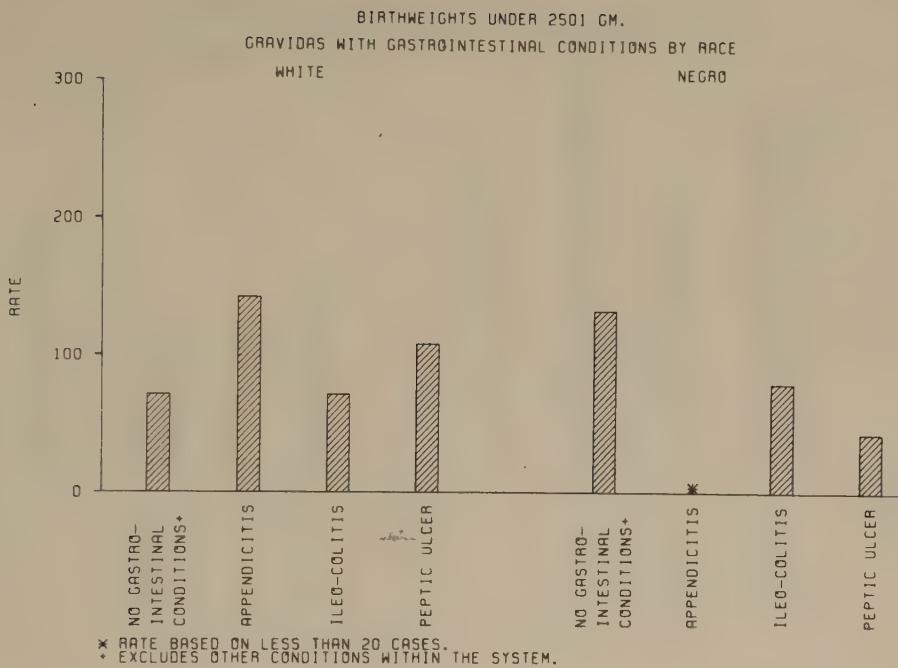
NEONATAL DEATHS - GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE



NEONATAL DEATHS - GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE

	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NO GASTROINTESTINAL CONDITIONS+	18443	250	13.56	19472	377	19.36
APPENDICITIS	42	1	23.81	11	0	0*
ILEO-COLITIS	29	0	0	25	1	40.00
PEPTIC ULCER	46	1	21.74	23	0	0

* EXCLUDES OTHER CONDITIONS WITHIN THE SYSTEM.
X RATE BASED ON LESS THAN 20 CASES.

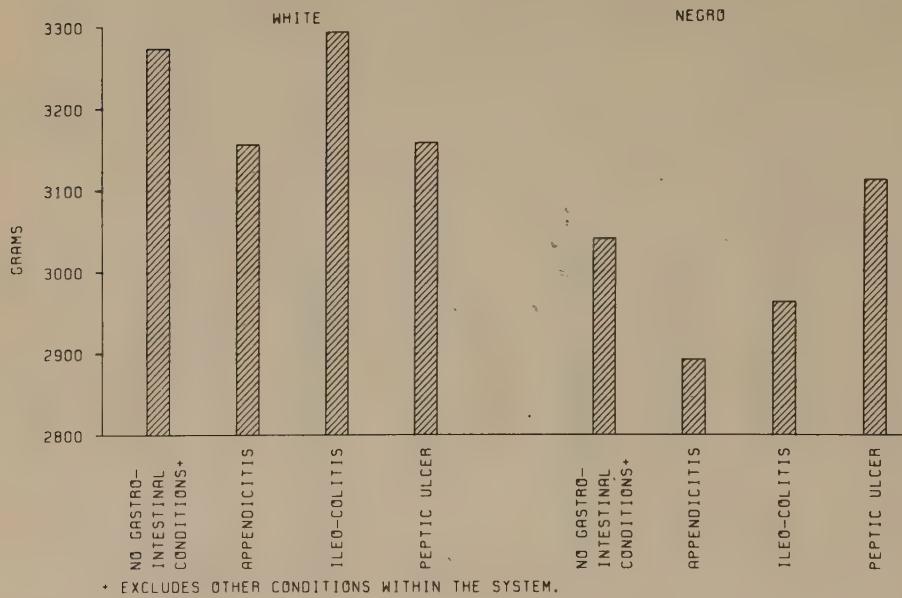


BIRTHWEIGHTS UNDER 2501 GM.
GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE

	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NO GASTROINTESTINAL CONDITIONS*	18301	1305	71.31	19286	2576	133.57
APPENDICITIS	42	6	142.86	11	3	272.73*
ILEO-COLITIS	28	2	71.43	25	2	80.00
PEPTIC ULCER	46	5	108.70	23	1	43.48

* EXCLUDES OTHER CONDITIONS WITHIN THE SYSTEM.
* RATE BASED ON LESS THAN 20 CASES.

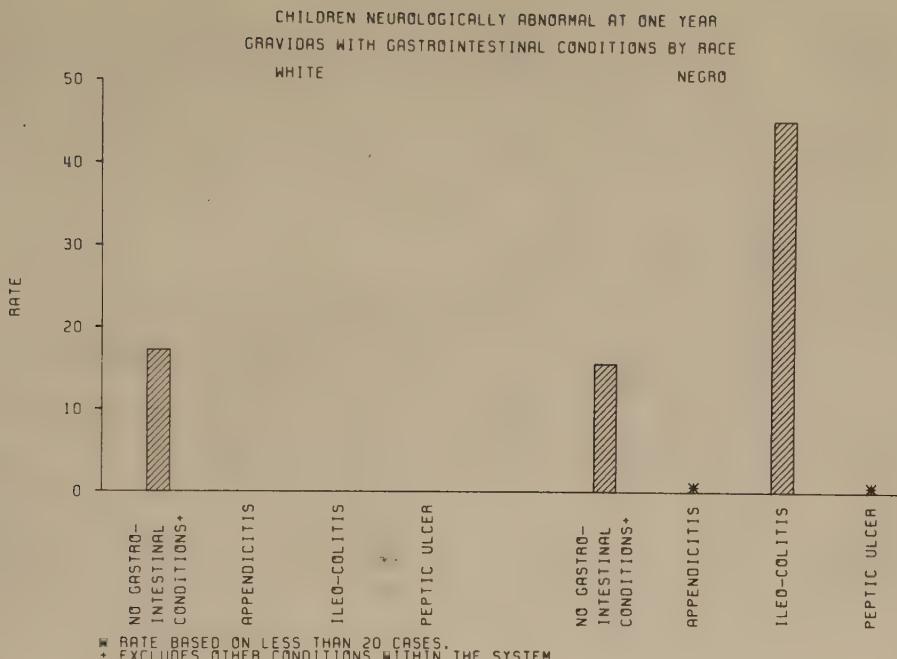
MEAN BIRTHWEIGHT - GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE



MEAN BIRTHWEIGHT - GRAVIDAS WITH GASTROINTESTINAL CONDITIONS BY RACE

	WHITE	NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NO GASTROINTESTINAL CONDITIONS*	18301	3273	19286	3040
APPENDICITIS	42	3156	11	2892
ILEO-COLITIS	28	3293	25	2962
PEPTIC ULCER	46	3158	23	3110

* EXCLUDES OTHER CONDITIONS WITHIN THE SYSTEM.



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
GRAVIDS WITH GASTROINTESTINAL CONDITIONS BY RACE

	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
NO GASTROINTESTINAL CONDITIONS*	14534	251	17.27	16937	267	15.76
APPENDICITIS	29	0	0	8	0	0
ILEO-COLITIS	20	0	0	22	1	45.45
PEPTIC ULCER	37	0	0	18	0	0

* RATE BASED ON LESS THAN 20 CASES.

† EXCLUDES OTHER CONDITIONS WITHIN THE SYSTEM.

SUMMARY DATA FOR WHITE

ITEM	PERINATAL			NEONATAL			LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	BIRTHS	DEATHS	STILLBIRTHS	LIVE- BIRTHS	DEATHS	UNDER 2501 GM.	1 YR EXAMS	NO.	NO.	RATE	MEAN BWT.	
CHOLECYSTITIS	43	0.2	3	69.8	1	23.3	42	2	47.6	41	3	73.2
CHOLELITHIASIS	31	0.2	1	32.3	1	32.3	30	0	0	30	4	133.3
HEPATITIS	17	0.1	2	117.6	1	58.8	16	1	62.5	16	4	250.0
APPENDICITIS	44	0.2	3	68.2	2	45.5	42	1	23.8	42	6	142.9
ILEO-COLITIS	32	0.2	3	93.8	3	93.8	29	0	0	28	2	71.4
PEPTIC ULCER	48	0.3	3	62.5	2	41.7	46	1	21.7	46	5	108.7
HIATUS HERNIA	14	0.1	0	0	0	0	14	0	0	14	0	0
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4
								14662	253	17.3		3272

SUMMARY DATA FOR NEGRO

ITEM	PERINATAL			NEONATAL			LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	BIRTHS	DEATHS	STILLBIRTHS	LIVE- BIRTHS	DEATHS	UNDER 2501 GM.	1 YR EXAMS	NO.	NO.	RATE	MEAN BWT.	
CHOLECYSTITIS	23	0.1	1	43.5	1	43.5	22	0	0	22	3	136.4
CHOLELITHIASIS	12	0.1	0	0	0	0	12	0	0	12	3	250.0
HEPATITIS	8	0.0	0	0	0	0	8	0	0	8	2	250.0
APPENDICITIS	12	0.1	1	83.3	1	83.3	11	0	0	11	3	272.7
ILEO-COLITIS	25	0.1	1	40.0	0	0	25	1	40.0	25	2	80.0
PEPTIC ULCER	23	0.1	0	0	0	0	23	0	0	23	1	43.5
HIATUS HERNIA	14	0.1	0	0	0	0	14	0	0	14	5	357.1
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2
								17123	274	16.0		3039

Chapter 9

LABOR AND DELIVERY

INTRODUCTION

The admission of the gravida for delivery brought the Study team into immediate action. The history was taken, the physical examination was carried out, and routine laboratory work was performed. The information normally collected in the routine management of labor and delivery was amplified by a trained observer, usually a registered nurse, who stayed with the patient during the entire labor and delivery period. She made frequent checks on blood pressure, fetal heart rate, uterine contractions, and any unusual abnormalities noted during labor. She also kept a careful record of drugs given to the mother, as well as of procedures performed during labor. When the patient was transferred to the delivery room the nurse made continuous observations, including precise time checks of important events, thus allowing subsequent calculation of important time relationships, such as time elapsed from complete delivery to time of first breath, or time elapsed from start of anesthesia to delivery.

The Study labor and delivery records were completed by the delivering obstetrician immediately after delivery while the events were fresh in his mind. These data were amplified not only by the detailed records compiled by the observer but also by the routine hospital records. The obstetrician completed the structured summary form and dictated a narrative summary of events which served to give an added dimension to the information.

The detailed data collected by the Study seems ideal to clarify some of the relationships between events of delivery and fetal outcomes. For example, what is the effect of presentation of the fetus on fetal outcome? Is a very short labor likely to be an etiologic factor in perinatal death or in brain damage in a surviving infant? If so, can the mechanism be identified?

In some instances, the hope that the Study data might clarify these relationships has been fulfilled by the data illustrated in the charts and tables which follow. In other cases, certain events occurred with such rarity that few conclusions could be drawn from the collected data. In rare instances institutional variability in obstetrical practice prevented pooling of data.

As with other data in this volume, a cause and effect relationship must not be presumed on the basis of

an observed association. This caution is particularly important in considering labor and delivery factors in relation to stillbirths. The labor or delivery condition may occur because the baby is already dead, rather than the converse. As a result, for labor and delivery conditions, data are shown separately for fresh stillbirths, as well as for total stillbirths. Perinatal death rates, of which total stillbirths are a component, are also affected by this situation.

SECTION 1. PRESENTATION

Occiput anterior (OA), left occiput anterior (LOA), and right occiput anterior (ROA) presentations account for more than three quarters of the presentations in both races. The breech presented in one form or another in four per cent of White gravidas and in three per cent of Negro patients.

The cases for which presentation is unknown account for about five per cent of both White and Negro cases. The stillbirth rates, and to a lesser extent the neonatal death rates, are high for these cases.

VERTEX

In general, the perinatal mortality rates for occiput posterior (OP) and occiput transverse (OT) presentations are higher than those of the OA. This is consistent in both fetal and neonatal death rates.

There does not seem to be an observable relationship between low birthweight and presentation, nor is there one involving mean birthweight.

The outcomes associated with the unspecified vertex presentations are exceptions to the above. The high frequency of low birthweight infants with this presentation offers a possible explanation for this observation.

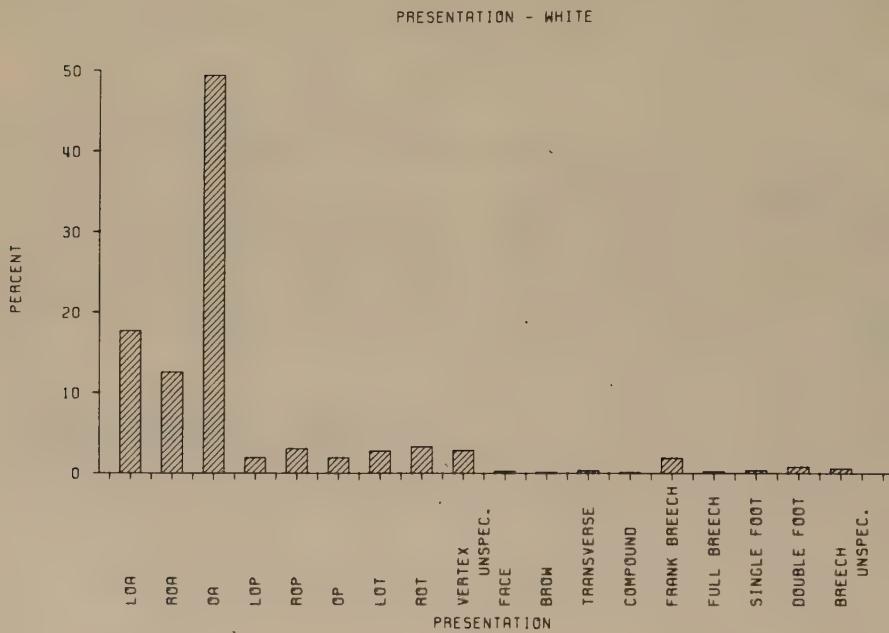
BREECH

As is usually the case, frank breech is by far the commonest attitude of breech presentation for the study cases. All attitudes are associated with increased

rates of perinatal mortality, neurological abnormality, and low birthweight as compared with vertex presentation. Among breeches the double footling carries the gravest risk of adverse outcome.

FACE, BROW, TRANSVERSE, AND COMPOUND

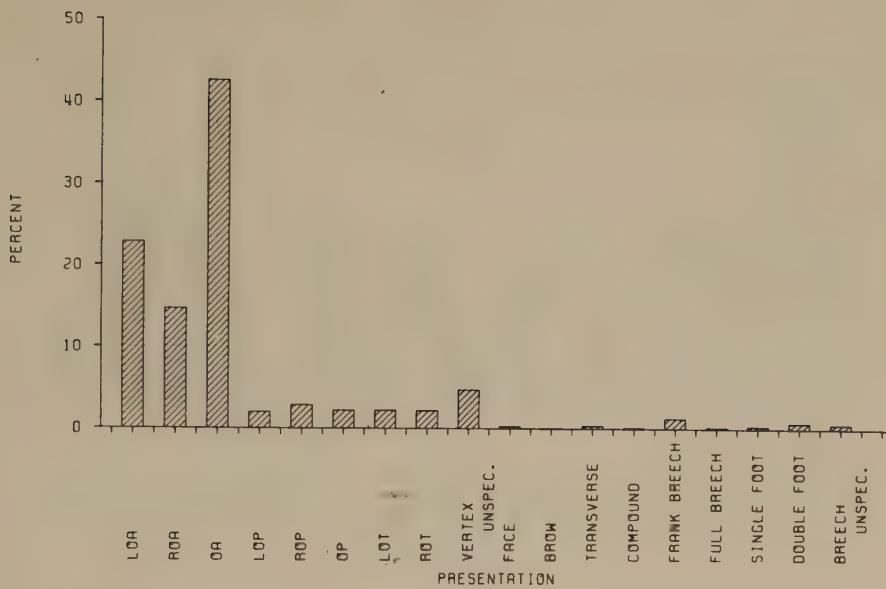
These relatively infrequent presentations are generally associated with an increase in poor outcomes which include low birthweight.



PRESENTATION - WHITE

PRESENTATION	NUMBER	PERCENT
LOA	3176	17.68
ROA	2255	12.55
OA	8863	49.34
LOP	345	1.92
ROP	546	3.04
OP	342	1.90
LOT	498	2.77
ROT	589	3.28
VERTEX UNSPEC.	512	2.85
FACE	49	0.27
BROW	24	0.13
TRANSVERSE	61	0.34
COMPOUND	15	0.08
FRANK BREECH	335	1.87
FULL BREECH	39	0.22
SINGLE FOOT	65	0.36
DOUBLE FOOT	140	0.78
BREECH UNSPEC.	108	0.60
TOTAL	17962	100.00
UNKNOWN	1086	5.70
GRAND TOTAL	19048	100.00

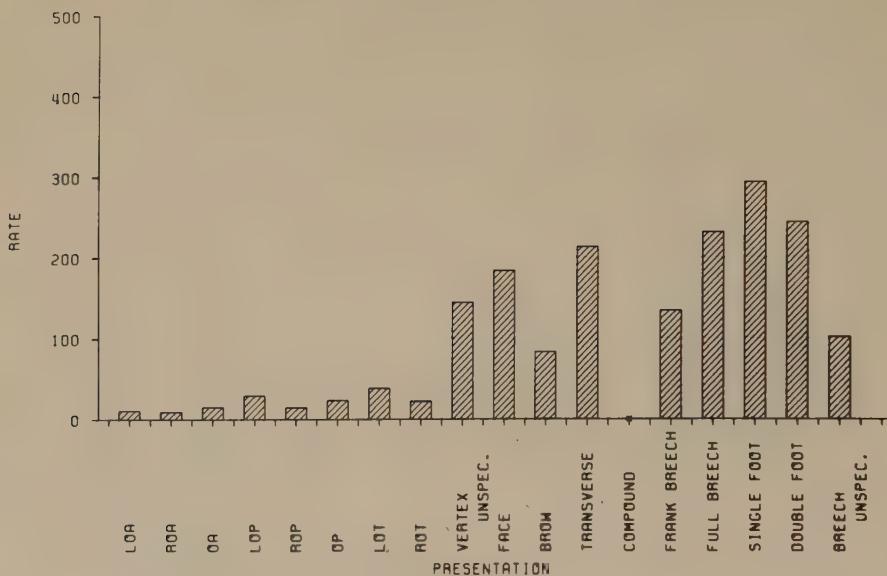
PRESENTATION - NEGRO



PRESENTATION - NEGRO

PRESENTATION	NUMBER	PERCENT
LOA	4414	22.85
ROA	2833	14.67
OA	8230	42.61
LOP	384	1.99
ROP	546	2.83
OP	428	2.22
LOT	429	2.22
ROT	416	2.15
VERTEX UNSPEC.	921	4.77
FACE	44	0.23
BROW	12	0.06
TRANSVERSE	66	0.34
COMPOUND	16	0.08
FRANK BREECH	240	1.24
FULL BREECH	33	0.17
SINGLE FOOT	60	0.31
DOUBLE FOOT	139	0.72
BREECH UNSPEC.	103	0.54
TOTAL	19314	100.00
UNKNOWN	853	4.23
GRAND TOTAL	20167	100.00

PERINATAL DEATHS BY PRESENTATION - WHITE



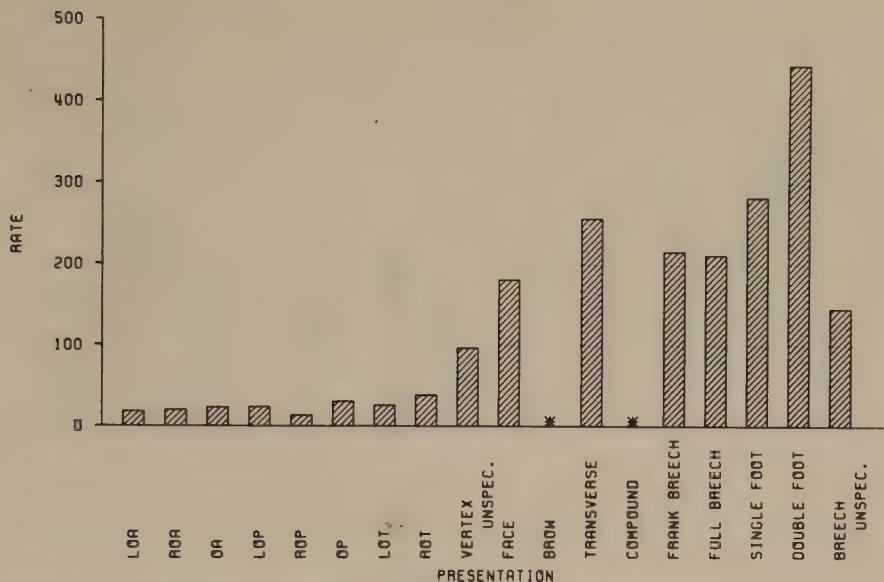
* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY PRESENTATION - WHITE

PRES	BIRTHS	PERINATAL DEATHS	RATE
LOA	3176	34	10.71
ROA	2255	21	9.31
OA	8863	133	15.01
LOP	345	10	28.99
ROP	346	8	14.65
OP	342	8	23.39
LOT	498	19	38.15
ROT	589	13	22.07
VERTEX UNSPEC.	512	74	144.53
FACE	49	9	183.67
BROW	24	2	83.33
TRANSVERSE	61	13	213.11
COMPOUND	15	2	133.33*
FRANK BREECH	335	45	134.33
FULL BREECH	39	9	230.77
SINGLE FOOT	65	19	292.31
DOUBLE FOOT	140	34	242.86
BREECH UNSPEC.	108	11	101.85
TOTAL	17962	464	25.83
UNKNOWN	1086	204	187.85
GRAND TOTAL	19048	668	35.07

* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY PRESENTATION - NEGRO



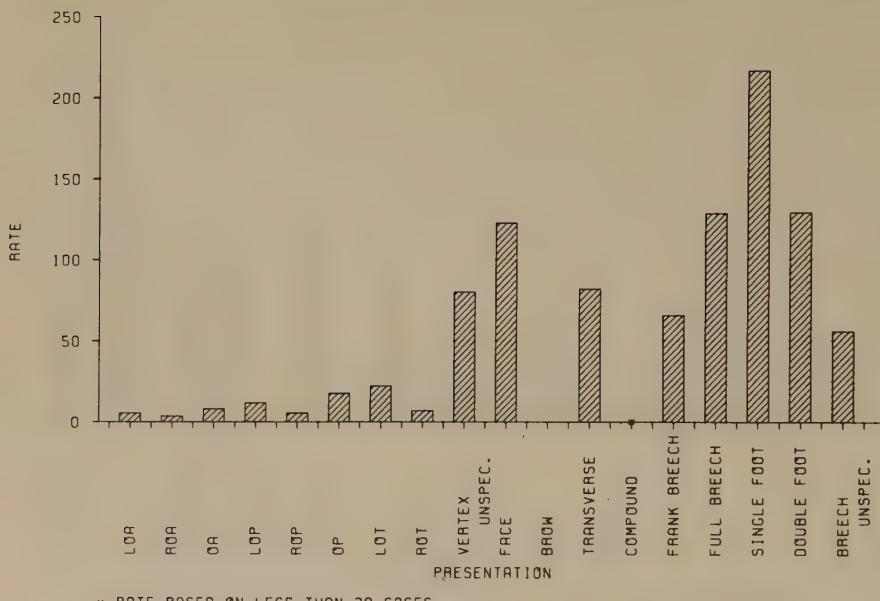
* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY PRESENTATION - NEGRO

PRES.	BIRTHS	PERINATAL DEATHS	RATE
LOA	4414	80	18.12
ROA	2833	55	19.41
OA	8230	188	22.84
LOP	384	9	23.44
ROP	546	7	12.82
OP	428	13	30.37
LOT	429	11	25.64
ROT	416	16	38.46
VERTEX UNSPEC.	921	89	96.63
FACE	44	8	181.82
BROW	12	0	0 *
TRANSVERSE	66	17	257.58
COMPOUND	16	7	437.50*
FRANK BREECH	240	52	216.67
FULL BREECH	33	7	212.12
SINGLE FOOT	60	17	283.33
DOUBLE FOOT	139	62	446.04
BREECH UNSPEC.	103	15	145.63
TOTAL	19314	653	33.81
UNKNOWN	853	192	225.09
GRAND TOTAL	20167	845	41.90

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY PRESENTATION - WHITE

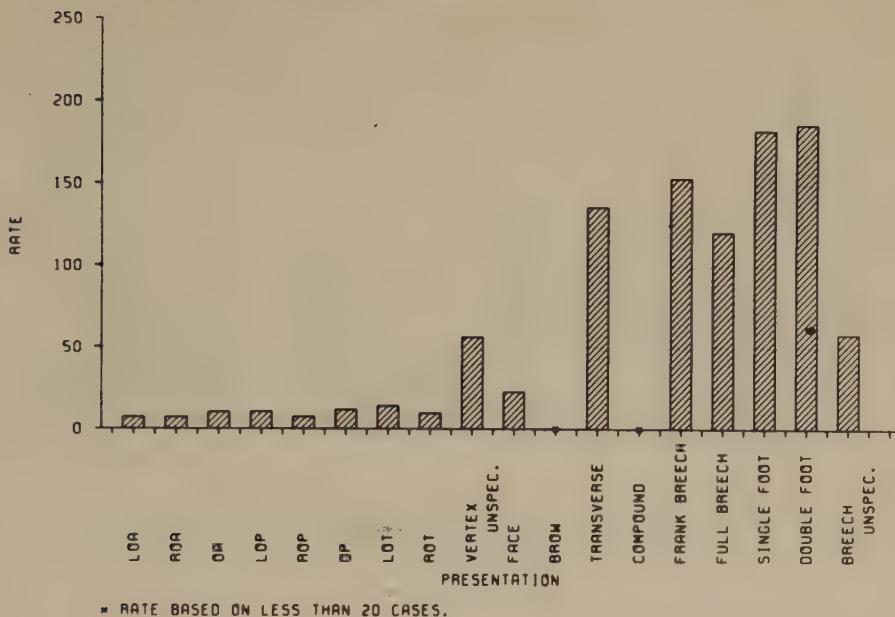


STILLBIRTHS BY PRESENTATION - WHITE

PRES	BIRTHS	NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE
LOR	3176	17	5.35	5	1.89
ROR	2255	8	3.55	3	1.33
OA	8863	71	8.01	22	2.48
LOP	345	4	11.59	3	8.70
ROP	546	3	5.49	2	3.66
OP	342	6	17.54		5.85
LOT	498	11	22.09	6	12.05
ROT	589	4	6.79	0	0
VERTEX UNSPEC.	512	41	80.08	13	25.39
FACE	49	6	122.45		81.63
BROW	24	0	0		0
TRANSVERSE	61	5	81.97	2	32.79
COMPOUND	15	0	0	0	*
FRANK BREECH	335	22	65.67	7	20.90
FULL BREECH	39	5	128.21	3	76.92
SINGLE FOOT	65	14	215.38	6	92.31
DOUBLE FOOT	140	18	128.57	8	57.14
BREECH UNSPEC.	108	6	55.56	1	9.26
TOTAL	17962	241	13.42	88	4.90
UNKNOWN	1086	174	160.22	112	103.13
GRAND TOTAL	19048	415	21.79	200	10.50

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY PRESENTATION - NEGRO



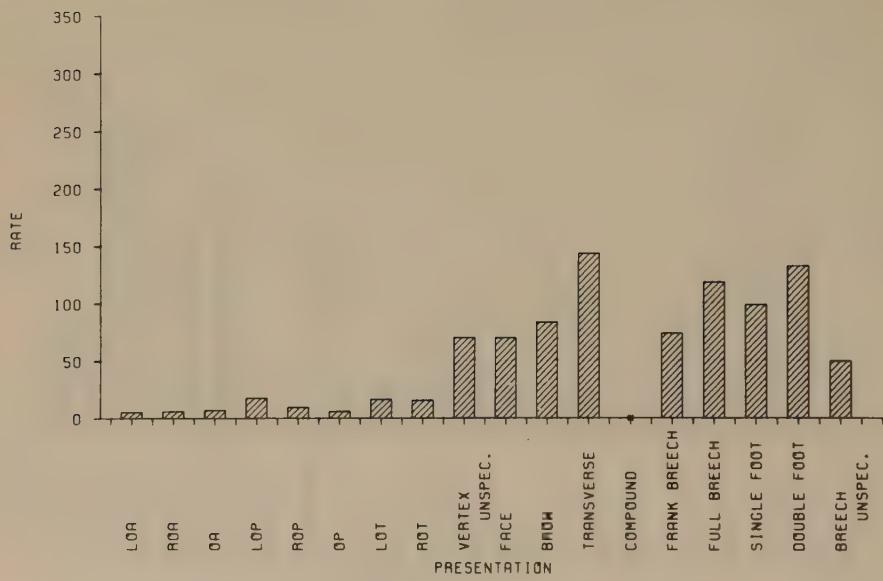
* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY PRESENTATION - NEGRO

PRESENTATION	BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE
LOA	4414	31	7.02	14	3.17
ROA	2833	20	7.06	10	3.53
OA	8230	84	10.21	32	3.89
LOP	384	4	10.42	3	7.81
ROP	546	4	7.33	3	5.49
OP	428	5	11.68	2	4.67
LOT	429	6	13.99	4	9.32
ROT	416	4	9.62	3	7.21
VERTEX UNSPEC.	921	52	56.46	23	24.97
FACE	44	1	22.73	0	0
BROW	12	0	0	*	0
TRANSVERSE	66	9	136.36	3	45.45
COMPOUND	16	5	312.50*	2	125.00*
FRANK BREECH	240	37	154.17	13	54.17
FULL BREECH	33	4	121.21	2	60.61
SINGLE FOOT	60	11	183.33	8	133.33
DOUBLE FOOT	139	26	187.05	17	122.30
BREECH UNSPEC.	103	6	58.25	5	48.54
TOTAL	19314	309	16.00	144	7.46
UNKNOWN	853	148	173.51	102	119.58
GRAND TOTAL	20167	457	22.66	246	12.20

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY PRESENTATION - WHITE



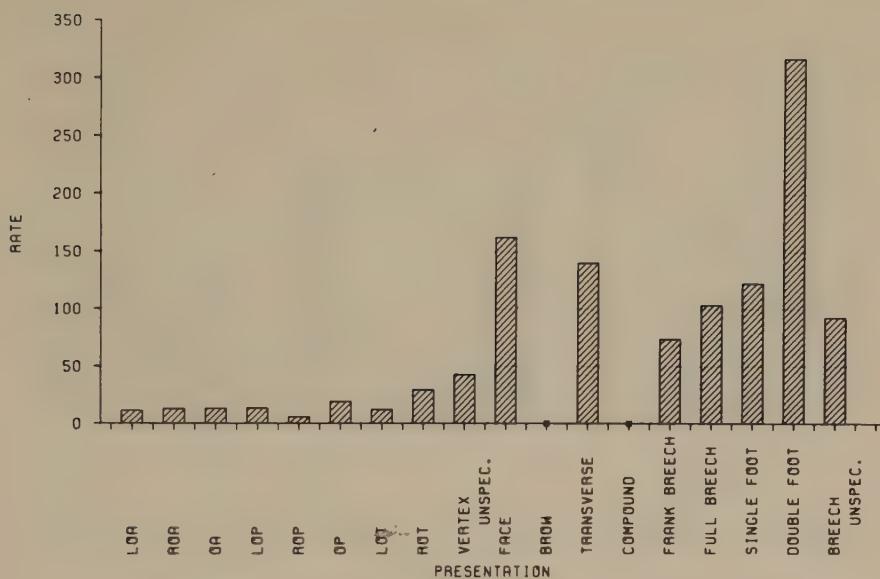
* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY PRESENTATION - WHITE

PRESENTATION	LIVEBIRTHS	NEONATAL DEATHS	RATE
LOA	3159	17	5.38
ROA	2247	13	5.79
OA	8792	62	7.05
LOP	341	6	17.60
ROP	543	5	9.21
OP	336	2	5.95
LOT	487	8	16.43
ROT	585	9	15.38
VERTEX UNSPEC.	471	33	70.06
FACE	43	3	69.77
BROW	24	2	83.33
TRANSVERSE	56	8	142.86
COMPOUND	15	2	133.33*
FRANK BREECH	313	23	73.48
FULL BREECH	34	4	117.65
SINGLE FOOT	51	5	98.04
DOUBLE FOOT	122	16	131.15
BREECH UNSPEC.	102	5	49.02
TOTAL	17721	223	12.58
UNKNOWN	912	30	32.89
GRAND TOTAL	18633	253	13.58

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY PRESENTATION - NEGRO



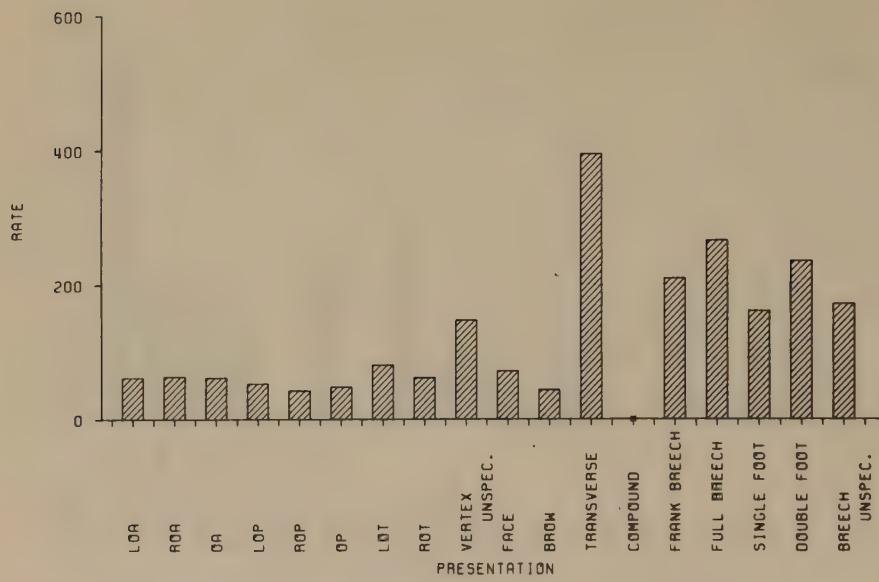
* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY PRESENTATION - NEGRO

PRESENTATION	LIVEBIRTHS	NEONATAL DEATHS	RATE
LOA	4383	49	11.18
ROA	2813	35	12.44
OA	8146	104	12.77
LOP	380	5	13.16
ROP	542	3	5.54
OP	423	8	18.91
LOT	423	5	11.82
ROT	412	12	29.13
VERTEX UNSPEC.	869	37	42.58
FACE	43	7	162.79
BROW	12	0	0 *
TRANSVERSE	57	8	140.35
COMPOUND	11	2	181.82*
FRANK BREECH	203	15	73.89
FULL BREECH	29	3	103.45
SINGLE FOOT	49	6	122.45
DOUBLE FOOT	113	36	318.58
BREECH UNSPEC.	97	9	92.78
TOTAL	19005	344	18.10
UNKNOWN	705	44	62.41
GRAND TOTAL	19710	388	19.69

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHT UNDER 2501 GM. BY PRESENTATION - WHITE



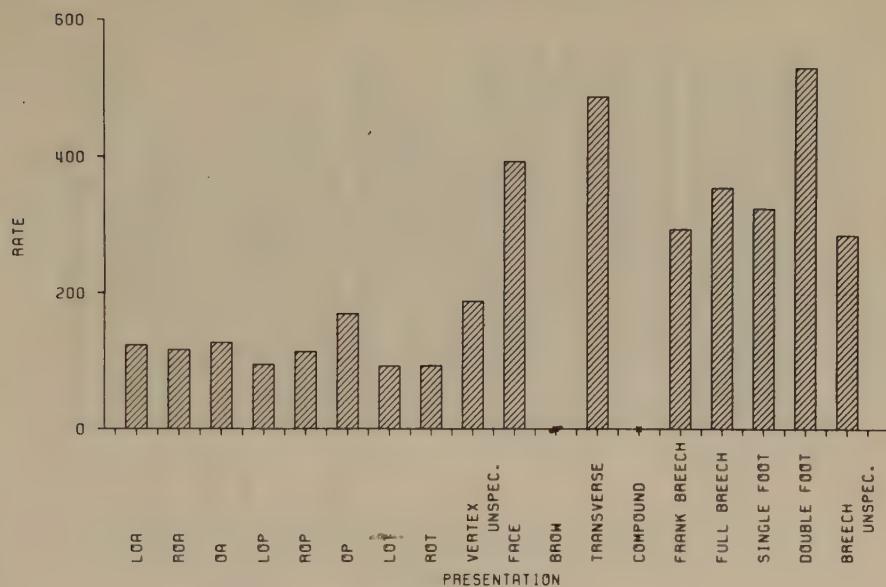
* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHT UNDER 2501 GM. BY PRESENTATION - WHITE

PRESENTATION	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS. UNDER 2501 GM.	RATE
LOR	3141	195	62.08
ROA	2244	142	63.28
OA	8771	545	62.14
LOP	341	18	52.79
ROP	542	23	42.44
OP	334	16	47.90
LOT	485	39	80.41
ROT	583	36	61.75
VERTEX UNSPEC.	462	68	147.19
FACE	42	3	71.43
BROW	23	1	43.48
TRANSVERSE	56	22	392.86
COMPOUND	14	2	142.86*
FRANK BREECH	307	64	208.47
FULL BREECH	34	9	264.71
SINGLE FOOT	50	8	160.00
DOUBLE FOOT	120	28	233.33
BREECH UNSPEC.	100	17	170.00
TOTAL	17649	1236	70.03
UNKNOWN	832	83	99.76
GRAND TOTAL	18481	1319	71.37

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. BY PRESENTATION - NEGRO



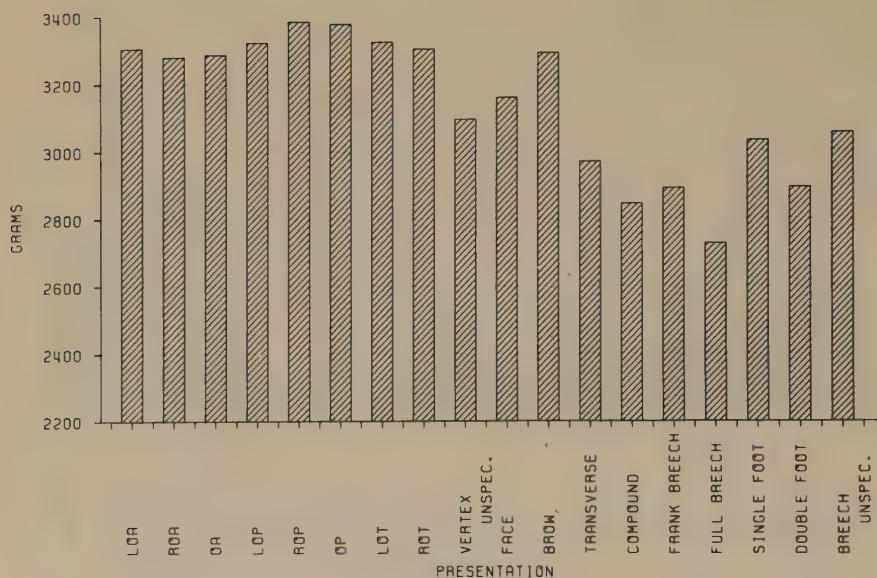
* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. BY PRESENTATION - NEGRO

PRESENTATION	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
LOA	4369	538	123.14
ROA	2807	325	115.78
OA	8117	1030	126.89
LOP	380	36	94.74
ROP	538	61	113.38
OP	423	72	170.21
LOT	422	39	92.42
ROT	409	38	92.91
VERTEX UNSPEC.	854	161	188.52
FACE	43	17	395.35
BROW	12	3	250.00*
TRANSVERSE	55	27	490.91
COMPOUND	11	5	454.55*
FRANK BREECH	196	58	295.92
FULL BREECH	28	10	357.14
SINGLE FOOT	49	16	326.53
DOUBLE FOOT	105	56	533.33
BREECH UNSPEC.	94	27	287.23
TOTAL	18912	2519	133.20
UNKNOWN	592	98	165.54
GRAND TOTAL	19504	2617	134.18

* RATE BASED ON LESS THAN 20 CASES.

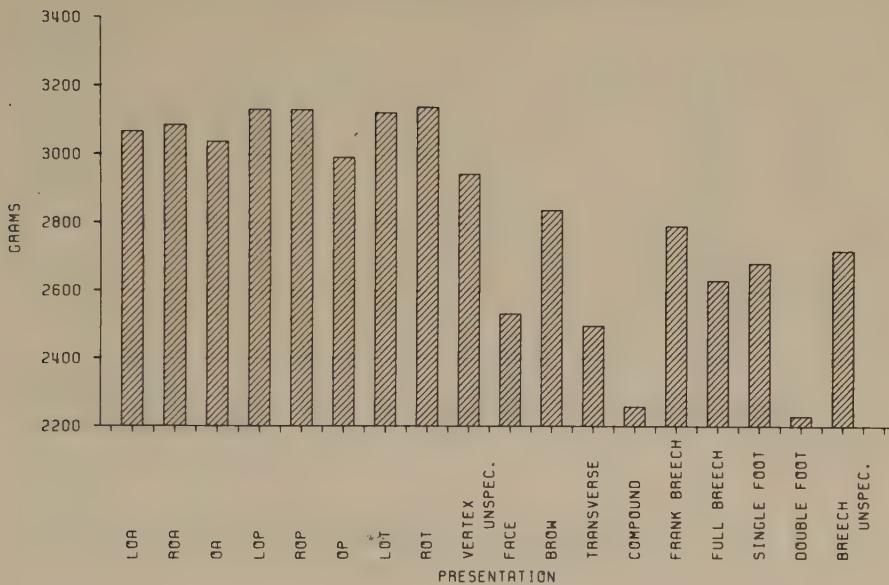
MEAN BIRTHWEIGHT BY PRESENTATION - WHITE



MEAN BIRTHWEIGHT BY PRESENTATION - WHITE

PRESENTATION	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
LOR	3141	3305
ROA	2244	3280
OA	8771	3287
LOP	341	3323
ROP	542	3385
OP	334	3378
LOT	485	3325
ROT	583	3304
VERTEX UNSPEC.	462	3096
FACE	42	3160
BROW	23	3292
TRANSVERSE	56	2970
COMPOUND	14	2845
FRANK BREECH	307	2890
FULL BREECH	34	2726
SINGLE FOOT	50	3030
DOUBLE FOOT	120	2891
BREECH UNSPEC.	100	3051
TOTAL	17649	3276
UNKNOWN	832	3172
GRAND TOTAL	18481	3272

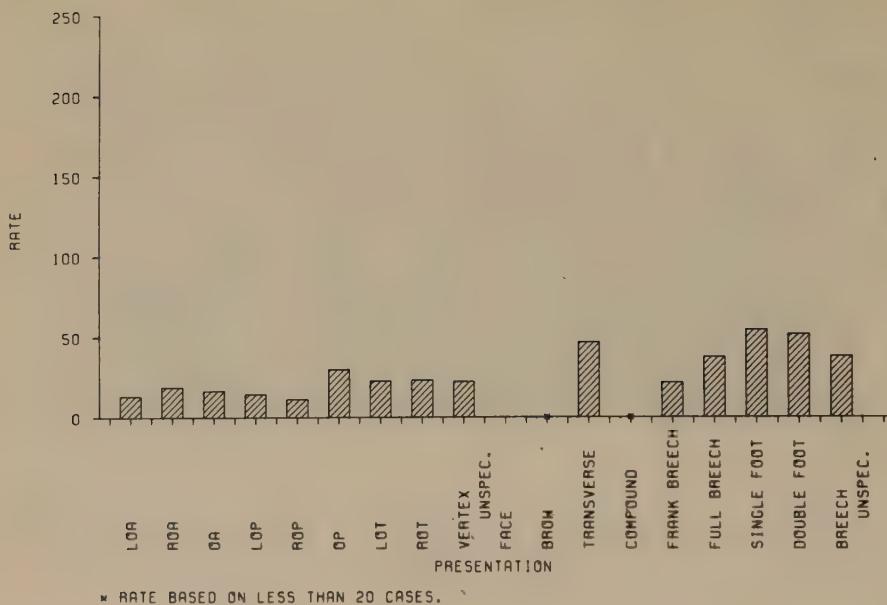
MEAN BIRTHWEIGHT BY PRESENTATION - NEGRO



MEAN BIRTHWEIGHT BY PRESENTATION - NEGRO

PRESENTATION	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
LOR	4369	3066
ROR	2807	3086
OA	8117	3038
LOP	380	3133
ROP	538	3133
OP	423	2994
LOT	422	3126
ROT	409	3143
VERTEX UNSPEC.	854	2947
FACE	43	2534
BROW	12	2842
TRANSVERSE	55	2499
COMPOUND	11	2258
FRANK BREECH	196	2795
FULL BREECH	28	2633
SINGLE FOOT	49	2685
DOUBLE FOOT	105	2230
BREECH UNSPEC.	94	2722
TOTAL	18912	3042
UNKNOWN	592	2953
GRAND TOTAL	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PRESENTATION - WHITE



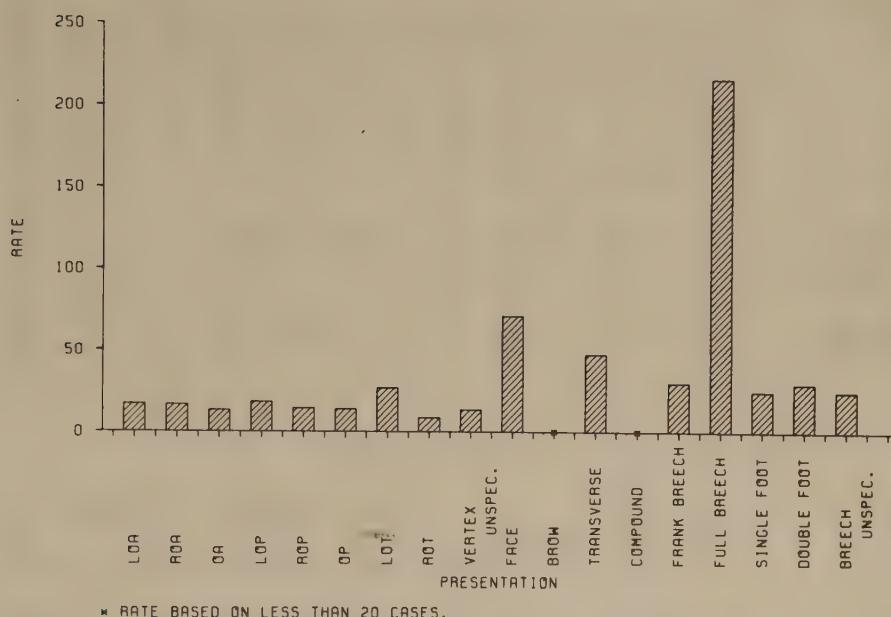
* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PRESENTATION - WHITE

PRES	ONE YEAR EXAMS	ABNORMALS	RATE
LOA	2519	33	13.10
ROA	1769	33	18.65
OA	7136	117	16.40
LOP	277	4	14.44
ROP	442	5	11.31
OP	269	8	29.74
LOT	399	9	22.56
ROT	477	11	23.06
VERTEX UNSPEC.	318	7	22.01
FACE	32	0	0
BROW	18	1	55.56*
TRANSVERSE	43	2	46.51
COMPOUND	10	0	0 *
FRANK BREECH	234	5	21.37
FULL BREECH	27	1	37.04
SINGLE FOOT	37	2	54.05
DOUBLE FOOT	78	4	51.28
BREECH UNSPEC.	80	3	37.50
TOTAL	14165	245	17.30
UNKNOWN	497	8	16.10
GRAND TOTAL	14662	253	17.26

* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PRESENTATION - NEGRO



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PRESENTATION - NEGRO

PRESNTATION	ONE YEAR EXAMS	ABNORMALS	RATE
LGA	3850	65	16.88
RGA	2498	41	16.41
OA	7173	94	13.10
LOP	331	6	18.13
ROP	490	7	14.29
OP	366	5	13.66
LOT	372	10	26.88
ROT	355	3	8.45
VERTEX UNSPEC.	741	10	13.50
FACE	28	2	71.43
BROW	11	1	90.91*
TRANSVERSE	42	2	47.62
COMPOUND	4	0	0
FRANK BREECH	166	5	30.12
FULL BREECH	23	5	217.39
SINGLE FOOT	40	1	25.00
DOUBLE FOOT	67	2	29.85
BREECH UNSPEC.	80	2	25.00
TOTAL	16637	261	15.69
UNKNOWN	486	13	26.75
GRAND TOTAL	17123	274	16.00

* RATE BASED ON LESS THAN 20 CASES.

SUMMARY DATA FOR WHITE

ITEM	PERINATAL DEATHS				STILLBIRTHS				NEONATAL DEATHS				LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	BIRTHS	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.			
PRESENTATION																		
LDA	3176	17.7	34	10.7	17	5.4	3159	17	5.4	3141	195	62.1	2519	33	13.1	3305		
RDA	2255	12.6	21	9.3	8	3.5	2247	13	5.8	2244	142	63.3	1769	33	18.7	3280		
DA	8863	49.3	133	15.0	71	8.0	8792	62	7.1	8771	545	62.1	7136	117	16.4	3287		
LOP	345	1.9	10	29.0	4	11.6	341	6	17.6	341	18	52.8	277	4	14.4	3323		
ROP	546	3.0	8	14.7	3	5.5	543	5	9.2	542	23	42.4	442	5	11.3	3385		
OP	342	1.9	8	23.4	6	17.5	336	2	6.0	334	16	47.9	269	8	29.7	3378		
LOT	498	2.8	19	38.2	11	22.1	487	8	16.4	485	39	80.4	399	9	22.6	3325		
ROT	589	3.3	13	22.1	4	6.8	585	9	15.4	583	36	61.7	477	11	23.1	3304		
VERTEX UNSPECIFIED	512	2.9	74	144.5	41	80.1	471	33	70.1	462	68	147.2	318	7	22.0	3096		
FACE	49	0.3	9	183.7	6	122.4	43	3	69.8	42	3	71.4	32	0	0	3160		
BROW	24	0.1	2	83.3	0	0	24	2	83.3	23	1	43.5	18	1	55.6	3292		
TRANSVERSE	61	0.3	13	213.1	5	82.0	56	8	142.9	56	22	392.9	43	2	46.5	2970		
COMPOUND	15	0.1	2	133.3	0	0	15	2	133.3	14	2	142.9	10	0	0	2845		
FRANK BREECH	335	1.9	45	134.3	22	65.7	313	23	73.5	307	64	208.5	234	5	21.4	2890		
FULL BREECH	39	0.2	9	230.8	5	128.2	34	4	117.6	34	9	264.7	27	1	37.0	2726		
SINGLE FOOT	65	0.4	19	292.3	14	215.4	51	5	98.0	50	8	160.0	37	2	54.1	3030		
DOUBLE FOOT	140	0.8	34	242.9	18	128.6	122	16	131.1	120	28	233.3	78	4	51.3	2891		
BREECH UNSPECIFIED	108	0.6	11	101.9	6	55.6	102	5	49.0	100	17	170.0	80	3	37.5	3051		
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272		

SUMMARY DATA FOR NEGRO

ITEM	PERINATAL DEATHS				STILLBIRTHS				NEONATAL DEATHS				LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	BIRTHS	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.			
PRESENTATION																		
LDA	4414	22.9	80	18.1	31	7.0	4383	49	11.2	4369	538	123.1	3850	65	16.9	3066		
RDA	2833	14.7	55	19.4	20	7.1	2813	35	12.4	2807	325	115.8	2498	41	16.4	3086		
DA	8230	42.6	188	22.8	84	10.2	8146	104	12.8	8117	1030	126.9	7173	94	13.1	3038		
LOP	384	2.0	9	23.4	4	10.4	380	5	13.2	380	36	94.7	331	6	18.1	3133		
ROP	546	2.8	7	12.8	4	7.3	542	3	5.5	538	61	113.4	490	7	14.3	3133		
OP	428	2.2	13	30.4	5	11.7	423	8	18.9	423	72	170.2	366	5	13.7	2994		
LOT	429	2.2	11	25.6	6	14.0	423	5	11.8	422	39	92.4	372	10	26.9	3126		
ROT	416	2.2	16	38.5	4	9.6	412	12	29.1	409	38	92.9	355	3	8.5	3143		
VERTEX UNSPECIFIED	921	4.8	89	96.6	52	56.5	869	37	42.6	854	161	188.5	741	10	13.5	2947		
FACE	44	0.2	8	181.8	1	22.7	43	7	162.8	43	17	395.3	28	2	71.4	2534		
BROW	12	0.1	0	0	0	0	12	0	0	12	3	250.0	11	1	90.9	2842		
TRANSVERSE	66	0.3	17	257.6	9	136.4	57	8	140.4	55	27	490.9	42	2	47.6	2499		
COMPOUND	16	0.1	7	437.5	5	312.5	11	2	181.8	11	5	454.5	4	0	0	2258		
FRANK BREECH	240	1.2	52	216.7	37	154.2	203	15	73.9	196	58	295.9	166	5	30.1	2795		
FULL BREECH	33	0.2	7	212.1	4	121.2	29	3	103.4	28	10	357.1	23	5	217.4	2633		
SINGLE FOOT	60	0.3	17	283.3	11	183.3	49	6	122.4	49	16	326.5	40	1	25.0	2685		
DOUBLE FOOT	139	0.7	62	446.0	26	187.1	113	36	318.6	105	56	533.3	67	2	29.9	2230		
BREECH UNSPECIFIED	103	0.5	15	145.6	6	58.3	97	9	92.8	94	27	287.2	80	2	25.0	2722		
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039		

SECTION 2. DURATION OF LABOR

INTRODUCTION

Duration of labor is measured from the onset of labor. When onset of labor occurred prior to admission to the hospital, the time of onset is based on the gravida's report. In those occasional cases where onset of labor was observed in the hospital, time of onset was recorded. The distributions of duration of labor are similar when these are considered separately by institutions or by race. The only non-conforming distribution occurred in Tennessee, where the onset of labor

was defined differently. The data from this institution have been excluded from the tabulations.

Duration of first stage of labor is defined as the elapsed time from the onset of regular contractions to full dilatation of the cervix.

The length of the second stage of labor is defined as the time elapsed between full cervical dilatation and completed delivery of the infant. Women are usually in the hospital by the beginning of this stage, so that the length of this period of labor is based on hospital observation. Not surprisingly, the distributions of the duration of this stage of labor are consistent by institution.

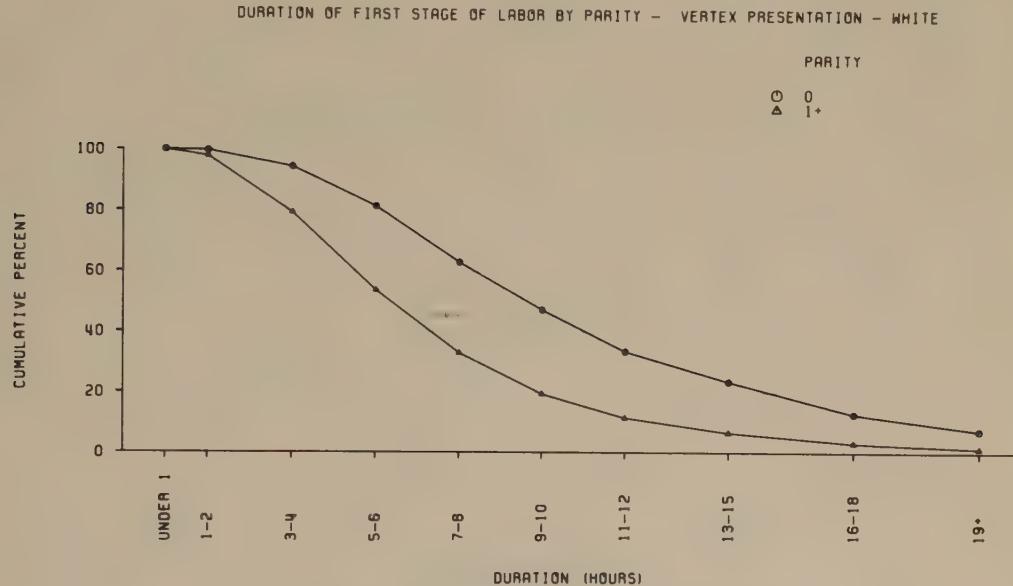
The third stage of labor begins with complete delivery of the child and ends with delivery of the placenta.

DURATION OF FIRST STAGE OF LABOR - VERTEX PRESENTATION

The distribution of duration of the first stage of labor is almost identical for White and Negro women. For example, 47 per cent of the White and 49 per cent of the Negro primiparas are reported as having a first stage of more than eight hours duration. Seven per cent of White and ten per cent of Negro primiparas experienced labors where the first stage was longer

than eighteen hours. As expected, the duration of the first stage for multiparas of both races was substantially shorter than that of primiparas.

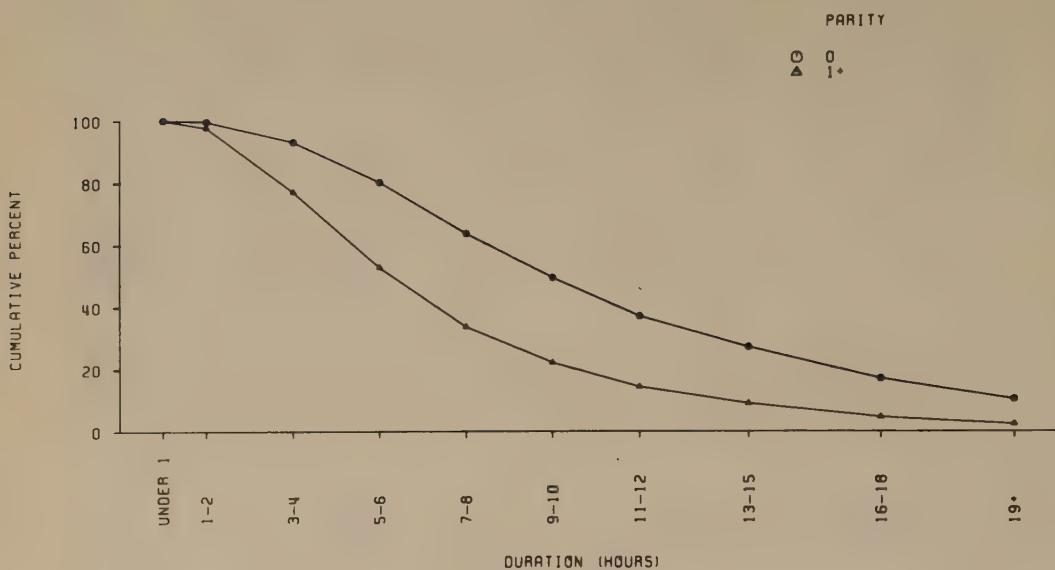
When the first stage of labor is very short, i.e., less than three hours, the perinatal death rate is considerably higher for Negro nulliparas than for Whites. On closer examination, this higher mortality probably reflects the higher proportion of infants of low birth-weight. The mean birthweight for this group was also decreased.



DURATION OF FIRST STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (HOURS)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT
UNDER 1	17	0.26	100.00	189	2.05	100.00
1-2	339	5.18	99.74	1708	18.52	97.95
3-4	845	12.92	94.56	2369	25.69	79.13
5-6	1213	18.54	81.64	1907	20.68	53.75
7-8	1030	15.74	63.10	1260	13.66	33.07
9-10	903	13.80	47.36	727	7.88	19.41
11-12	652	9.97	33.55	452	4.90	11.53
13-15	705	10.78	23.59	322	3.49	6.62
16-18	363	5.55	12.81	159	1.72	3.13
19+	475	7.26	7.26	130	1.41	1.41
TOTAL	6542	100.00		9223	100.00	
C/S	129	1.87		321	3.16	
UNKNOWN	242	3.50		626	6.15	
GRAND TOTAL	6913	100.00		10170	100.00	

DURATION OF FIRST STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO



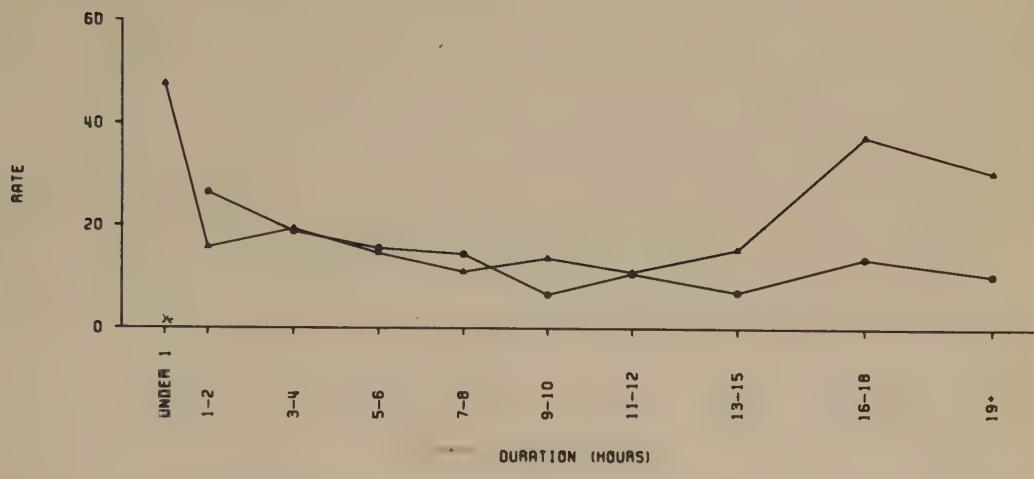
DURATION OF FIRST STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (HOURS)	NUMBER	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
UNDER 1	23	0.48	100.00	225	2.42	100.00
1-2	319	6.59	99.52	1922	20.65	97.58
3-4	629	12.99	92.94	2262	24.31	76.93
5-6	796	16.44	79.95	1770	19.02	52.62
7-8	689	14.23	63.51	1076	11.56	33.60
9-10	602	12.43	49.28	727	7.81	22.04
11-12	476	9.83	36.84	493	5.30	14.23
13-15	491	10.14	27.01	408	4.38	8.93
16-18	323	6.67	16.87	207	2.22	4.55
19+	494	10.20	10.20	216	2.32	2.32
TOTAL	4842	100.00		9306	100.00	
C/S	176	3.37		377	3.63	
UNKNOWN	208	3.98		709	6.82	
GRAND TOTAL	5226	100.00		10392	100.00	

PERINATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

PARITY

0
▲ 1+



* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

PARITY:

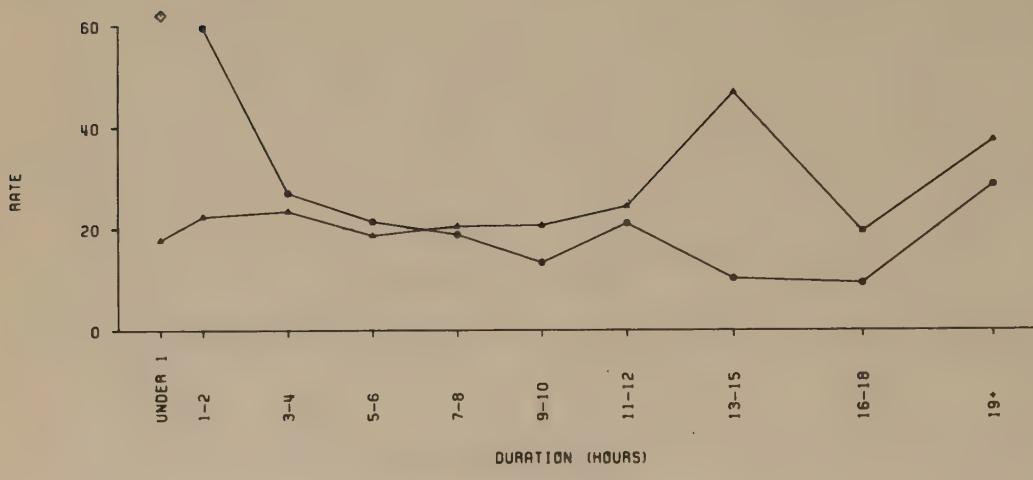
DURATION (HOURS)	0			1+		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
UNDER 1	17	0	0 *	189	9	17.62
1-2	339	9	26.55	1708	27	15.81
3-4	845	16	18.93	2369	46	19.42
5-6	1213	19	15.66	1907	28	14.68
7-8	1030	15	14.56	1260	11	11.11
9-10	903	6	6.64	727	10	13.76
11-12	652	7	10.74	452	5	11.06
13-15	705	5	7.09	322	5	15.53
16-18	363	5	13.77	159	6	37.74
19+	475	5	10.53	130	4	30.77
TOTAL	6542	87	13.30	9223	154	16.70
C/S	129	9	69.77	321	22	68.54
UNKNOWN	242	14	57.85	626	34	54.31
GRAND TOTAL	6913	110	15.91	10170	210	20.65

* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY

▲ 0
□ 1+

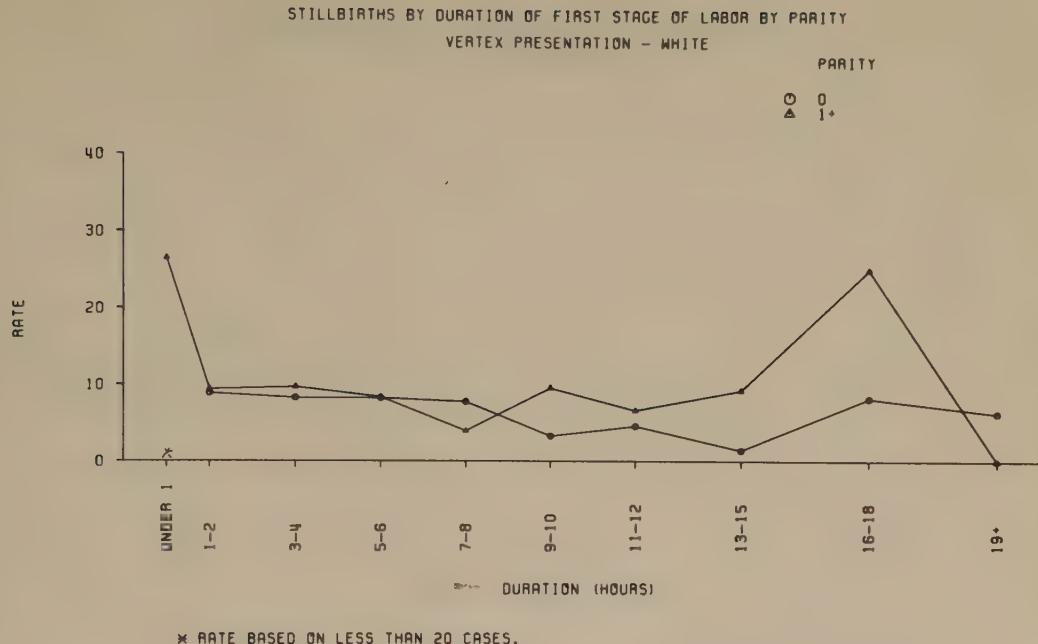


◊ UNPLOTTED RATE IS 217.39.

PERINATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY: 0 1+

DURATION (HOURS)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
UNDER 1	23	5	217.39	225	4	17.78
1-2	319	19	59.56	1922	43	22.37
3-4	629	17	27.03	2262	53	23.43
5-6	796	17	21.36	1770	33	18.64
7-8	689	13	18.87	1076	22	20.45
9-10	602	8	13.29	727	15	20.63
11-12	476	10	21.01	493	12	24.34
13-15	491	5	10.18	408	19	46.57
16-18	323	3	9.29	207	4	19.32
19+	494	14	28.34	216	8	37.04
TOTAL	4842	111	22.92	9306	213	22.89
C/S	176	8	45.45	377	27	71.62
UNKNOWN	208	13	62.50	709	32	45.13
GRAND TOTAL	5226	132	25.26	10392	272	26.17



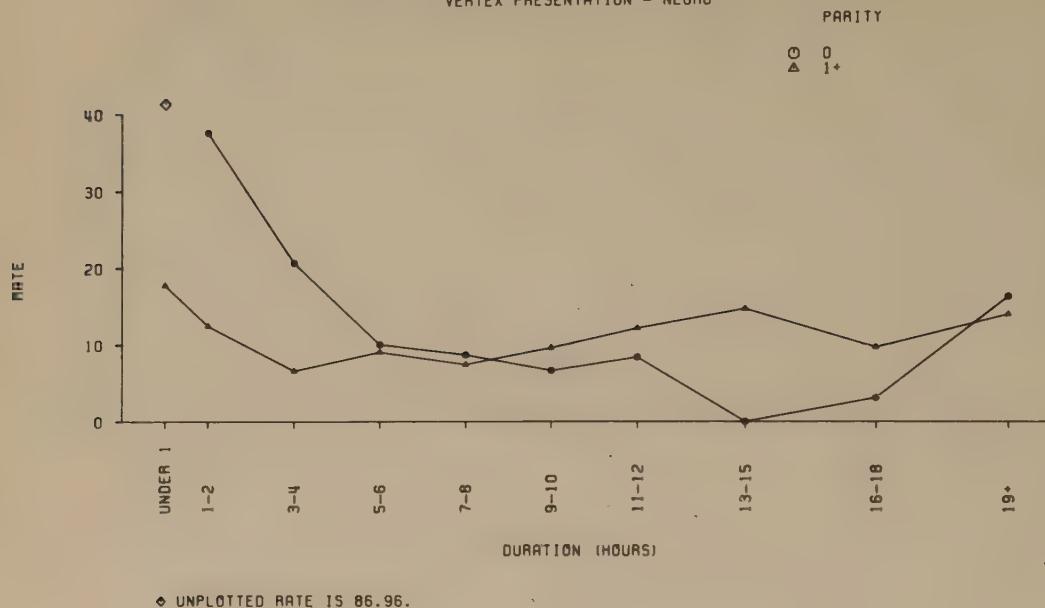
* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

PARITY:	0				1+			
	DURATION (HOURS)	BIRTHS	ALL STILLBIRTHS NO.	FRESH STILLBIRTHS NO.	BIRTHS	ALL STILLBIRTHS NO.	FRESH STILLBIRTHS NO.	RATE
UNDER 1	17	0	0 *	0 *	189	5	26.46	1 5.29
1-2	339	3	8.85	0	1708	16	9.37	2 1.17
3-4	845	7	8.28	1	2369	23	9.71	6 2.53
5-6	1213	10	8.24	2	1907	16	8.39	6 3.15
7-8	1030	8	7.77	2	1260	5	3.97	3 2.38
9-10	903	3	3.32	0	727	7	9.63	2 2.75
11-12	652	3	4.60	1	452	3	6.64	5 11.06
13-15	705	1	1.42	0	322	3	9.32	2 6.21
16-18	363	3	8.26	2	5.51	4	25.16	2 12.58
19+	475	3	6.32	2	4.21	0	0	0
TOTAL	6542	41	6.27	10	1.53	9223	82	8.89
C/S	129	2	15.50	2	15.50	321	8	24.92
UNKNOWN	242	9	37.19	3	12.40	626	23	36.74
GRAND TOTAL	6913	52	7.52	15	2.17	10170	113	11.11
								4.13

* RATE BASED ON LESS THAN 20 CASES.

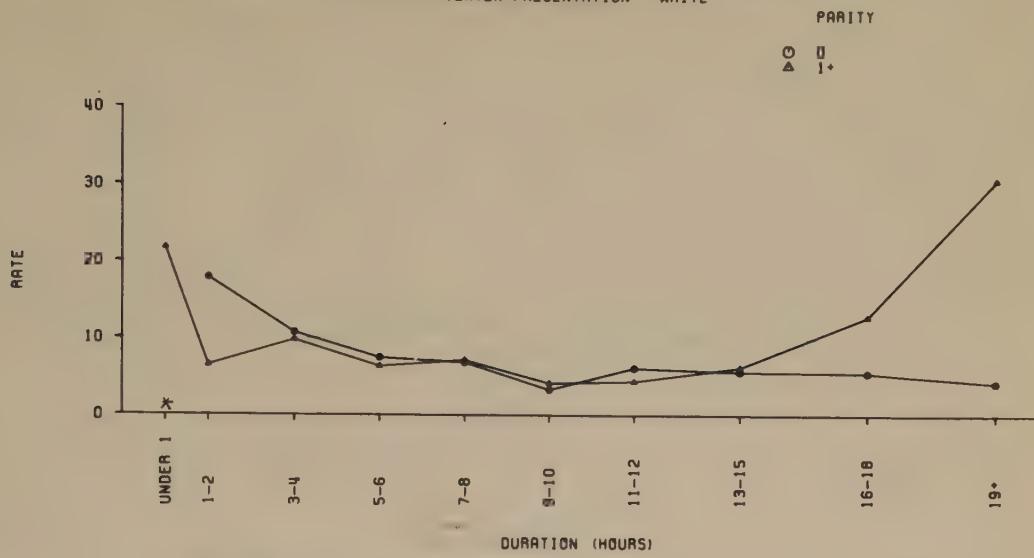
STILLBIRTHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO



STILLBIRTHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY:	0				1+					
	BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE	BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE
UNDER 1	23	2	86.96	0	0	225	4	17.78	1	4.44
1-2	319	12	37.62	5	15.67	1922	24	12.49	6	3.12
3-4	629	13	20.67	6	9.54	2262	15	6.63	11	4.86
5-6	796	8	10.05	4	5.03	1770	16	9.04	6	3.39
7-8	689	6	8.71	2	2.90	1076	8	7.43	5	4.65
9-10	602	4	6.64	1	1.66	727	7	9.63	2	2.75
11-12	476	4	8.40	3	6.30	493	6	12.17	1	2.03
13-15	491	0	0	0	0	408	6	14.71	3	7.35
16-18	323	1	3.10	0	0	207	2	9.66	1	4.83
19+	494	8	16.19	5	10.12	216	3	13.89	2	9.26
TOTAL	4842	58	11.98	26	5.37	9306	91	9.78	38	4.08
C/S	176	3	17.05	3	17.05	377	11	29.18	11	29.18
UNKNOWN	208	4	19.23	0	0	709	17	23.98	4	5.64
GRAND TOTAL	5226	65	12.44	29	5.55	10392	119	11.45	53	5.10

NEONATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE



* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

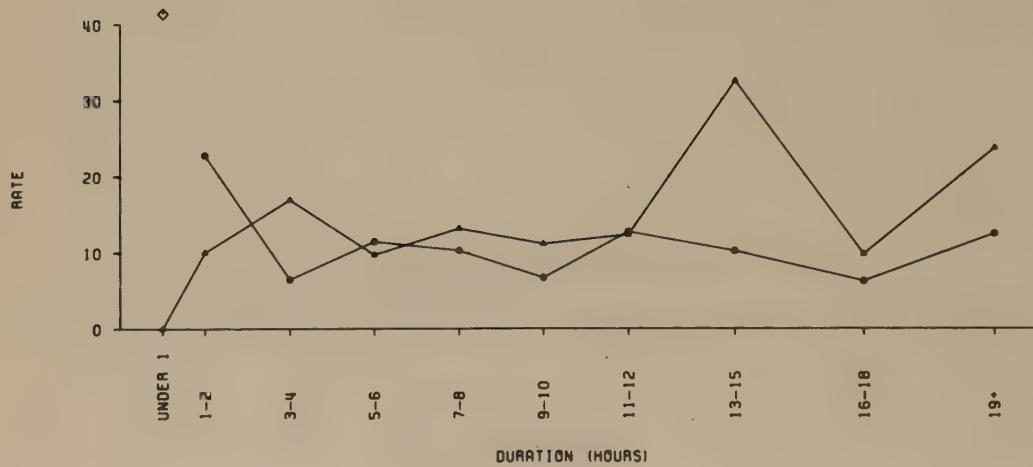
PARITY:	0			1+			
	DURATION (HOURS)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
UNDER 1	17	0	0	0	184	4	21.74
1-2	336	6	17.86	1.8	1692	11	6.50
3-4	838	9	10.74	1.1	2346	23	9.80
5-6	1203	9	7.48	0.7	1891	12	6.35
7-8	1022	7	6.85	0.7	1255	9	7.17
9-10	900	3	3.33	0.3	720	3	4.17
11-12	649	4	6.16	0.6	449	2	4.45
13-15	704	4	5.68	0.6	319	2	6.27
16-18	360	2	5.56	0.5	155	2	12.90
19+	472	2	4.24	0.4	130	4	30.77
TOTAL	6501	46	7.08	0.7	9141	72	7.88
C/S	127	7	55.12	0.5	313	14	44.73
UNKNOWN	233	5	21.46	0.5	603	11	18.24
GRAND TOTAL	6861	58	8.45	0.8	10057	97	9.65

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY

▲ 0 □ 1+

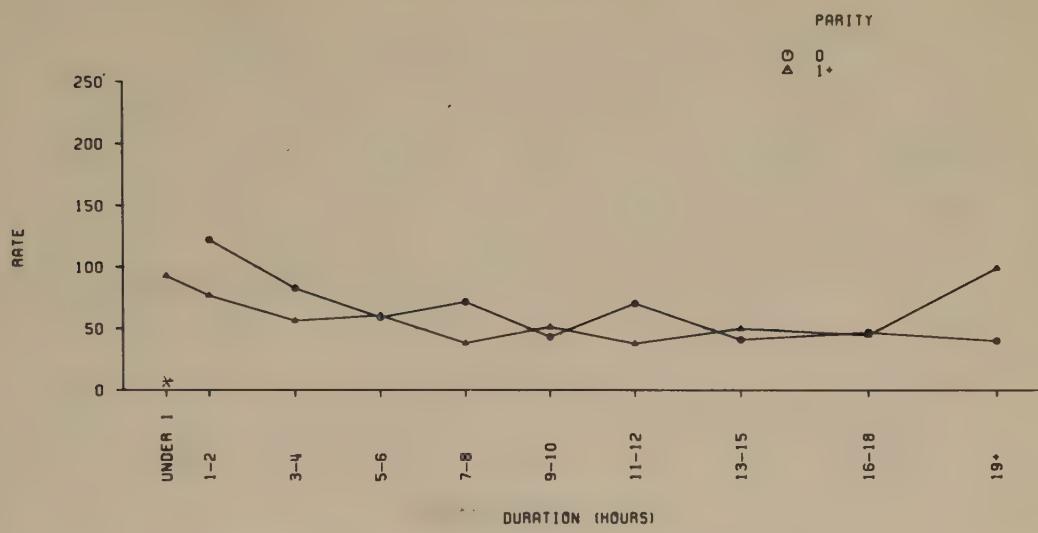


◆ UNPLOTTED RATE IS 142.86.

NEONATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY:	0			1+			
	DURATION (HOURS)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
UNDER 1	21	3	142.86	221	0	0	0
1-2	307	7	22.80	1898	19	10.01	
3-4	616	4	6.49	2247	38	16.91	
5-6	788	9	11.42	1754	17	9.69	
7-8	683	7	10.25	1068	14	13.11	
9-10	598	4	6.69	720	8	11.11	
11-12	472	6	12.71	487	6	12.32	
13-15	491	5	10.18	402	13	32.34	
16-18	322	2	6.21	205	2	9.76	
19+	486	6	12.35	213	5	23.47	
TOTAL	4784	53	11.08	9215	122	13.24	
C/S	173	5	28.90	366	16	43.72	
UNKNOWN	204	9	44.12	692	15	21.68	
GRAND TOTAL	5161	67	12.98	10273	153	14.89	

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE



* RATE BASED ON LESS THAN 20 CASES.

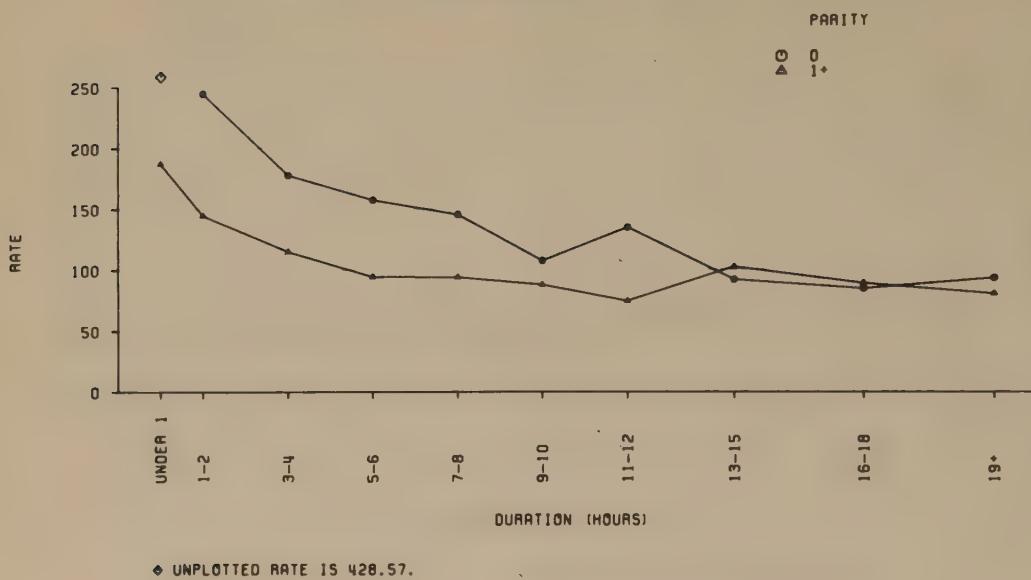
BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

PARITY: 0 1+

DURATION (HOURS)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
UNDER 1	17	4	235.29*	183	17	92.90
1-2	335	41	122.39	1688	130	77.01
3-4	833	69	82.83	2339	132	56.43
5-6	1201	71	59.12	1888	115	60.91
7-8	1015	73	71.92	1253	48	38.31
9-10	899	39	43.38	717	37	51.60
11-12	649	46	70.88	448	17	37.95
13-15	701	29	41.37	318	16	50.31
16-18	359	17	47.35	155	7	45.16
19+	468	19	40.60	130	13	100.00
TOTAL	6477	408	62.99	9119	532	58.34
C/S	126	5	39.68	312	54	173.08
UNKNOWN	230	25	108.70	596	52	87.25
GRAND TOTAL	6833	438	64.10	10027	638	63.63

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

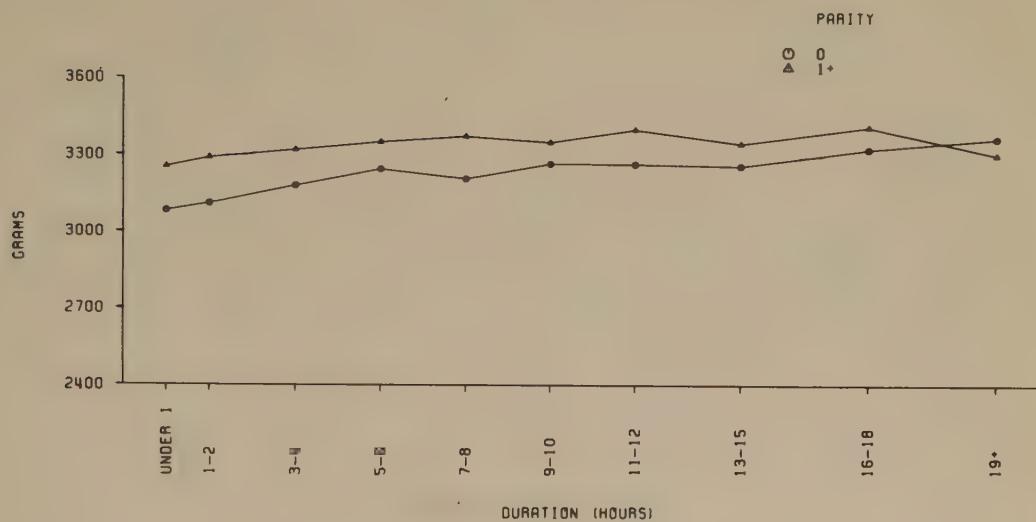


◆ UNPLOTTED RATE IS 428.57.

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (HOURS)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.
UNDER 1	21	9	428.57	219	41	187.21
1-2	307	75	244.30	1895	274	144.59
3-4	613	109	177.81	2236	257	114.94
5-6	782	123	157.29	1750	165	94.29
7-8	681	99	145.37	1065	100	93.90
9-10	596	64	107.38	717	63	87.87
11-12	468	63	134.62	484	36	74.38
13-15	490	45	91.84	401	41	102.24
16-18	321	27	84.11	203	18	88.67
19+	486	45	92.59	213	17	79.81
TOTAL	4765	659	138.30	9183	1012	110.20
C/S	172	33	191.86	366	58	158.47
UNKNOWN	201	56	278.61	683	96	140.56
GRAND TOTAL	5138	748	145.58	10232	1166	113.96

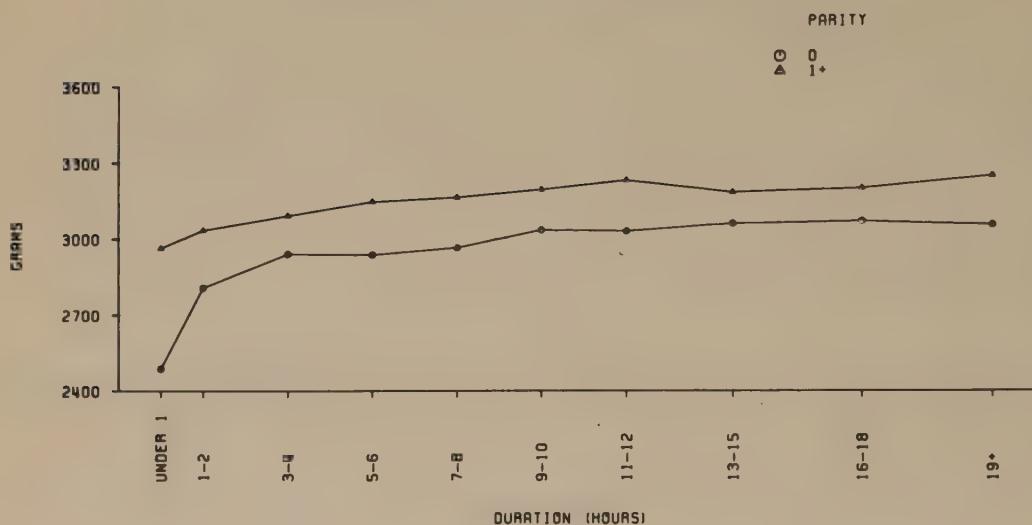
MEAN BIRTHWEIGHT BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE



MEAN BIRTHWEIGHT BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

PARITY:	0		1+	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
UNDER 1	17	3082	183	3254
1-2	335	3111	1688	3290
3-4	833	3183	2339	3322
5-6	1201	3249	1888	3355
7-8	1015	3213	1253	3378
9-10	899	3273	717	3356
11-12	649	3271	448	3407
13-15	701	3265	318	3352
16-18	359	3330	155	3417
19+	468	3373	130	3309
TOTAL	6477	3248	9119	3339
C/S	126	3343	312	3016
UNKNOWN	230	3158	596	3243
GRAND TOTAL	6833	3247	10027	3323

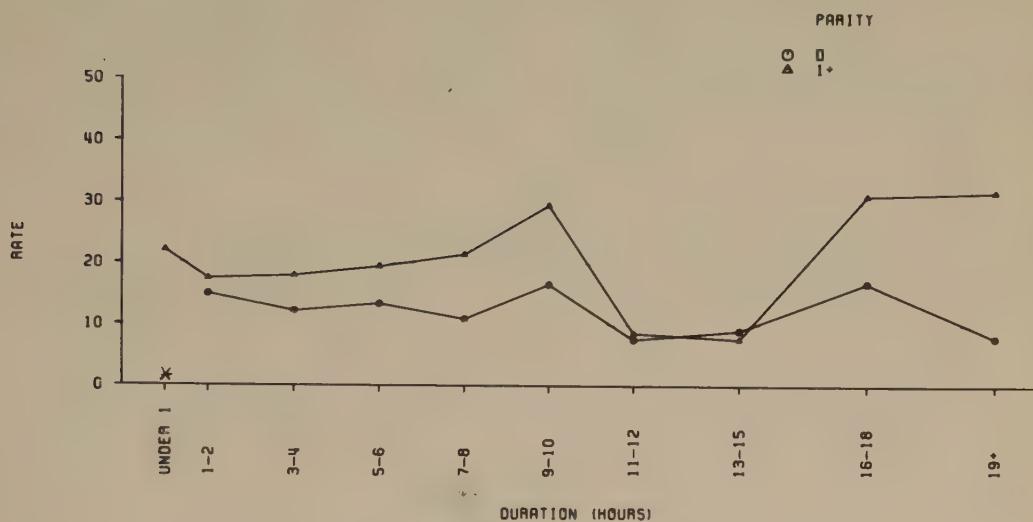
MEAN BIRTHWEIGHT BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO



MEAN BIRTHWEIGHT BY DURATION OF FIRST STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY:	0	1+		
DURATION (HOURS)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
UNDER 1	21	2487	219	2964
1-2	307	2807	1895	3034
3-4	613	2940	2236	3091
5-6	782	2937	1750	3146
7-8	681	2965	1065	3163
9-10	596	3034	717	3193
11-12	468	3029	484	3228
13-15	490	3057	401	3180
16-18	321	3065	203	3194
19+	486	3049	213	3241
TOTAL	4765	2985	9183	3120
C/S	172	3090	366	3070
UNKNOWN	201	2691	683	3018
GRAND TOTAL	5138	2977	10232	3111

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY DURATION OF FIRST STAGE OF LABOR BY PARITY - VERTEx PRESENTATION - WHITE



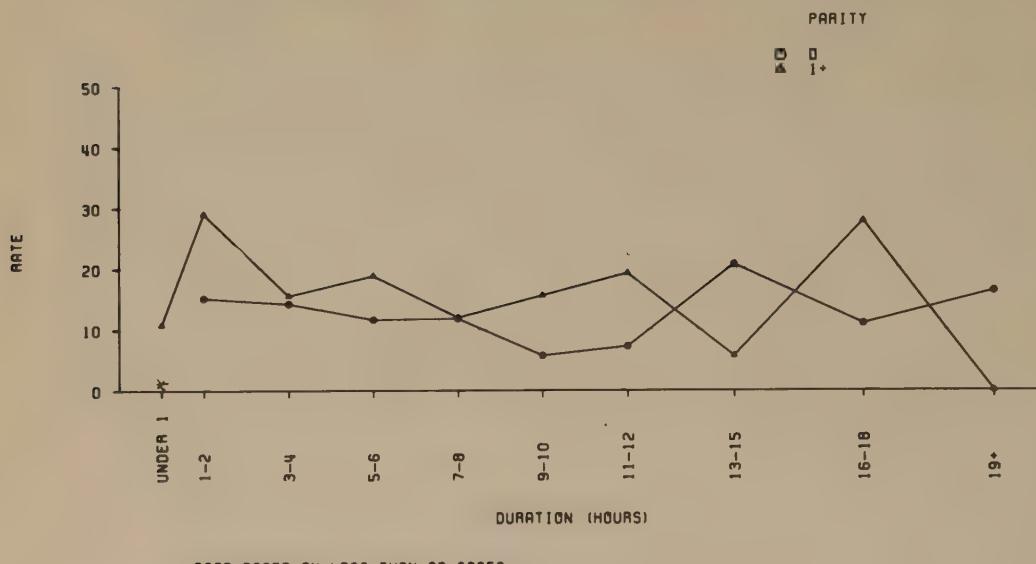
* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY DURATION OF FIRST STAGE OF LABOR BY PARITY - VERTEx PRESENTATION - WHITE

PARITY:	0			1+			
	DURATION (HOURS)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 1	14	0	0	*	136	3	22.06
1-2	268	4	14.93		1375	24	17.45
3-4	656	8	12.20		1896	34	17.93
5-6	971	13	13.39		1540	30	19.48
7-8	824	9	10.92		1025	22	21.46
9-10	722	12	16.62		574	17	29.62
11-12	527	4	7.59		347	3	8.65
13-15	551	5	9.07		261	2	7.66
16-18	296	5	16.89		128	4	31.25
19+	377	3	7.96		94	3	31.91
TOTAL	5206	63	12.10		7376	142	19.25
C/S	92	3	32.61		250	5	20.00
UNKNOWN	173	5	28.90		475	9	18.95
GRAND TOTAL	5471	71	12.98		8101	156	19.26

* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY DURATION OF FIRST STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO



* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY DURATION OF FIRST STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

PARITY:	0			1+			
	DURATION (HOURS)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 1	14	0	0	*	185	2	10.81
1-2	264	4	15.15		1688	49	29.03
3-4	561	8	14.26		1931	30	15.54
5-6	689	8	11.61		1541	29	18.82
7-8	592	7	11.82		918	11	11.98
9-10	526	3	5.70		643	10	15.55
11-12	414	3	7.25		417	8	19.18
13-15	437	9	20.59		353	2	5.67
16-18	274	3	10.95		181	5	27.62
19+	433	7	16.17		185	0	0
TOTAL	4204	52	12.37		8042	146	18.15
C/S	151	1	6.62		308	6	19.48
UNKNOWN	171	0	0		578	9	15.57
GRAND TOTAL	4526	53	11.71		8928	161	18.03

* RATE BASED ON LESS THAN 20 CASES.

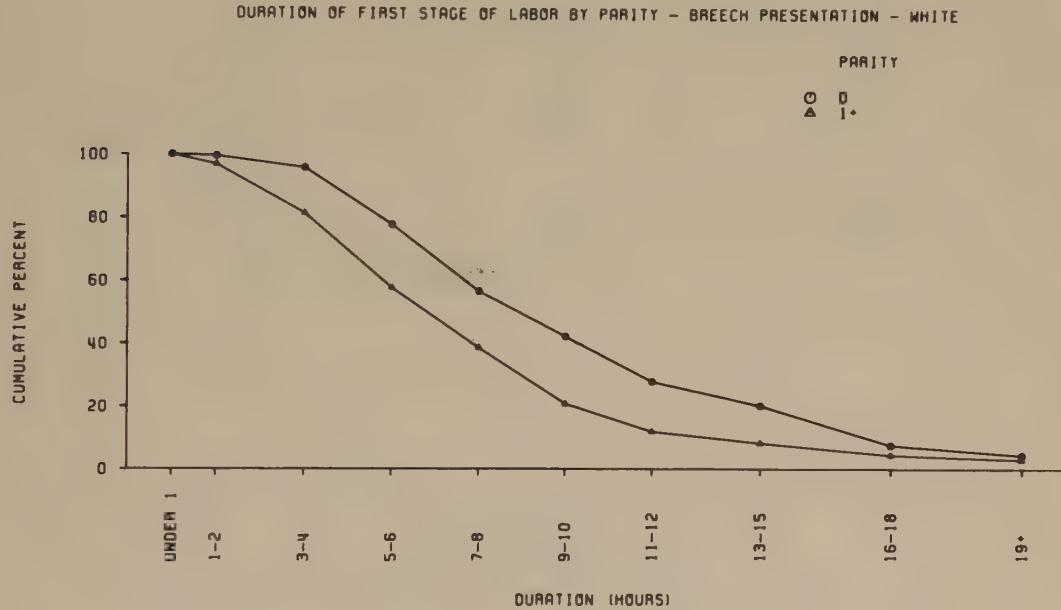
SECTION 2. DURATION OF LABOR (Continued)

DURATION OF FIRST STAGE OF LABOR—BREECH PRESENTATION

When the cumulative distribution of duration of first stage of labor for vertex and breech presentation are compared, they are noted to be rather similar, though the duration of first stage for women with breech presentation is on the average somewhat longer. The percentage of first stage over eighteen hours is less and the rate of cesarean section much higher for breech than for vertex presentation. Ce-

sarean sections were carried out in sixteen per cent of White and eighteen per cent of Negro primiparas with breech presentation as compared with only two per cent of White and three per cent of Negro primiparas with vertex presentation. A similar increase in delivery by cesarean section was noted in multiparas with breech presentation.

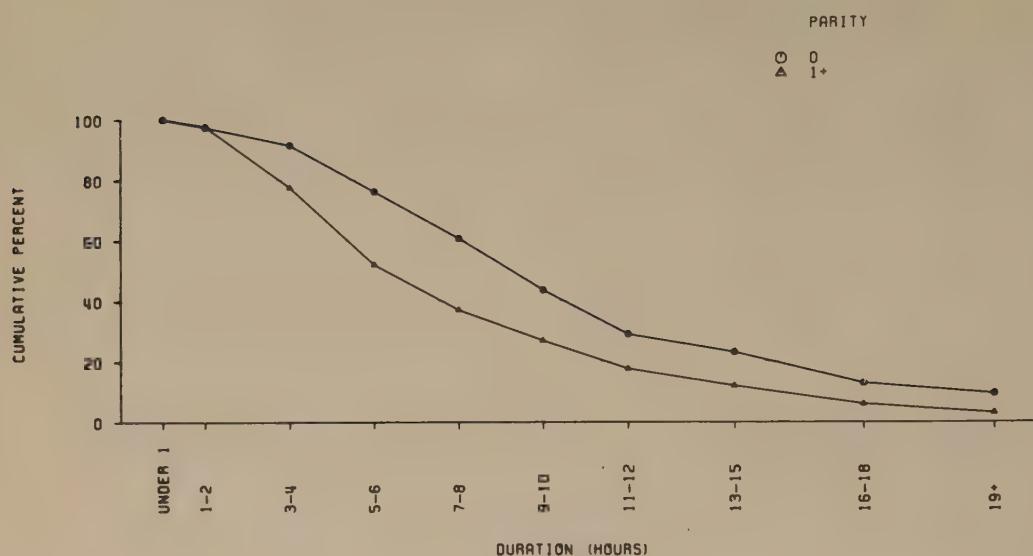
Breech presentation, in general, is associated with an increased perinatal mortality rate and abnormal neurologic outcome compared to vertex. The effect of the duration of the first stage of labor cannot be readily evaluated here because of the small number of breech presentations.



DURATION OF FIRST STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0			1+			
	DURATION (HOURS)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
UNDER 1	1	0.45	100.00	9	3.08	100.00	
1-2	8	3.60	99.55	45	15.41	96.92	
3-4	40	18.02	95.95	69	23.63	81.51	
5-6	47	21.17	77.93	56	19.18	57.88	
7-8	32	14.41	56.76	52	17.81	38.70	
9-10	32	14.41	42.34	26	8.90	20.89	
11-12	17	7.66	27.93	11	3.77	11.99	
13-15	28	12.61	20.27	11	3.77	8.22	
16-18	7	3.15	7.66	4	1.37	4.15	
19+	10	4.50	4.50	9	3.08	3.08	
TOTAL	222	100.00		292	100.00		
C/S	48	15.74		46	12.04		
UNKNOWN	35	11.48		44	11.52		
GRAND TOTAL	305	100.00		382	100.00		

DURATION OF FIRST STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO



DURATION OF FIRST STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (HOURS)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT
UNDER 1	3	2.56	100.00	6	2.25	100.00
1-2	7	5.98	97.44	54	20.22	97.75
3-4	18	15.38	91.45	68	25.47	77.53
5-6	18	15.38	76.07	40	14.98	52.06
7-8	20	17.09	60.68	27	10.11	37.08
9-10	17	14.53	43.59	25	9.36	26.97
11-12	7	5.98	29.06	15	5.62	17.60
13-15	12	10.26	23.08	16	5.99	11.99
16-18	4	3.42	12.82	8	3.00	5.99
19+	11	9.40	9.40	8	3.00	3.00
TOTAL	117	100.00		267	100.00	
C/S	30	18.18		44	12.87	
UNKNOWN	18	10.91		31	9.06	
GRAND TOTAL	165	100.00		342	100.00	

PERINATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
BREECH PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (HOURS)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
UNDER 1	1	1	1000.00*	9	4	444.44*
1-2	8	1	125.00*	45	6	133.33
3-4	40	6	150.00	69	10	144.93
5-6	47	8	170.21	56	11	196.43
7-8	32	1	31.25	52	9	173.08
9-10	32	2	62.50	26	4	153.85
11-12	17	3	176.47*	11	1	90.91*
13-15	28	3	107.14	11	4	363.64*
16-18	7	0	0 *	4	1	250.00*
19+	10	3	300.00*	9	3	333.33*
TOTAL	222	28	126.13	292	53	181.51
C/S	48	0	0	46	3	65.22
UNKNOWN	35	16	457.14	44	17	386.36
GRAND TOTAL	305	44	144.26	382	73	191.10

* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
BREECH PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (HOURS)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
UNDER 1	3	1	333.33*	6	2	333.33*
1-2	7	6	857.14*	54	20	370.37
3-4	18	3	166.67*	68	10	147.06
5-6	18	5	277.78*	40	7	175.00
7-8	20	3	150.00	27	6	222.22
9-10	17	8	470.59*	25	6	240.00
11-12	7	3	428.57*	15	7	466.67*
13-15	12	1	83.33*	16	5	312.50*
16-18	4	2	500.00*	8	0	0 *
19+	11	6	545.45*	8	3	375.00*
TOTAL	117	38	324.79	267	66	247.19
C/S	30	1	33.33	44	5	113.64
UNKNOWN	18	13	722.22*	31	18	580.65
GRAND TOTAL	165	52	315.15	342	89	260.23

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
BREECH PRESENTATION - WHITE

PARITY:	DURATION (HOURS)	0				1+					
		BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE	BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE
UNDER 1	1	0	0	0	0	0	9	1	111.11*	1	111.11*
1-2	8	0	0	0	0	0	45	2	44.44	1	22.22
3-4	40	4	100.00	3	75.00	1	69	6	86.96	4	57.97
5-6	47	5	106.38	1	21.28		56	6	107.14	4	71.43
7-8	32	0	0	0	0		52	3	57.69	0	0
9-10	32	1	31.25	0	0		26	1	38.46	0	0
11-12	17	1	58.82*	1	58.82*		11	1	90.91*	0	0
13-15	28	3	107.14	1	35.71		11	4	363.64*	0	0
16-18	7	0	0	0	0		4	0	0	0	*
19+	10	1	100.00*	1	100.00*		9	3	333.33*	1	111.11*
TOTAL	222	15	67.57	7	31.53		292	27	92.47	11	37.67
C/S	48	0	0	0	0		46	0	0	0	0
UNKNOWN	35	12	342.86	5	142.86		44	10	227.27	2	45.45
GRAND TOTAL	305	27	88.52	12	39.34		382	37	96.86	13	34.03

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
BREECH PRESENTATION - NEGRO

PARITY:	DURATION (HOURS)	0				1+					
		BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE	BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE
UNDER 1	3	1	333.33*	0	0	0	6	2	333.33*	0	0
1-2	7	4	571.43*	4	571.43*		54	13	240.74	6	111.11
3-4	18	1	55.56*	0	0		68	6	88.24	2	29.41
5-6	18	4	222.22*	2	111.11*		40	5	125.00	4	100.00
7-8	20	2	100.00	1	50.00		27	3	111.11	3	111.11
9-10	17	4	235.29*	4	235.29*		25	3	120.00	0	0
11-12	7	1	142.86*	0	0		15	4	266.67*	2	133.33*
13-15	12	0	0	0	0		16	1	62.50*	1	62.50*
16-18	4	1	250.00*	0	0		8	0	0	0	*
19+	11	3	272.73*	1	90.91*		8	2	250.00*	1	125.00*
TOTAL	117	21	179.49	12	102.56		267	39	146.07	19	71.16
C/S	30	0	0	0	0		44	1	22.73	1	22.73
UNKNOWN	18	8	444.44*	4	222.22*		31	9	290.32	4	129.03
GRAND TOTAL	165	29	175.76	16	96.97		342	49	143.27	24	70.18

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
BREECH PRESENTATION - WHITE

PARITY:	DURATION (HOURS)	0				1+				
		LIVEBIRTHS	NEONATAL DEATHS	NEONATAL RATE	LIVEBIRTHS	NEONATAL DEATHS	NEONATAL RATE	LIVEBIRTHS	NEONATAL DEATHS	NEONATAL RATE
UNDER 1	1	1	1	1000.00*	8	3	375.00*			
1-2	8	1	1	125.00*	43	4	93.02			
3-4	36	2	2	55.56	63	4	63.49			
5-6	42	3	3	71.43	50	5	100.00			
7-8	32	1	1	31.25	49	6	122.45			
9-10	31	1	1	32.26	25	3	120.00			
11-12	16	2	2	125.00*	10	0	0			
13-15	25	0	0	0	7	0	0			
16-18	7	0	0	*	4	1	250.00*			
19+	9	2	2	222.22*	6	0	0			
TOTAL	207	13	62.80		265	26	98.11			
C/S	48	0	0		46	3	65.22			
UNKNOWN	23	4	173.91		34	7	205.88			
GRAND TOTAL	278	17	61.15		345	36	104.35			

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY DURATION OF FIRST STAGE OF LABOR BY PARITY
BREECH PRESENTATION - NEGRO

PARITY:	0			1+			
	DURATION (HOURS)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
UNDER 1		2	0	0 *	4	0	0 *
1-2		3	2	666.67*	41	7	170.73
3-4		17	2	117.65*	62	4	64.52
5-6		14	1	71.43*	35	2	57.14
7-8		18	1	55.56*	24	3	125.00
9-10		13	4	307.69*	22	3	136.36
11-12		6	2	333.33*	11	3	272.73*
13-15		12	1	83.33*	15	4	266.67*
16-18		3	1	333.33*	8	0	0 *
19+		8	3	375.00*	6	1	166.67*
TOTAL		96	17	177.08	228	27	118.42
C/S		30	1	33.33	43	4	93.02
UNKNOWN		10	5	500.00*	22	9	409.09
GRAND TOTAL		136	23	169.12	293	40	136.52

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF FIRST STAGE OF LABOR
BREECH PRESENTATION - WHITE

PARITY:	0			1+			
	DURATION (HOURS)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
UNDER 1		1	1	1000.00*	7	4	571.43*
1-2		8	3	375.00*	42	8	190.48
3-4		35	6	171.43	63	17	269.84
5-6		42	9	214.29	50	8	160.00
7-8		32	3	93.75	46	14	304.35
9-10		31	4	129.03	24	3	125.00
11-12		15	1	66.67*	10	1	100.00*
13-15		25	2	80.00	7	1	142.86*
16-18		7	0	0 *	4	1	250.00*
19+		9	4	444.44*	6	2	333.33*
TOTAL		205	33	160.98	259	59	227.80
C/S		48	4	83.33	44	9	204.55
UNKNOWN		23	7	304.35	33	15	454.55
GRAND TOTAL		276	44	159.42	336	83	247.02

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF FIRST STAGE OF LABOR
BREECH PRESENTATION - NEGRO

PARITY:	0			1+		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
UNDER 1	2	2	1000.00x	4	2	500.00x
1-2	2	1	500.00x	41	20	487.80
3-4	15	7	466.67x	60	23	383.33
5-6	14	2	142.86x	34	11	323.53
7-8	18	8	444.44x	22	5	227.27
9-10	11	4	363.64x	22	4	181.82
11-12	4	4	1000.00x	11	5	454.55x
13-15	12	4	333.33x	15	7	466.67x
16-18	3	2	666.67x	7	0	0 x
19+	7	2	285.71x	6	1	166.67x
TOTAL	88	36	409.09	222	78	351.35
C/S	30	5	166.67	42	13	309.52
UNKNOWN	10	6	600.00x	19	11	578.95
GRAND TOTAL	128	47	367.19	283	102	360.42

x RATE BASED ON LESS THAN 20 CASES.

MEAN BIRTHWEIGHT BY DURATION OF FIRST STAGE OF LABOR BY PARITY
BREECH PRESENTATION - WHITE

PARITY:	0			1+		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
UNDER 1	1	1446x	7	2296		
1-2	8	2739	42	3064		
3-4	35	2836	63	2939		
5-6	42	2840	50	3079		
7-8	32	2986	46	2703		
9-10	31	3028	24	3018		
11-12	15	3029	10	3155		
13-15	25	3083	7	2908		
16-18	7	3329	4	2559x		
19+	9	2803	6	2741		
TOTAL	205	2938	259	2931		
C/S	48	3267	44	2937		
UNKNOWN	23	2666	33	2328		
GRAND TOTAL	276	2973	336	2873		

x MEAN BASED ON LESS THAN 5 CASES.

MEAN BIRTHWEIGHT BY DURATION OF FIRST STAGE OF LABOR BY PARITY
BREECH PRESENTATION - NEGRO

PARITY:		0		1+
DURATION (HOURS)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
UNDER 1	2	2155*	4	2355*
1-2	2	1885*	41	2401
3-4	15	2529	60	2628
5-6	14	2914	34	2905
7-8	18	2600	22	2965
9-10	11	2479	22	2863
11-12	4	1935*	11	2255
13-15	12	2691	15	2325
16-18	3	2022*	7	3183
19+	7	2932	6	2802
TOTAL	88	2585	222	2663
C/S	30	3267	42	2744
UNKNOWN	10	2666	19	1987
GRAND TOTAL	128	2592	283	2630

* MEAN BASED ON LESS THAN 5 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF FIRST STAGE OF LABOR
BREECH PRESENTATION - WHITE

PARITY:		0		1+		
DURATION (HOURS)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 1	0	0	-	4	0	0 *
1-2	6	0	0 *	34	2	58.82
3-4	24	0	0	45	1	22.22
5-6	29	0	0	37	0	0
7-8	29	2	68.97	30	3	100.00
9-10	26	2	76.92	16	0	0 *
11-12	11	1	90.91*	9	0	0 *
13-15	20	0	0	4	0	0 *
16-18	4	0	0 *	3	0	0 *
19+	7	0	0 *	4	0	0 *
TOTAL	156	5	32.05	186	6	32.26
C/S	42	2	47.62	34	1	29.41
UNKNOWN	16	0	0	22	1	45.45
GRAND TOTAL	214	7	32.71	242	8	33.06

* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF FIRST STAGE OF LABOR
BREECH PRESENTATION - NEGRO

PARITY:	0			1+			
	DURATION (HOURS)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 1	1	0	0	0 x	4	0	0 x
1-2	1	0	0	0 x	29	5	172.41
3-4	14	1	1	71.43x	47	3	63.83
5-6	12	0	0	0 x	31	0	0
7-8	15	0	0	0 x	18	0	0 x
9-10	6	1	1	166.67x	15	1	66.67x
11-12	3	0	0	0 x	7	0	0 x
13-15	10	0	0	0 x	12	0	0 x
16-18	2	0	0	0 x	6	0	0 x
19+	5	0	0	0 x	5	0	0 x
TOTAL	69	2	2	28.99	174	9	51.72
C/S	28	1	1	35.71	37	1	27.03
UNKNOWN	4	1	1	250.00	12	0	0
GRAND TOTAL	101	4	4	39.60	223	10	44.84

x RATE BASED ON LESS THAN 20 CASES.

SECTION 2. DURATION OF LABOR (Continued)

DURATION OF SECOND STAGE OF LABOR - VERTEX PRESENTATION

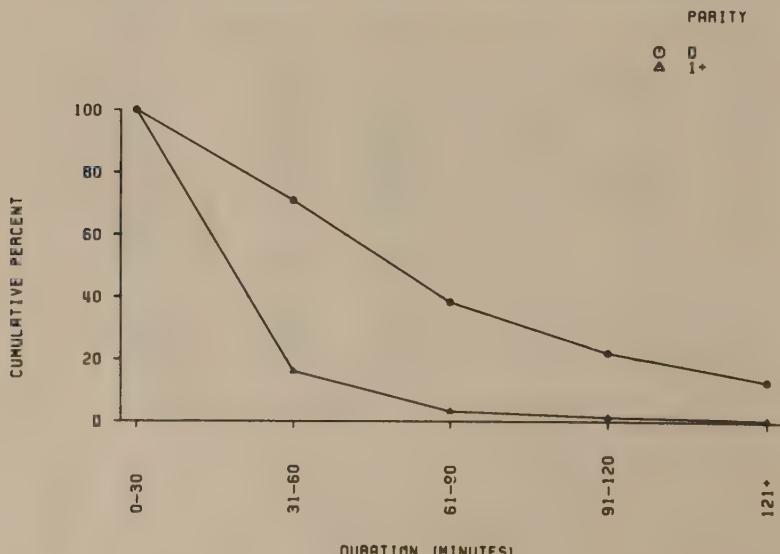
While the distribution curves of duration of second stage for White and Negro multiparas are very similar, White primiparas have, on the average, longer second stages of labor than Negroes.

It will be noted that the second stage of labor lasted longer than two hours in 13 per cent of the White primiparas and 0.6 per cent of multiparas. In

Negroes, long second stages occurred with roughly half the frequency, 6 per cent in primiparas and 0.3 per cent in multiparas.

Where the duration was less than 30 minutes, an association with greater fetal risk is noted. This may well be related to a higher frequency of infants with low birthweight in this group. However, as the duration of the second stage increased beyond two hours, there was an apparent increase in the risk of adverse fetal outcome for White and Negro primiparas and Negro multiparas. As expected, an association was observed between increased mean birthweight and increased duration of the second stage.

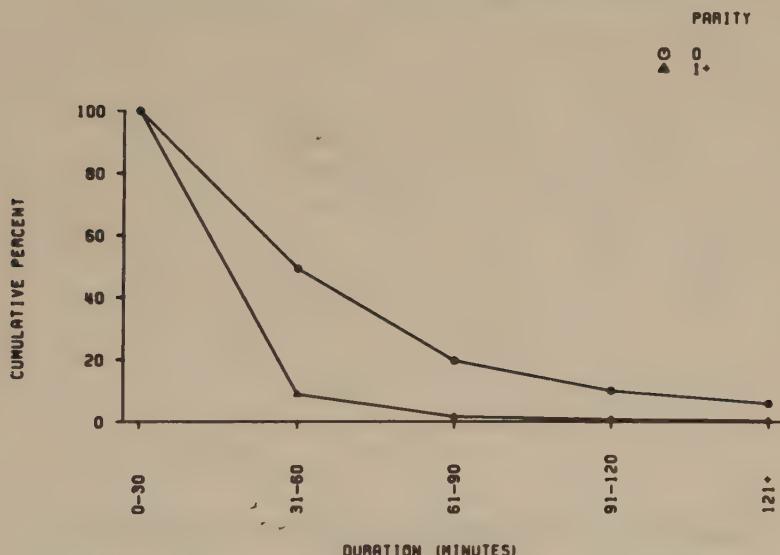
DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE



DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEx PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT
0-30	1894	26.89	100.00	7757	83.96	100.00
31-60	2145	32.72	71.11	1180	12.77	16.04
61-90	1068	16.29	38.38	176	1.90	3.27
91-120	600	9.15	22.09	71	0.77	1.36
121+	848	12.94	12.94	55	0.60	0.60
TOTAL	6555	100.00		9239	100.00	
C/S	129	1.87		321	3.16	
UNKNOWN	229	3.31		610	6.00	
GRAND TOTAL	6913	100.00		10170	100.00	

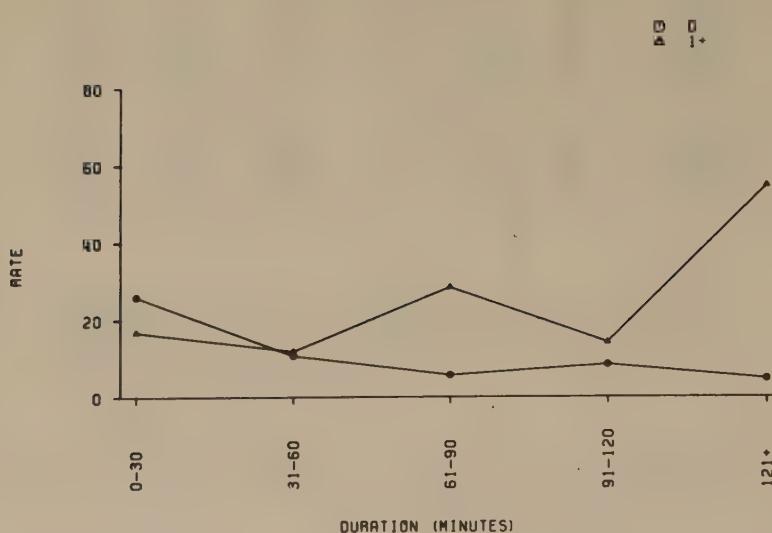
DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEx PRESENTATION - NEGRO



DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEx PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (MINUTES)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT
0-30	2462	50.61	100.00	8511	91.22	100.00
31-60	1444	29.68	49.39	662	7.10	8.78
61-90	471	9.68	19.71	91	0.98	1.68
91-120	203	4.17	10.03	34	0.36	0.71
121+	285	5.86	5.86	32	0.34	0.34
TOTAL	4865	100.00		9330	100.00	
C/S	176	3.37		377	3.63	
UNKNOWN	185	3.54		685	6.59	
GRAND TOTAL	5226	100.00		10392	100.00	

PERINATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE



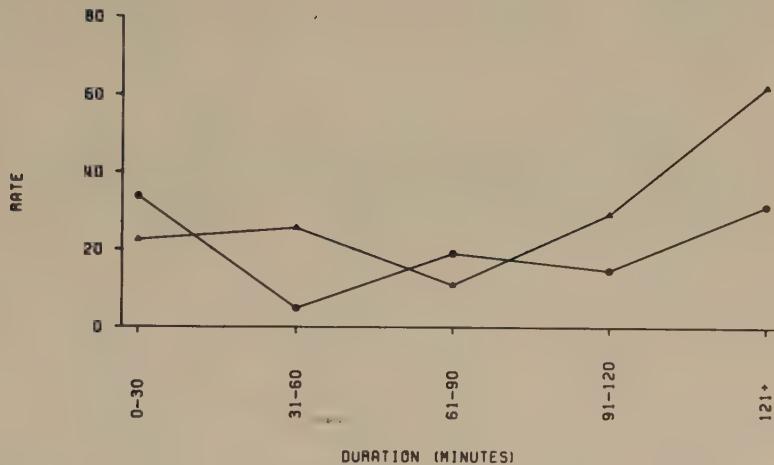
PERINATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
0-30	1894	49	25.87	7757	130	16.76
31-60	2145	23	10.72	1180	14	11.86
61-90	1068	6	5.62	176	5	28.41
91-120	600	5	8.33	71	1	14.08
121+	848	4	4.72	55	3	54.55
TOTAL	6555	87	13.27	9239	153	16.56
C/S	129	9	69.77	321	22	68.54
UNKNOWN	229	14	61.14	610	35	57.38
GRAND TOTAL	6913	110	15.91	10170	210	20.65

PERINATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY

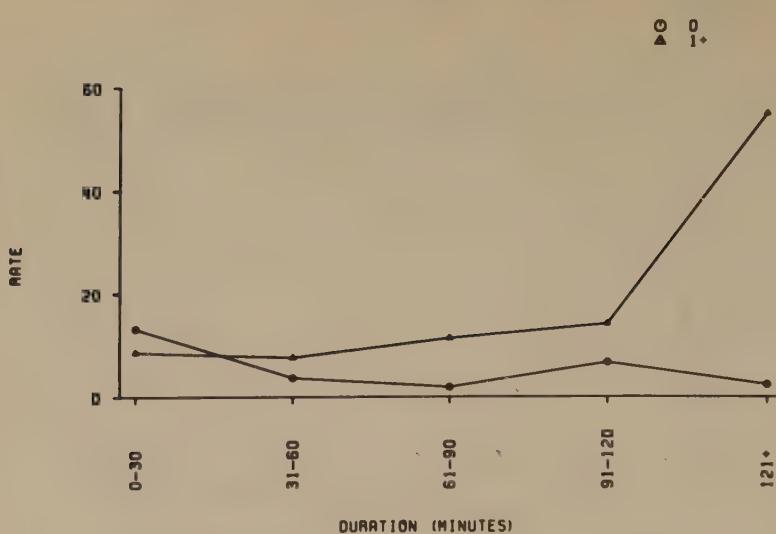
▲ 0
● 1+



PERINATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

PARITY:		0		1+	
DURATION (MINUTES)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
0-30	2462	83	33.71	8511	192
31-60	1444	7	4.85	662	17
61-90	471	9	19.11	91	1
91-120	203	3	14.78	34	1
121+	285	9	31.58	32	2
TOTAL	4865	111	22.82	9330	213
C/S	176	8	45.45	377	27
UNKNOWN	185	13	70.27	685	32
GRAND TOTAL	5226	132	25.26	10392	272

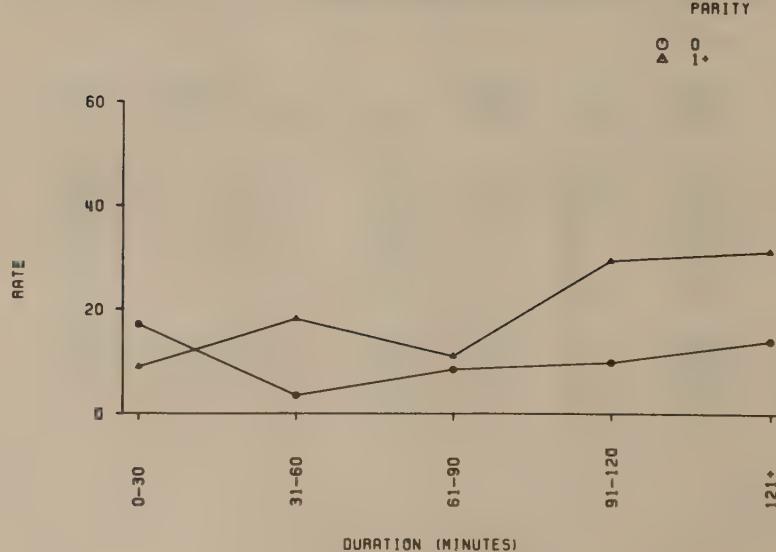
STILLBIRTHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE



STILLBIRTHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE

PARITY:	DURATION (MINUTES)	0			1+					
		BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.	RATE	ALL STILLBIRTHS NO.	FRESH STILLBIRTHS NO.	RATE	
	0-30	1894	25	13.20	5	2.64	7757	67	8.64	
	31-60	2145	8	3.73	2	0.93	1180	9	7.63	
	61-90	1068	2	1.87	1	0.94	176	2	11.36	
	91-120	600	4	6.67	2	3.33	71	1	14.08	
	121+	848	2	2.36	0	0	55	3	54.55	
	TOTAL	6555	41	6.25	10	1.53	9239	82	8.88	
C/S	129	2	15.50	2	15.50	2	321	8	24.92	
UNKNOWN	229	9	39.30	3	13.10	610	23	37.70	11	18.03
GRAND TOTAL	6913	52	7.52	15	2.17	10170	113	11.11	42	4.13

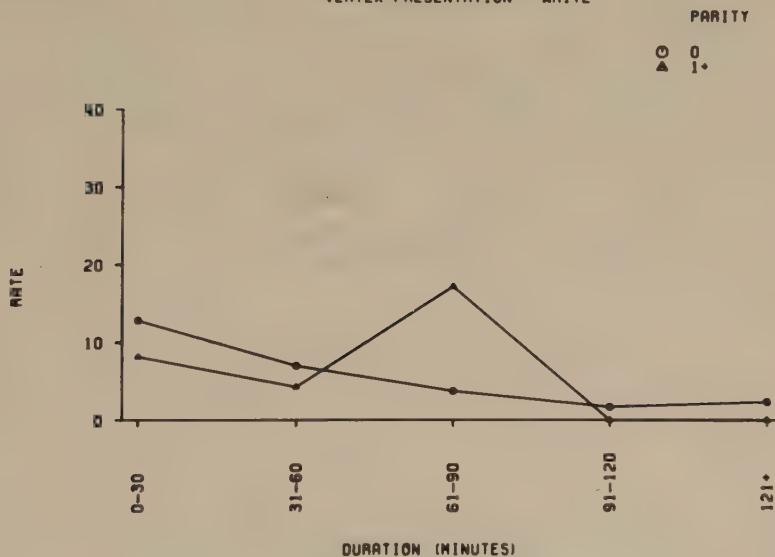
STILLBIRTHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO



STILLBIRTHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

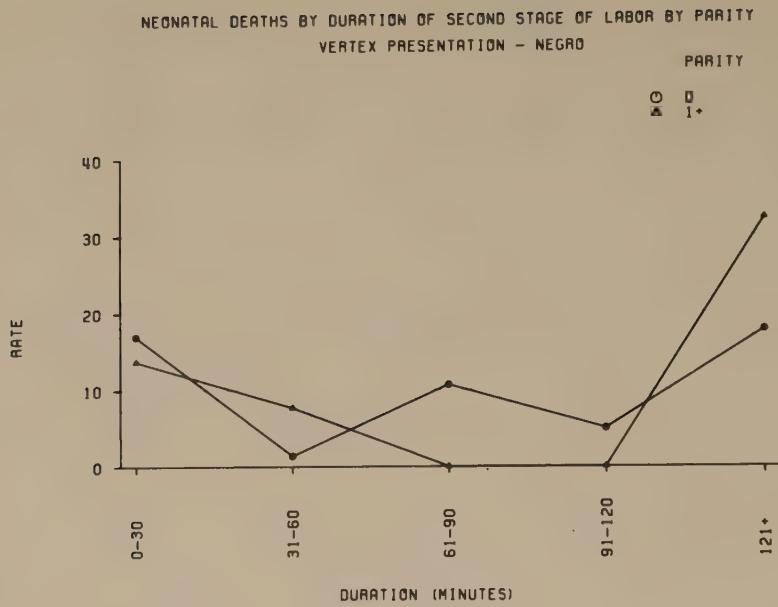
PARITY:	0						1+					
	DURATION (MINUTES)	BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE	BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE	
0-30	2462	42	17.06	17	6.90	8511	76	8.93	34	3.99		
31-60	1444	5	3.46	4	2.77	662	12	18.13	4	6.04		
61-90	471	4	8.49	2	4.25	91	1	10.99	0	0		
91-120	203	2	9.85	2	9.85	34	1	29.41	0	0		
121+	285	4	14.04	0	0	32	1	31.25	0	0		
TOTAL	4865	57	11.72	25	5.14	9330	91	9.75	38	4.07		
C/S	176	3	17.05	3	17.05	377	11	29.18	11	29.18		
UNKNOWN	185	5	27.03	1	5.41	685	17	24.82	4	5.84		
GRAND TOTAL	5226	65	12.44	29	5.55	10392	119	11.45	53	5.10		

NEONATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE



NEONATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE

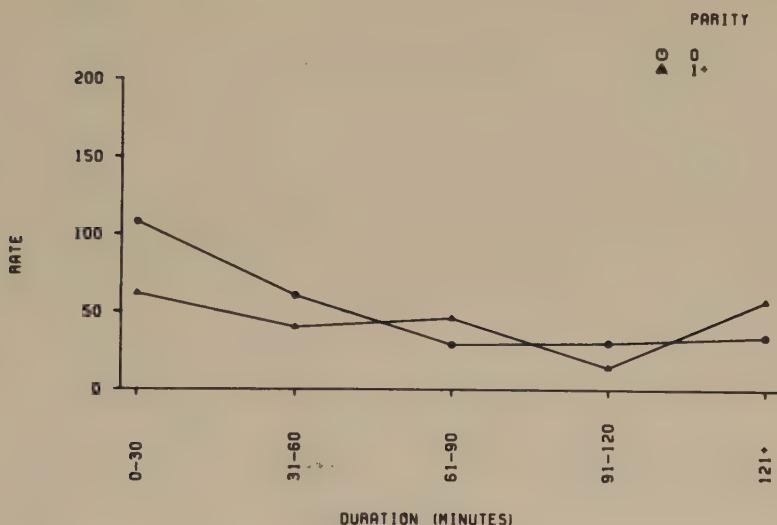
PARITY:	0				1+			
	DURATION (MINUTES)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE	
0-30	1869	24	12.84	7690	63	8.19		
31-60	2137	15	7.02	1171	5	4.27		
61-90	1066	4	3.75	174	3	17.24		
91-120	596	1	1.68	70	0	0		
121+	846	2	2.36	52	0	0		
TOTAL	6514	46	7.06	9157	71	7.75		
C/S	127	7	55.12	313	14	44.73		
UNKNOWN	220	5	22.73	587	12	20.44		
GRAND TOTAL	6861	58	8.45	10057	97	9.65		



NEONATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (MINUTES)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS
0-30	2420	41	16.94	8435	116	13.75
31-60	1439	2	1.39	650	5	7.69
61-90	467	5	10.71	90	0	0
91-120	201	1	4.98	33	0	0
121+	281	5	17.79	31	1	32.26
TOTAL	4808	54	11.23	9239	122	13.20
C/S	173	5	28.90	366	16	43.72
UNKNOWN	180	8	44.44	668	15	22.46
GRAND TOTAL	5161	67	12.98	10273	153	14.89

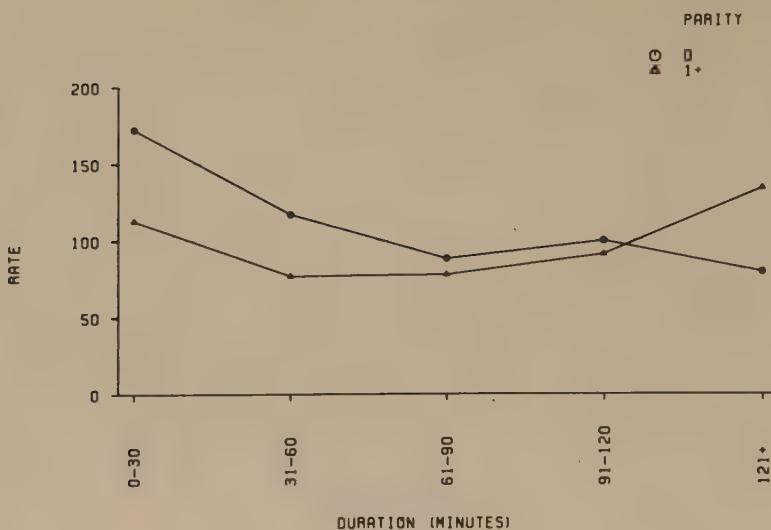
BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE



BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

PARITY:	0			1+		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
0-30	1861	201	108.01	7669	474	61.81
31-60	2126	129	60.68	1171	47	40.14
61-90	1064	31	29.14	174	8	45.98
91-120	595	18	30.25	70	1	14.29
121+	844	29	34.36	52	3	57.69
TOTAL	6490	408	62.87	9136	533	58.34
C/S	126	5	39.68	312	54	173.08
UNKNOWN	217	25	115.21	579	51	88.08
GRAND TOTAL	6833	438	64.10	10027	638	63.63

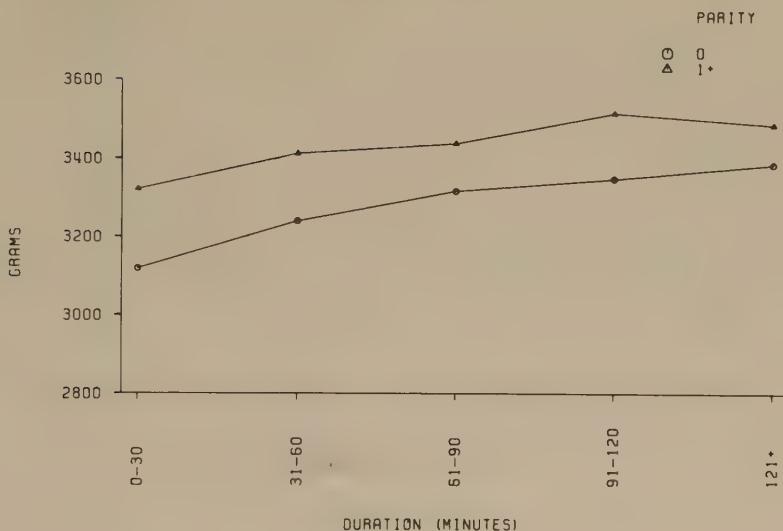
BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF SECOND STAGE OF LABOR BY PARITY
 VERTEX PRESENTATION - NEGRO



BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF SECOND STAGE OF LABOR BY PARITY
 VERTEX PRESENTATION - NEGRO

PARITY:	0			1+		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
0-30	2411	415	172.13	8405	948	112.79
31-60	1434	168	117.15	649	50	77.04
61-90	465	41	88.17	90	7	77.78
91-120	201	20	99.50	33	3	90.91
121+	278	22	79.14	30	4	133.33
TOTAL	4789	666	139.07	9207	1012	109.92
C/S	172	33	191.86	366	58	158.47
UNKNOWN	177	49	276.84	659	96	145.68
GRAND TOTAL	5138	748	145.58	10232	1166	113.96

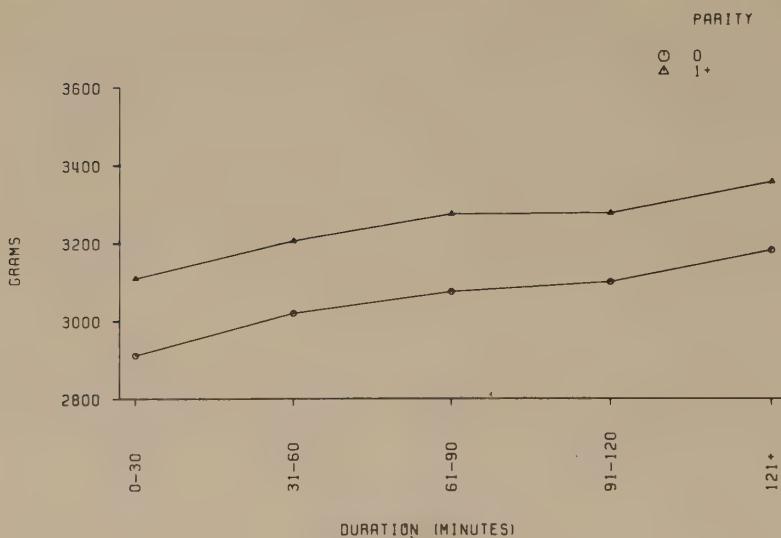
MEAN BIRTHWEIGHT BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE



MEAN BIRTHWEIGHT BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE

PARITY:	0		1+	
	DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT
0-30	1861	3118	7669	3322
31-60	2126	3242	1171	3415
61-90	1064	3320	174	3432
91-120	595	3351	70	3519
121+	844	3388	52	3489
TOTAL	6490	3248	9136	3338
C/S	126	3343	312	3016
UNKNOWN	217	3148	579	3246
GRAND TOTAL	6833	3247	10027	3323

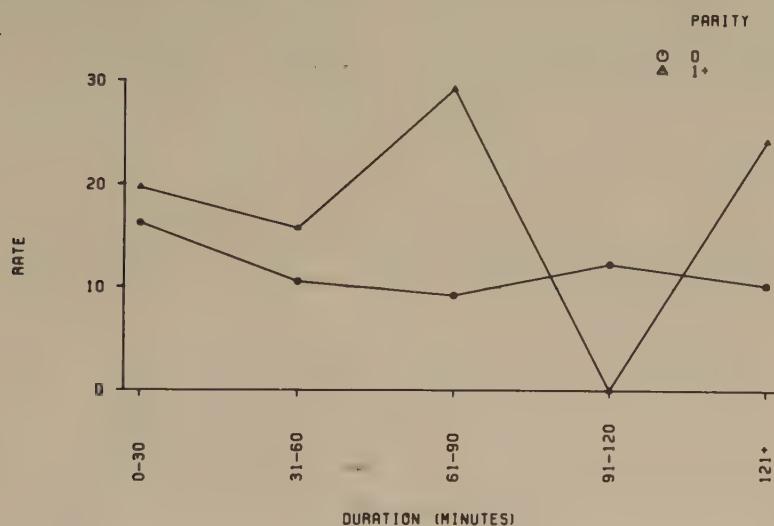
MEAN BIRTHWEIGHT BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO



MEAN BIRTHWEIGHT BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

PARITY:	0	1+		
DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
0-30	2411	2911	8405	3110
31-60	1434	3020	649	3206
61-90	465	3075	90	3274
91-120	201	3099	33	3275
121+	278	3179	30	3353
TOTAL	4789	2983	9207	3120
C/S	172	3090	366	3070
UNKNOWN	177	2693	659	3010
GRAND TOTAL	5138	2977	10232	3111

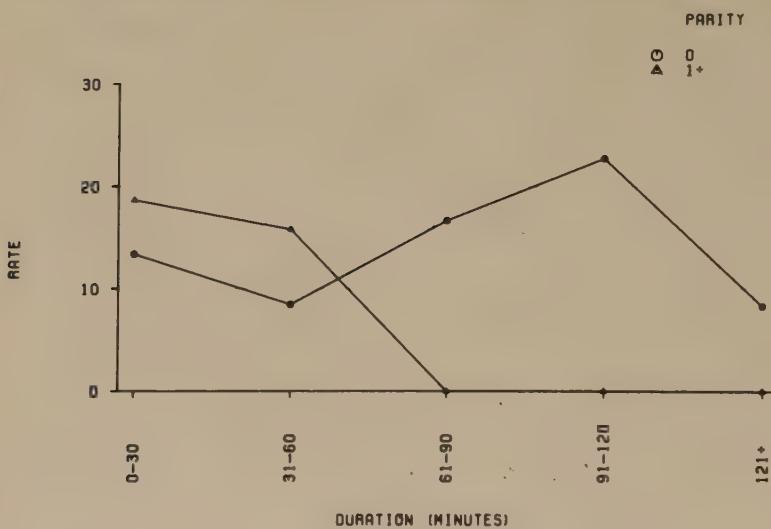
CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS
0-30	1480	24	16.22	6206	122	19.66
31-60	1704	18	10.56	953	15	15.74
61-90	864	8	9.26	136	4	29.41
91-120	485	6	12.37	53	0	0
121+	680	7	10.29	41	1	24.39
TOTAL	5213	63	12.09	7389	142	19.22
C/S	92	3	32.61	250	5	20.00
UNKNOWN	166	5	30.12	462	9	19.48
GRAND TOTAL	5471	71	12.98	8101	156	19.26

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY DURATION OF SECOND STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF SECOND STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (MINUTES)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS
0-30	2092	28	13.38	7350	137	18.64
31-60	1296	11	8.49	569	9	15.82
61-90	419	7	16.71	83	0	0
91-120	176	4	22.73	30	0	0
121+	241	2	8.30	27	0	0
TOTAL	4224	52	12.31	8059	146	18.12
C/S	151	1	6.62	308	6	19.48
UNKNOWN	151	0	0	561	9	16.04
GRAND TOTAL	4526	53	11.71	8928	161	18.03

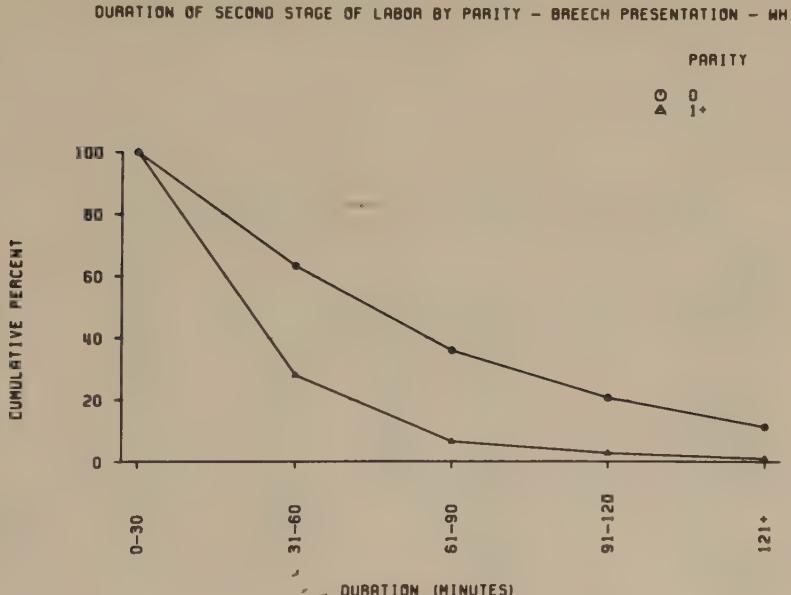
SECTION 2. DURATION OF LABOR (Continued)

DURATION OF SECOND STAGE OF LABOR - BREECH PRESENTATION

As with vertex presentation, the distribution curves of duration of second stage for White and Negro multiparas are similar. Among primiparas, however, many more Negro patients than White patients experienced labor of less than 30 minutes (61 per cent vs. 36 per cent), and a prolonged second stage of labor (more than 120 minutes) occurred more frequently in White patients (11 per cent) than among Negroes (7 per cent).

Among nulliparas no association between the duration of the second stage and poor outcomes was noted except for duration of less than 30 minutes. This finding may be related to the increased representation of low birthweight infants in this grouping rather than to factors inherent in the duration of labor.

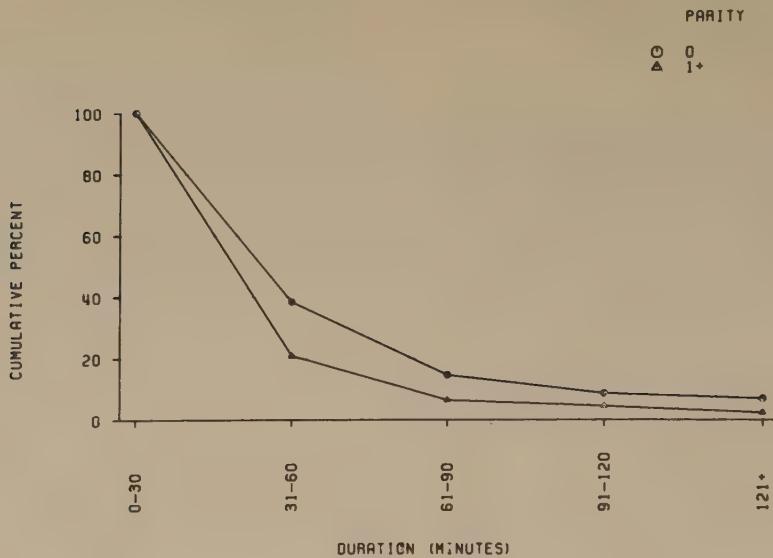
Among multiparas there appeared to be higher perinatal mortality rates both for short and long duration, although there are small numbers of patients. Neurologic abnormalities are apparently increased with short durations. All of these findings are probably related to an increase in incidence of low birthweight infants.



DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0			1+			
	DURATION (MINUTES)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
0-30	81	36.49	100.00	210	71.92	100.00	
31-60	61	27.48	63.51	63	21.58	28.08	
61-90	34	15.32	36.04	11	3.77	6.51	
91-120	21	9.46	20.72	5	1.71	2.74	
121+	25	11.26	11.26	3	1.03	1.03	
TOTAL	222	100.00		292	100.00		
C/S	48	15.74		46	12.04		
UNKNOWN	35	11.48		44	11.52		
GRAND TOTAL	305	100.00		382	100.00		

DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO



DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (MINUTES)	NUMBER	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
0-30	72	61.54	100.00	211	79.03	100.00
31-60	28	23.93	38.46	39	14.61	20.97
61-90	7	5.98	14.53	5	1.87	6.37
91-120	2	1.71	8.55	6	2.25	4.49
121+	8	6.84	6.84	6	2.25	2.25
TOTAL	117	100.00		267	100.00	
C/S	30	18.18		44	12.87	
UNKNOWN	18	10.91		31	9.06	
GRAND TOTAL	165	100.00		342	100.00	

PERINATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
0-30	81	16	197.53	210	42	200.00
31-60	61	5	81.97	63	7	111.11
61-90	34	4	117.65	11	2	181.82*
91-120	21	2	95.24	5	1	200.00*
121+	25	1	40.00	3	1	333.33*
TOTAL	222	28	126.13	292	53	181.51
C/S	48	0	0	46	3	65.22
UNKNOWN	35	16	457.14	44	17	386.36
GRAND TOTAL	305	44	144.26	382	73	191.10

* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0				1+		
	DURATION (MINUTES)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
0-30	72	29	402.78		211	54	255.92
31-60	28	7	250.00		39	6	153.85
61-90	7	2	285.71*		5	2	400.00*
91-120	2	0	0 *		6	1	166.67*
121+	8	1	125.00*		6	3	500.00*
TOTAL	117	39	333.33		267	66	247.19
C/S	30	1	33.33		44	5	113.64
UNKNOWN	18	12	666.67*		31	18	580.65
GRAND TOTAL	165	52	315.15		342	89	260.23

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0				1+					
	DURATION (MINUTES)	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.	RATE	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.
0-30	81	10	123.46	6	74.07	210	21	100.00	9	42.86
31-60	61	2	32.79	1	16.39	63	4	63.49	1	15.87
61-90	34	1	29.41	0	0	11	1	90.91*	1	90.91*
91-120	21	2	95.24	1	47.62	5	0	0 *	0	0 *
121+	25	0	0	0	0	3	1	333.33*	0	0 *
TOTAL	222	15	67.57	8	36.04	292	27	92.47	11	37.67
C/S	48	0	0	0	0	46	0	0	0	0
UNKNOWN	35	12	342.86	4	114.29	44	10	227.27	2	45.45
GRAND TOTAL	305	27	89.52	12	39.34	382	37	96.86	13	34.03

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0				1+					
	DURATION (MINUTES)	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.	RATE	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.
0-30	72	12	166.67	7	97.22	211	29	137.44	15	71.09
31-60	28	6	214.29	4	142.86	39	5	128.21	2	51.28
61-90	7	2	285.71*	2	285.71*	5	2	400.00*	1	200.00*
91-120	2	0	0 *	0	0 *	6	0	0 *	0	0 *
121+	8	1	125.00*	0	0 *	6	3	500.00*	2	333.33*
TOTAL	117	21	179.49	13	111.11	267	39	146.07	20	74.91
C/S	30	0	0	0	0	44	1	22.73	1	22.73
UNKNOWN	18	8	444.44*	3	166.67*	31	9	290.32	3	96.77
GRAND TOTAL	165	29	175.76	16	96.97	342	49	143.27	24	70.18

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS
0-30	71	6	84.51	189	21	111.11
31-60	59	3	50.85	59	3	50.84
61-90	33	3	90.91	10	1	100.00*
91-120	19	0	0 *	5	1	200.00*
121+	25	1	40.00	2	0	0 *
TOTAL	207	13	62.80	265	26	98.11
C/S	48	0	0	46	3	65.22
UNKNOWN	23	4	173.91	34	7	205.88
GRAND TOTAL	278	17	61.15	345	36	104.35

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (MINUTES)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS
0-30	60	17	283.33	182	25	137.36
31-60	22	1	45.45	34	1	29.41
61-90	5	0	0 *	3	0	0 *
91-120	2	0	0 *	6	1	166.67*
121+	7	0	0 *	3	0	0 *
TOTAL	96	18	187.50	228	27	118.42
C/S	30	1	33.33	43	4	93.02
UNKNOWN	10	4	400.00*	22	9	409.09
GRAND TOTAL	136	23	169.12	293	40	136.52

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF SECOND STAGE OF LABOR BY PARITY
BREECH PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.
0-30	71	20	281.69	184	50	271.74
31-60	58	7	120.69	59	7	118.64
61-90	32	3	93.75	9	1	111.11*
91-120	19	1	52.63*	5	1	200.00*
121+	25	2	80.00	2	0	0 *
TOTAL	205	33	160.98	259	59	227.80
C/S	48	4	83.33	44	9	204.55
UNKNOWN	23	7	304.35	33	15	454.55
GRAND TOTAL	276	44	159.42	336	83	247.02

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF SECOND STAGE OF LABOR BY PARITY
BREECH PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.
0-30	52	28	538.46	178	72	404.49
31-60	22	8	363.64	33	5	151.52
61-90	5	0	0 *	3	0	0 *
91-120	2	1	500.00*	5	0	0 *
121+	7	0	0 *	3	1	333.33*
TOTAL	88	37	420.45	222	78	351.35
C/S	30	5	166.67	42	13	309.52
UNKNOWN	10	5	500.00*	19	11	578.95*
GRAND TOTAL	128	47	367.19	283	102	360.42

* RATE BASED ON LESS THAN 20 CASES.

MEAN BIRTHWEIGHT BY DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0			1+	
	DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
0-30	71	2708	184	2834	
31-60	58	3044	59	3147	
61-90	32	2886	9	3266	
91-120	19	3254	5	3238	
121+	25	3175	2	3232*	
TOTAL	205	2938	259	2931	
C/S	48	3267	44	2937	
UNKNOWN	23	2666	33	2328	
GRAND TOTAL	276	2973	336	2873	

* MEAN BASED ON LESS THAN 5 CASES.

MEAN BIRTHWEIGHT BY DURATION OF SECOND STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0			1+	
	DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
0-30	52	2302	178	2552	
31-60	22	2816	33	3100	
61-90	5	3135	3	3572*	
91-120	2	2892*	5	3181	
121+	7	3199	3	2702*	
TOTAL	88	2563	222	2663	
C/S	30	2907	42	2744	
UNKNOWN	10	1902	19	1987	
GRAND TOTAL	128	2592	283	2630	

* MEAN BASED ON LESS THAN 5 CASES.

**CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF SECOND STAGE OF LABOR BY PARITY
BREECH PRESENTATION - WHITE**

PARITY:	0			1+		
	DURATION (MINUTES)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS
0-30	55	1	18.18	126	6	47.62
31-60	44	3	68.18	49	0	0
61-90	18	0	0 ×	6	0	0 ×
91-120	17	0	0 ×	3	0	0 ×
121+	22	1	45.45	2	0	0 ×
TOTAL	156	5	32.05	186	6	32.26
C/S	42	2	47.62	34	1	29.41
UNKNOWN	16	0	0 ×	22	1	45.45
GRAND TOTAL	214	7	32.71	242	8	33.06

* RATE BASED ON LESS THAN 20 CASES.

**CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF SECOND STAGE OF LABOR BY PARITY
BREECH PRESENTATION - NEGRO**

PARITY:	0			1+		
	DURATION (MINUTES)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS
0-30	36	1	27.78	136	9	66.18
31-60	20	1	50.00	29	0	0
61-90	4	0	0 ×	3	0	0 ×
91-120	2	0	0 ×	4	0	0 ×
121+	6	0	0 ×	2	0	0 ×
TOTAL	68	2	29.41	174	9	51.72
C/S	28	1	35.71	37	1	27.03
UNKNOWN	5	1	200.00*	12	0	0 ×
GRAND TOTAL	101	4	39.60	223	10	44.84

* RATE BASED ON LESS THAN 20 CASES.

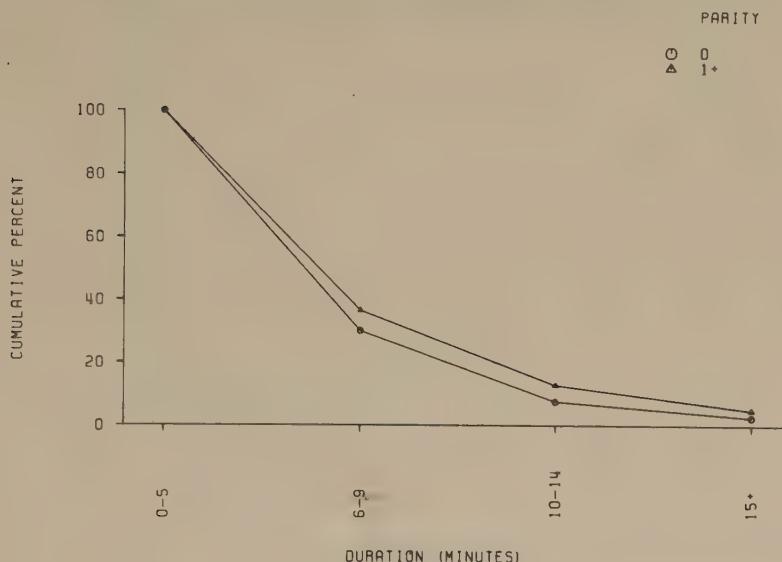
SECTION 2. DURATION OF LABOR (Continued)

DURATION OF THE THIRD STAGE OF LABOR

The third stage of labor is that short period of time between complete delivery of the fetus and the delivery of the placenta. The duration lasted longer than 5 minutes for only 30 per cent of the White and 25 per cent of the Negro women with vertex presentation; in only 8 per cent and 6 per cent, respectively, was the duration longer than ten minutes. The distributions of the duration of the third stage of labor were not much different for primiparas and multiparas, or for women with vertex or breech presentation.

While the length of the third stage, obviously, has no direct effect on fetal outcome, increased fetal risk and prolonged third stage have common antecedents. For both vertex and breech presentation, and in both primiparous and multiparous patients, increasing perinatal mortality and its components are associated with increasing duration of the third stage of labor. In all groups, the incidence of "prematurity" increases and the mean birthweight decreases linearly with duration of third stage. The observed association may be due to the relationship which exists between premature delivery and prolonged third stage, as small-sized infants (birthweight below 2501 grams) have a higher frequency of adverse outcome.

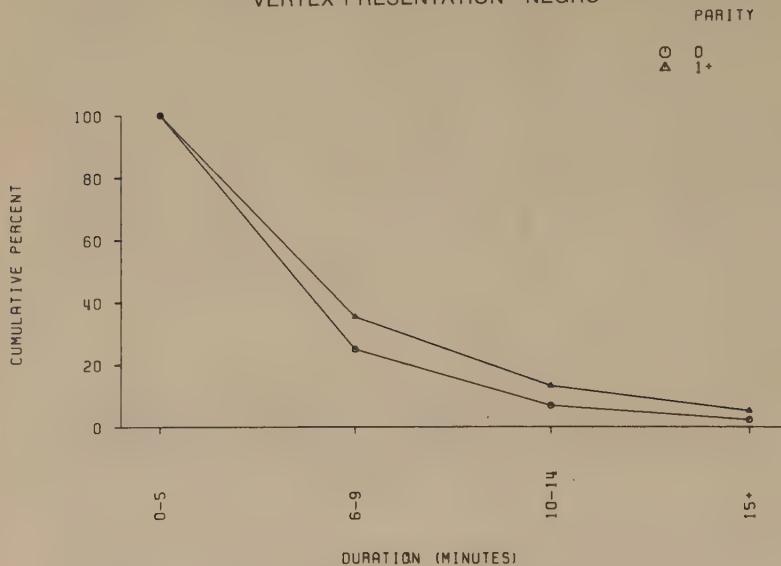
DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE



DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE

PARITY:	0			1+		
DURATION (MINUTES)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
0-5	4730	69.91	100.00	6222	63.42	100.00
6-9	1521	22.48	30.09	2325	23.70	36.58
10-14	337	4.98	7.61	782	7.97	12.88
15+	178	2.63	2.63	482	4.91	4.91
TOTAL	6766	100.00		9811	100.00	
C/S	129	1.87		321	3.16	
UNKNOWN	18	0.26		38	0.37	
GRAND TOTAL	6913	100.00		10170	100.00	

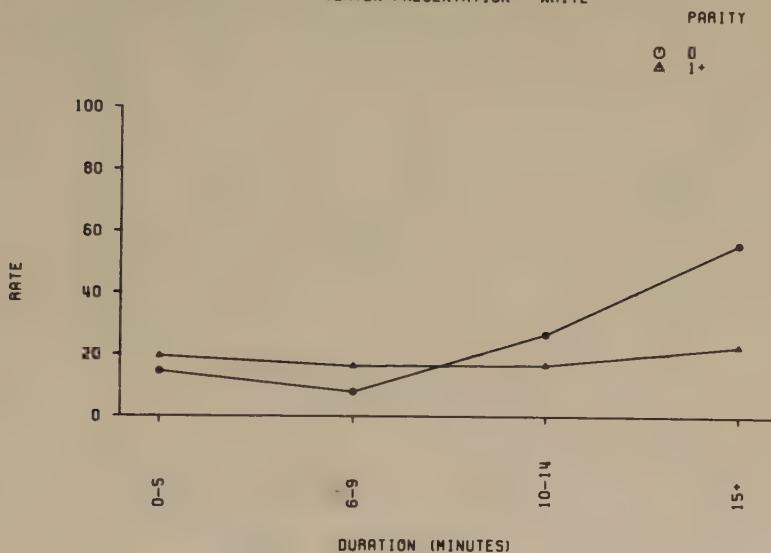
DURATION OF THIRD STAGE OF LABOR BY PARITY—
VERTEX PRESENTATION—NEGRO



DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

PARITY:		0		1+	
DURATION (MINUTES)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT
0-5	3772	75.11	100.00	6442	64.65
6-9	905	18.02	24.89	2208	22.16
10-14	233	4.64	6.87	802	8.05
15+	112	2.23	2.23	513	5.15
TOTAL	5022	100.00		9965	100.00
C/S	176	3.37		377	3.63
UNKNOWN	28	0.54		50	0.48
GRAND TOTAL	5226	100.00		10392	100.00

PERINATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

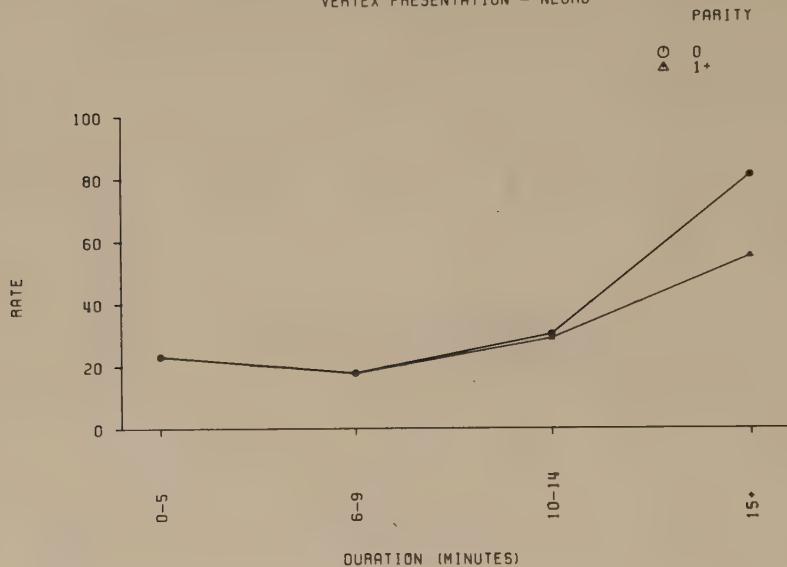


PERINATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
0-5	1730	69	14.59	6222	121	19.45
6-9	1521	12	7.89	2325	38	16.34
10-14	337	9	26.71	782	13	16.62
15+	178	10	56.18	482	11	22.82
TOTAL	6766	100	14.78	9811	183	18.65
C/S	129	9	69.77	321	22	68.54
UNKNOWN	18	1	55.56*	38	5	131.58
GRAND TOTAL	6913	110	15.91	10170	210	20.65

* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO



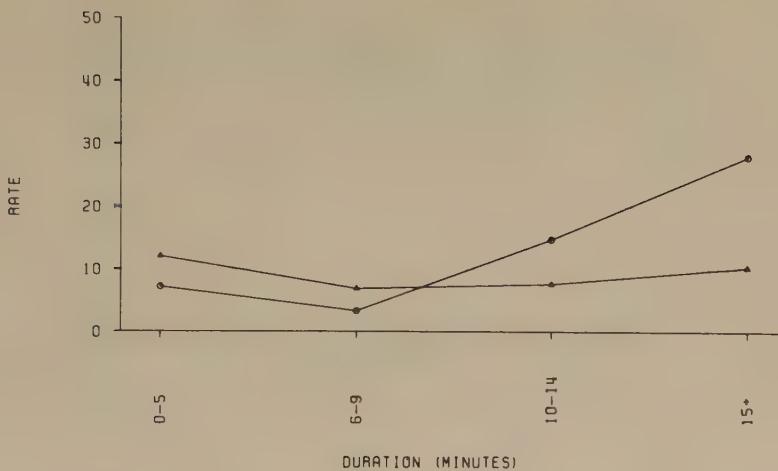
PERINATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (MINUTES)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
0-5	3772	87	23.06	6442	149	23.13
6-9	905	16	17.68	2208	39	17.66
10-14	233	7	30.04	802	23	28.68
15+	112	9	80.36	513	28	54.58
TOTAL	5022	119	23.70	9965	239	23.98
C/S	176	8	45.45	377	27	71.62
UNKNOWN	28	5	178.57	50	6	120.00
GRAND TOTAL	5226	132	25.26	10392	272	26.17

STILLBIRTHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY

VERTEX PRESENTATION - WHITE

PARITY

○ 0
△ 1+

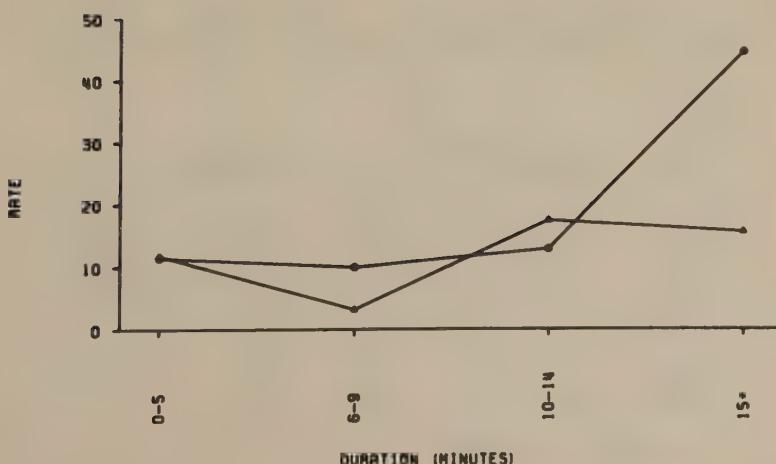
STILLBIRTHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE

PARITY:	0				1+						
	DURATION (MINUTES)	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.	RATE	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.	RATE
0-5	4730	34	7.19	11	2.33	12.05	6222	75	12.05	27	4.34
6-9	1521	5	3.29	0	0	2.15	2325	16	6.88	5	2.15
10-14	337	5	14.84	1	2.97	7.67	782	6	7.67	2	2.56
15+	178	5	28.09	0	0	10.37	482	5	10.37	3	6.22
TOTAL	6766	49	7.24	12	1.77	10.40	9811	102	10.40	37	3.77
C/S	129	2	15.50	2	15.50	24.92	321	8	24.92	2	6.23
UNKNOWN	18	1	55.56*	1	55.56*	78.95	38	3	78.95	3	28.95
GRAND TOTAL	6913	52	7.52	15	2.17	11.11	10170	113	11.11	42	4.13

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

PARITY

○ 0
△ 1+

STILLBIRTHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEx PRESENTATION - NEGRO

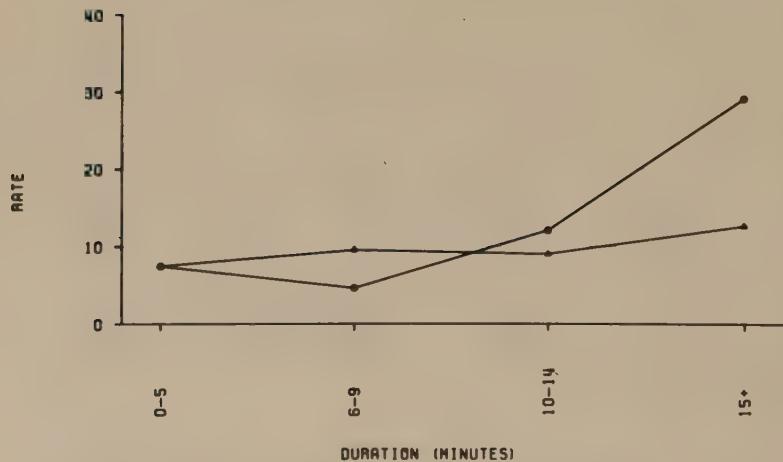
PARITY:	0				1+						
	DURATION (MINUTES)	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.	RATE	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.	RATE
0-5	3772	43	11.40	15	3.98	6442	76	11.80	27	4.19	
6-9	905	9	9.94	5	5.52	2208	7	3.17	3	1.36	
10-14	233	3	12.88	1	4.29	802	14	17.46	5	6.23	
15+	112	5	44.64	4	35.71	513	8	15.59	6	11.70	
TOTAL	5022	60	11.95	25	4.98	9965	105	10.54	41	4.11	
C/S	176	3	17.05	3	17.05	377	11	29.18	11	29.18	
UNKNOWN	28	2	71.43	1	35.71	50	3	60.00	1	20.00	
GRAND TOTAL	5226	65	12.44	29	5.55	10392	119	11.45	53	5.10	

NEONATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY

VERTEX PRESENTATION - WHITE

PARITY

□ 0
▲ 1+

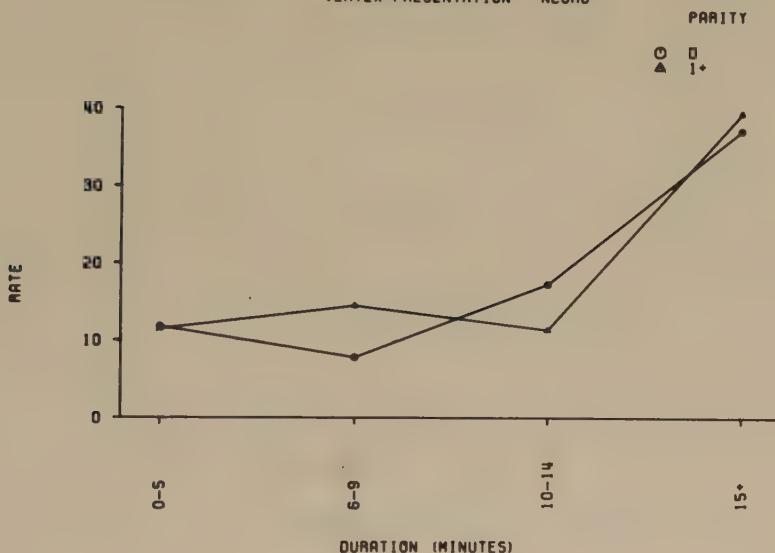


NEONATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEx PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS
0-5	4696	35	7.45	6147	46	7.48
6-9	1516	7	4.62	2309	22	9.53
10-14	332	4	12.05	776	7	9.02
15+	173	5	28.90	477	6	12.58
TOTAL	6717	51	7.59	9709	81	8.34
C/S	127	7	55.12	313	14	44.73
UNKNOWN	17	0	0 *	35	2	57.14
GRAND TOTAL	6861	58	8.45	10057	97	9.65

* RATE BASED ON LESS THAN 20 CASES.

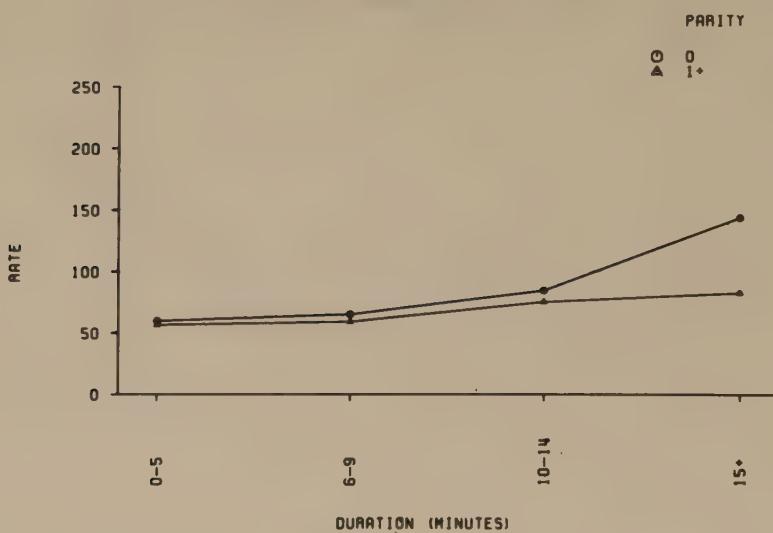
NEONATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO



NEONATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

PARITY:	0			1+		
DURATION (MINUTES)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
0-5	3729	44	11.80	6366	73	11.47
6-9	896	7	7.81	2201	32	14.54
10-14	230	4	17.39	788	9	11.42
15+	107	4	37.38	505	20	39.60
TOTAL	4962	59	11.89	9860	134	13.59
C/S	173	5	28.90	366	16	43.72
UNKNOWN	26	3	115.38	47	3	63.83
GRAND TOTAL	5161	67	12.98	10273	153	14.89

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

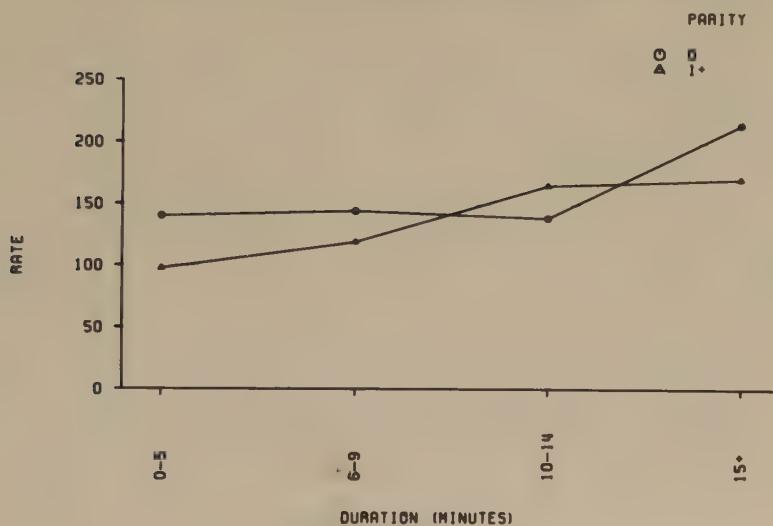


BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE

PARITY:	0			1+			
	LIVEBIRTHS	BIRTHWEIGHTS		LIVEBIRTHS	BIRTHWEIGHTS		
DURATION	WITH KNOWN	UNDER		DURATION	WITH KNOWN	UNDER	
(MINUTES)	BIRTHWEIGHT	2501 GM.	RATE	(MINUTES)	BIRTHWEIGHT	2501 GM.	RATE
0-5	4681	280	59.82	6134	346	56.41	
6-9	1510	98	64.90	2302	136	59.08	
10-14	332	28	86.34	772	58	75.13	
15+	168	24	142.86	476	39	81.93	
TOTAL	6691	430	64.27	9684	579	59.79	
C/S	126	5	39.68	312	54	173.08	
UNKNOWN	16	3	187.50*	31	5	161.29	
GRAND TOTAL	6833	438	64.10	10027	638	63.63	

* RATE BASED ON LESS THAN 20 CASES.

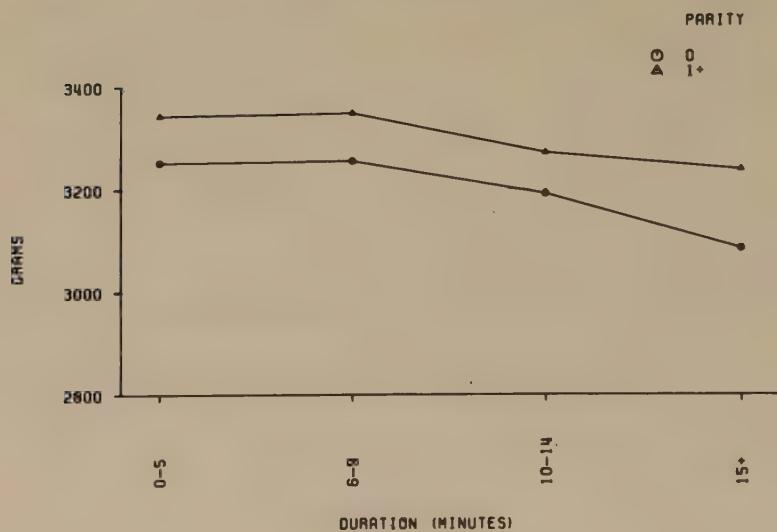
BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO



BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO

DURATION (MINUTES)	0			1+		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
0-5	3713	521	140.32	6339	618	97.49
6-9	892	129	144.62	2199	262	119.42
10-14	230	32	139.13	785	130	165.61
15+	107	23	214.95	503	86	170.97
TOTAL	4942	705	142.65	9821	1096	111.60
C/S	172	33	191.86	366	58	158.47
UNKNOWN	24	10	416.67	45	12	266.67
GRAND TOTAL	5138	748	145.58	10232	1166	113.96

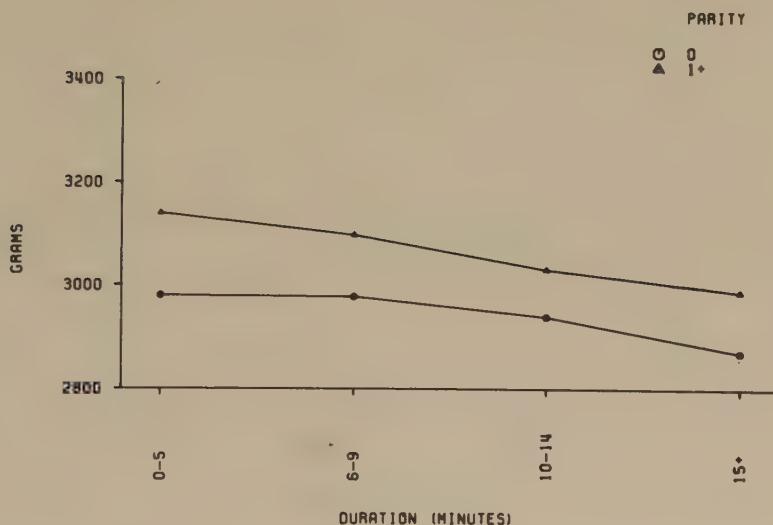
MEAN BIRTHWEIGHT BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - WHITE



MEAN BIRTHWEIGHT BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - WHITE

PARITY:	0		1+	
	DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT
0-5	4681	3252	6134	3343
6-9	1510	3256	2302	3349
10-14	332	3191	772	3271
15+	168	3084	476	3236
TOTAL	6691	3245	9684	3333
C/S	126	3343	312	3016
UNKNOWN	16	3065	31	3183
GRAND TOTAL	6833	3247	10027	3323

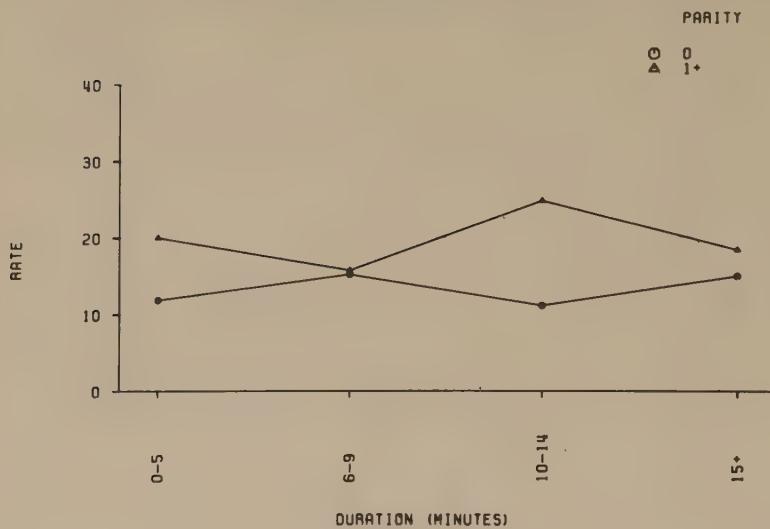
MEAN BIRTHWEIGHT BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEX PRESENTATION - NEGRO



MEAN BIRTHWEIGHT BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

PARITY:	0	1+		
DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
0-5	3713	2980	6339	3140
6-9	892	2979	2194	3099
10-14	230	2940	785	3032
15+	107	2871	503	2989
TOTAL	4942	2976	9821	3114
C/S	172	3090	366	3070
UNKNOWN	24	2386	45	2794
GRAND TOTAL	5138	2977	10232	3111

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEx PRESENTATION - WHITE

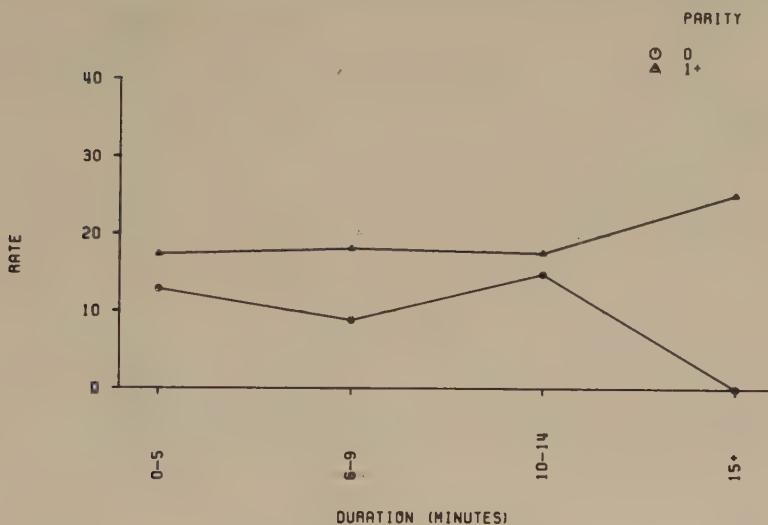


CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF THIRD STAGE OF LABOR BY PARITY
VERTEx PRESENTATION - WHITE

PARITY:	0			1+		
DURATION (MINUTES)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
0-5	3787	45	11.88	5006	100	19.98
6-9	1182	18	15.23	1841	29	15.75
10-14	270	3	11.11	606	15	24.75
15+	134	2	14.93	382	7	18.32
TOTAL	5373	68	12.66	7835	151	19.27
C/S	92	3	32.61	250	5	20.00
UNKNOWN	6	0	0	16	0	0
GRAND TOTAL	5471	71	12.98	8101	156	19.26

* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY DURATION OF THIRD STAGE OF LABOR BY PARITY - VERTEX PRESENTATION - NEGRO

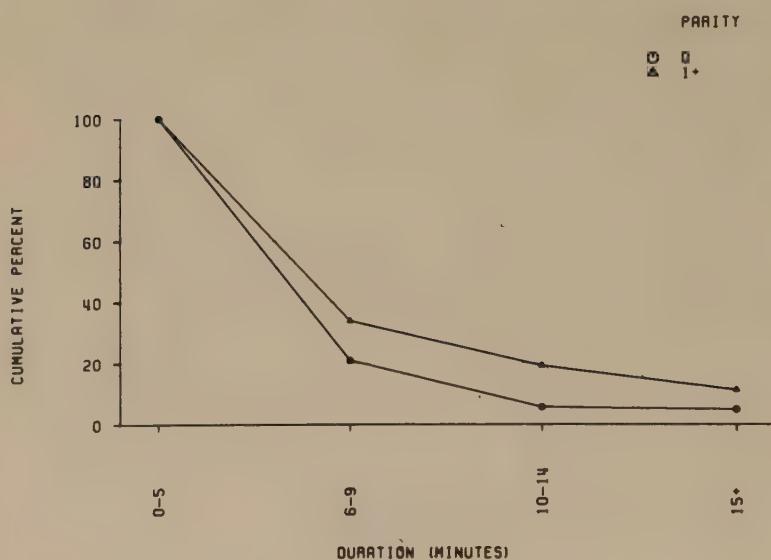


CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF THIRD STAGE OF LABOR BY PARITY
- VERTIX PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (MINUTES)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS
0-5	3274	42	12.83	5538	96	17.33
6-9	794	7	8.82	1930	35	18.13
10-14	202	3	14.85	681	12	17.62
15+	91	0	0	436	11	25.23
TOTAL	4361	52	11.92	8585	154	17.94
C/S	151	1	6.62	308	6	19.48
UNKNOWN	14	0	0 *	35	1	28.57
GRAND TOTAL	4526	53	11.71	8928	161	18.03

* RATE BASED ON LESS THAN 20 CASES.

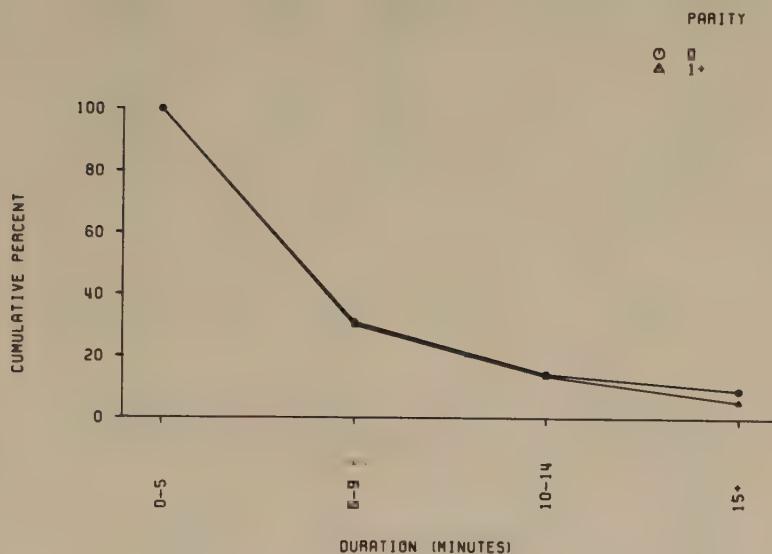
DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE



DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT
0-5	196	79.03	100.00	218	66.06	100.00
6-9	26	10.48	20.97	49	14.85	33.94
10-14	14	5.65	10.48	26	7.88	19.09
15+	12	4.84	4.84	37	11.21	11.21
TOTAL	248	100.00		330	100.00	
C/S	48	15.74		46	12.04	
UNKNOWN	9	2.95		6	1.57	
GRAND TOTAL	305	100.00		382	100.00	

DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO



DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0			1+			
	DURATION (MINUTES)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
0-5	91	68.94	100.00	204	69.86	100.00	
6-9	22	16.67	31.06	48	16.44	30.14	
10-14	7	5.30	14.39	24	8.22	13.70	
15+	12	9.09	9.09	16	5.48	5.48	
TOTAL	132	100.00		292	100.00		
C/S	30	18.18		44	12.87		
UNKNOWN	3	1.82		6	1.75		
GRAND TOTAL	165	100.00		342	100.00		

PERINATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0			I+		
	DURATION (MINUTES)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
0-5	196	26	132.65	218	39	178.90
6-9	26	2	76.92	49	6	122.45
10-14	14	2	142.86*	26	4	153.85
15+	12	7	583.33*	37	17	459.46
TOTAL	248	37	149.19	330	66	200.00
C/S	48	0	0	46	3	65.22
UNKNOWN	9	7	777.78*	6	4	666.67*
GRAND TOTAL	305	44	144.26	382	73	191.10

* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0			I+		
	DURATION (MINUTES)	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
0-5	91	28	307.69	204	56	274.51
6-9	22	8	363.64	48	5	104.17
10-14	7	4	571.43*	24	14	583.33
15+	12	8	666.67*	16	6	375.00*
TOTAL	132	48	363.64	292	81	277.40
C/S	30	1	33.33	44	5	113.64
UNKNOWN	3	3	1000.00*	6	3	500.00*
GRAND TOTAL	165	52	315.15	342	89	260.23

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0			I+						
	DURATION (MINUTES)	BIRTHS	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE				
0-5	196	14	71.43	6	30.61	218	25	114.68	11	50.46
6-9	26	1	38.46	0	0	49	3	61.22	0	0
10-14	14	2	142.86*	2	142.86*	26	1	38.46	1	38.46
15+	12	5	416.67*	2	166.67*	37	5	135.14	0	0
TOTAL	248	22	88.71	10	40.32	330	34	103.03	12	36.36
C/S	48	0	0	0	0	46	0	0	0	0
UNKNOWN	9	5	555.56*	2	222.22*	6	3	500.00*	1	166.67*
GRAND TOTAL	305	27	88.52	12	39.34	382	37	96.86	13	34.03

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0						1+			
	DURATION (MINUTES)	ALL STILLBIRTHS			FRESH STILLBIRTHS			ALL STILLBIRTHS NO.	FRESH STILLBIRTHS NO.	RATE
		BIRTHS	NO.	RATE	BIRTHS	NO.	RATE			
0-5	91	20	219.78	11	120.88	204	31	151.96	14	68.63
6-9	22	4	181.82	1	45.45	48	4	83.33	3	62.50
10-14	7	0	0*	0	0*	24	6	250.00	3	125.00
15+	12	4	333.33*	3	250.00*	16	5	312.50*	2	125.00*
TOTAL	132	28	212.12	15	113.64	292	46	157.53	22	75.34
C/S	30	0	0	0	0	44	1	22.73	1	22.73
UNKNOWN	3	1	333.33*	1	333.33*	6	2	333.33*	1	166.67*
GRAND TOTAL	165	29	175.76	16	96.97	342	49	143.27	24	70.18

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0				1+		
	DURATION (MINUTES)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
0-5	182	12	65.93	193	14	72.54	
6-9	25	1	40.00	46	3	65.22	
10-14	12	0	0*	25	3	120.00	
15+	7	2	285.71*	32	12	375.00	
TOTAL	226	15	66.37	296	32	108.11	
C/S	48	0	0	46	3	65.22	
UNKNOWN	4	2	500.00*	3	1	333.33*	
GRAND TOTAL	278	17	61.15	345	36	104.35	

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0				1+		
	DURATION (MINUTES)	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
0-5	71	8	112.68	173	25	144.51	
6-9	18	4	222.22*	44	1	22.73	
10-14	7	4	571.43*	18	8	444.44*	
15+	8	4	500.00*	11	1	90.91*	
TOTAL	104	20	192.31	246	35	142.28	
C/S	30	1	33.33	43	4	93.02	
UNKNOWN	2	2	1000.00*	4	1	250.00*	
GRAND TOTAL	136	23	169.12	293	40	136.52	

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF THIRD STAGE OF LABOR BY PARITY
BREECH PRESENTATION - WHITE

PARITY:	0			1+		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
0-5	180	27	150.00	191	41	214.66
6-9	25	5	200.00	46	12	260.87
10-14	12	2	166.67*	23	7	304.35
15+	7	3	428.57*	29	13	448.28
TOTAL	224	37	165.18	289	73	252.60
C/S	48	4	83.33	44	9	204.55
UNKNOWN	4	3	750.00*	3	1	333.33*
GRAND TOTAL	276	44	159.42	336	83	247.02

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY DURATION OF THIRD STAGE OF LABOR BY PARITY
BREECH PRESENTATION - NEGRO

PARITY:	0			1+		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
0-5	68	27	397.06	170	58	341.18
6-9	15	6	400.00*	43	17	395.35
10-14	6	3	500.00*	16	9	562.50*
15+	7	4	571.43*	9	2	222.22*
TOTAL	96	40	416.67	238	86	361.34
C/S	30	5	166.67	42	13	309.52
UNKNOWN	2	2	1000.00*	3	3	1000.00*
GRAND TOTAL	128	47	367.19	283	102	360.42

* RATE BASED ON LESS THAN 20 CASES.

MEAN BIRTHWEIGHT BY DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - WHITE

PARITY:	0			1+		
	DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	
0-5	180	2975	191	2948		
6-9	25	2914	46	2791		
10-14	12	2835	23	2820		
15+	7	2146	29	2476		
TOTAL	224	2935	289	2865		
C/S	48	3267	44	2937		
UNKNOWN	4	1552*	3	2655*		
GRAND TOTAL	276	2973	336	2873		

* MEAN BASED ON LESS THAN 5 CASES.

MEAN BIRTHWEIGHT BY DURATION OF THIRD STAGE OF LABOR BY PARITY - BREECH PRESENTATION - NEGRO

PARITY:	0			1+		
	DURATION (MINUTES)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	
0-5	68	2607		170	2613	
6-9	15	2735		43	2708	
10-14	6	1994		16	2121	
15+	7	1839		9	2832	
TOTAL	96	2533		238	2627	
C/S	30	2907		42	2744	
UNKNOWN	2	709*		3	1304*	
GRAND TOTAL	128	2592		283	2630	

* MEAN BASED ON LESS THAN 5 CASES..

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF THIRD STAGE OF LABOR BY PARITY
BREECH PRESENTATION - WHITE

PARITY:	0			1+			
	DURATION (MINUTES)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
0-5	134	4	29.85		145	6	41.38
6-9	21	1	47.62		33	0	0
10-14	10	0	0 *		15	1	66.67*
15+	5	0	0 *		14	0	0 *
TOTAL	170	5	29.41		207	7	33.82
C/S	42	2	47.62		34	1	29.41
UNKNOWN	2	0	0 *		1	0	0 *
GRAND TOTAL	214	7	32.71		242	8	33.06

* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DURATION OF THIRD STAGE OF LABOR BY PARITY
BREECH PRESENTATION - NEGRO

PARITY:	0			1+			
	DURATION (MINUTES)	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
0-5	54	2	37.04		130	6	46.15
6-9	13	1	76.92*		35	2	57.14
10-14	2	0	0 *		10	1	100.00*
15+	4	0	0 *		9	0	0 *
TOTAL	73	3	41.10		184	9	48.91
C/S	28	1	35.71		37	1	27.03
UNKNOWN	0	0	-		2	0	0 *
GRAND TOTAL	101	4	39.60		223	10	44.81

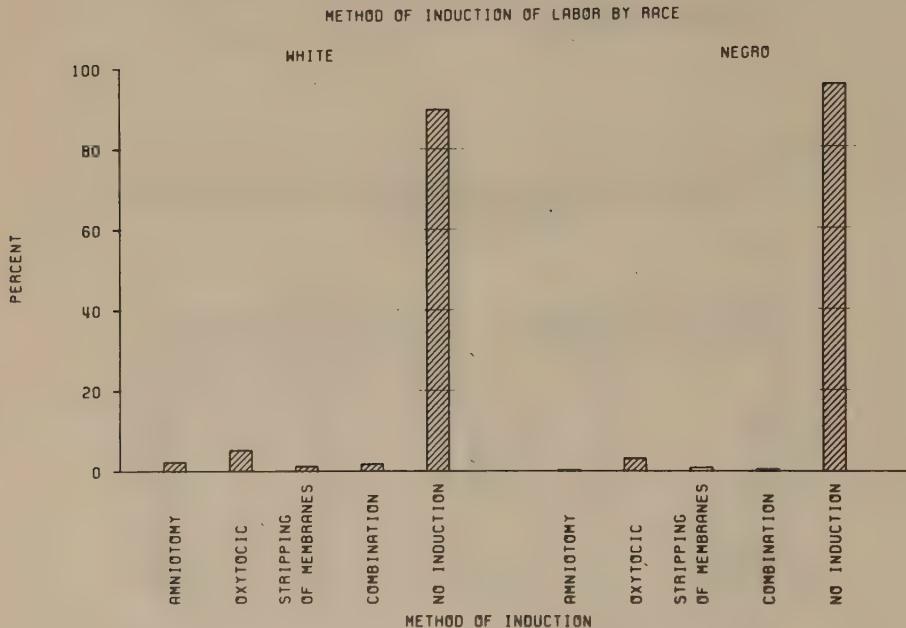
* RATE BASED ON LESS THAN 20 CASES.

SECTION 3. INDUCTION AND AUGMENTATION OF LABOR

Approximately five per cent of labors of Negro gravidas and ten per cent of labors of White gravidas

were induced. Tables of the outcomes have not been included since the results probably reflect the effects of the underlying medical condition rather than the induction per se.

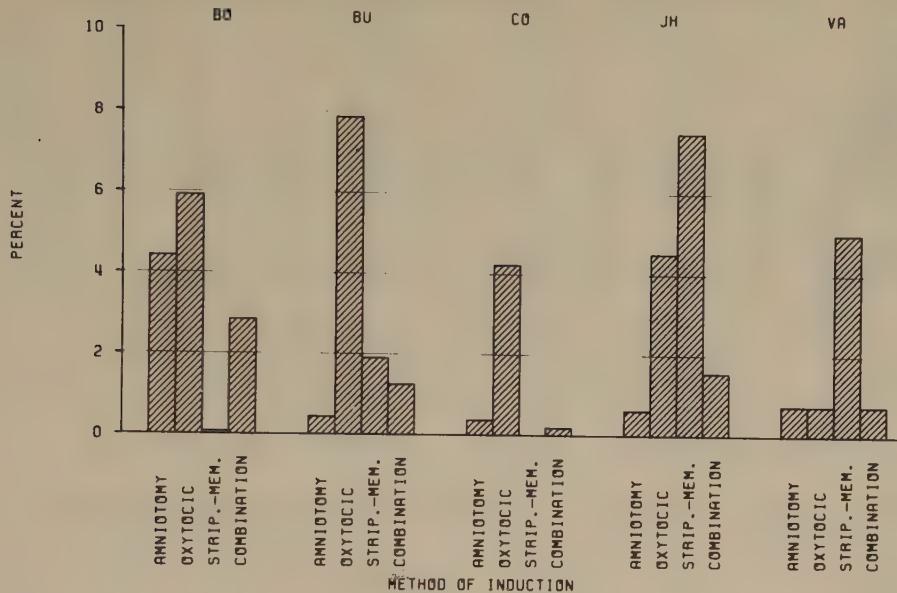
The method of induction in the Study was classified as amniotomy, oxytocin, a combination of the two methods, and, in a few cases, stripping of the membranes.



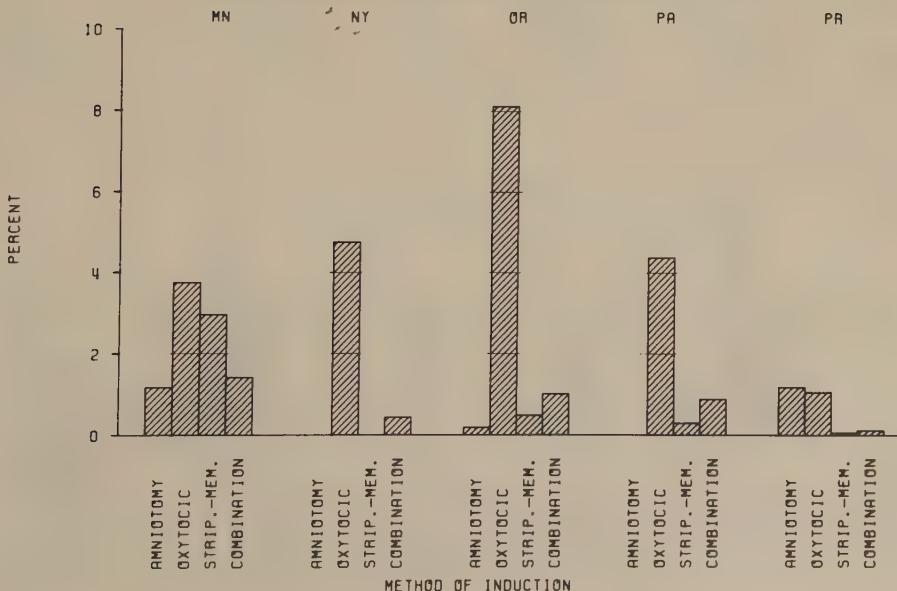
METHOD OF INDUCTION OF LABOR BY RACE

METHOD OF INDUCTION	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
AMNIOTOMY	390	2.21	46	0.24
OXYTOCIC	916	5.19	584	3.08
STRIPPING OF MEMBRANES	204	1.16	158	0.83
COMBINATION	305	1.73	78	0.41
NO INDUCTION	15823	89.71	18120	95.44
TOTAL	17638	100.00	18986	100.00
UNKNOWN	1410	7.40	1181	5.86
GRAND TOTAL	19048	100.00	20167	100.00

METHOD OF INDUCTION OF LABOR BY INSTITUTION - WHITE



METHOD OF INDUCTION OF LABOR BY INSTITUTION - WHITE (CONT.)



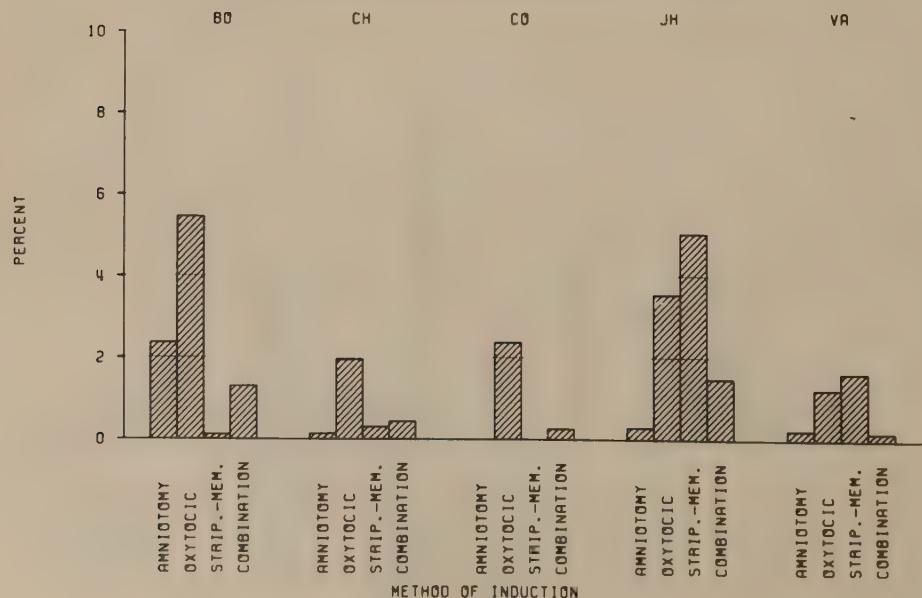
METHOD OF INDUCTION OF LABOR BY INSTITUTION - WHITE

METHOD OF INDUCTION	BO	BU	CO	JH	VR					
	NUMBER	PERCENT								
AMNIOTOMY	320	4.42	8	0.43	2	0.37	4	0.62	5	0.74
OXYTOCIC	429	5.92	145	7.87	23	4.23	29	4.52	5	0.74
STRIPPING OF MEMBRANES	5	0.07	35	1.90	0	0	48	7.49	34	5.01
COMBINATION	206	2.84	23	1.25	1	0.18	10	1.56	5	0.74
NO INDUCTION	6284	86.75	1631	88.55	518	95.22	550	85.80	629	92.77
TOTAL	7244	100.00	1842	100.00	544	100.00	641	100.00	678	100.00
UNKNOWN	579	7.40	84	4.36	59	9.78	26	3.90	63	8.50
GRAND TOTAL	7823	100.00	1926	100.00	603	100.00	667	100.00	741	100.00

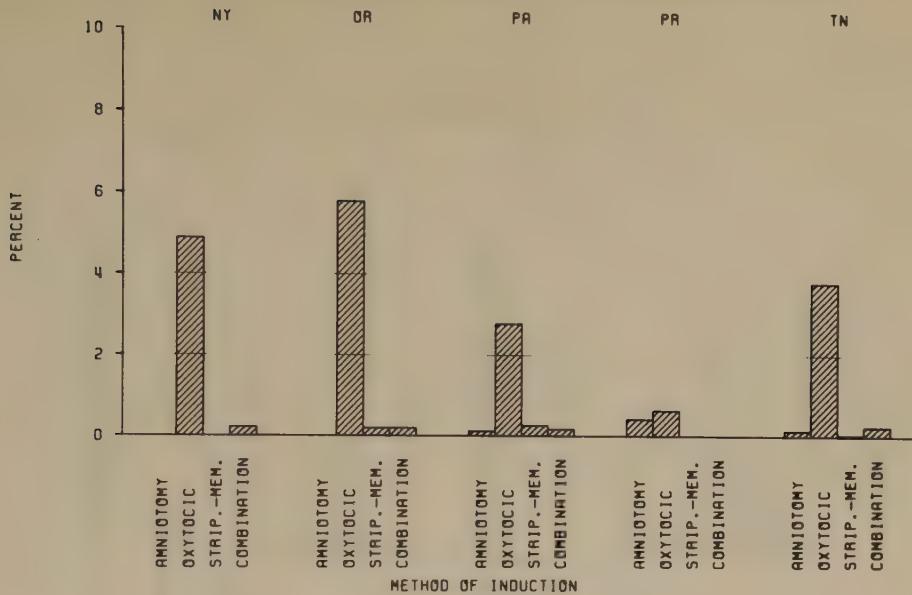
METHOD OF INDUCTION OF LABOR BY INSTITUTION - WHITE (CONT.)

METHOD OF INDUCTION	MM	NY	OR	PA	PR					
	NUMBER	PERCENT								
AMNIOTOMY	28	1.17	0	0	3	0.18	0	0	20	1.18
OXYTOCIC	90	3.75	11	4.76	135	8.12	30	4.38	18	1.06
STRIPPING OF MEMBRANES	71	2.96	0	0	8	0.48	2	0.29	1	0.06
COMBINATION	34	1.42	1	0.43	17	1.02	6	0.88	2	0.12
NO INDUCTION	2176	90.70	219	94.81	1499	90.19	647	94.45	1651	97.58
TOTAL	2399	100.00	231	100.00	1662	100.00	685	100.00	1692	100.00
UNKNOWN	224	8.54	22	8.70	232	12.25	43	5.91	77	4.35
GRAND TOTAL	2623	100.00	253	100.00	1894	100.00	728	100.00	1769	100.00

METHOD OF INDUCTION OF LABOR BY INSTITUTION - NEGRO



METHOD OF INDUCTION OF LABOR BY INSTITUTION - NEGRO (CONT.)



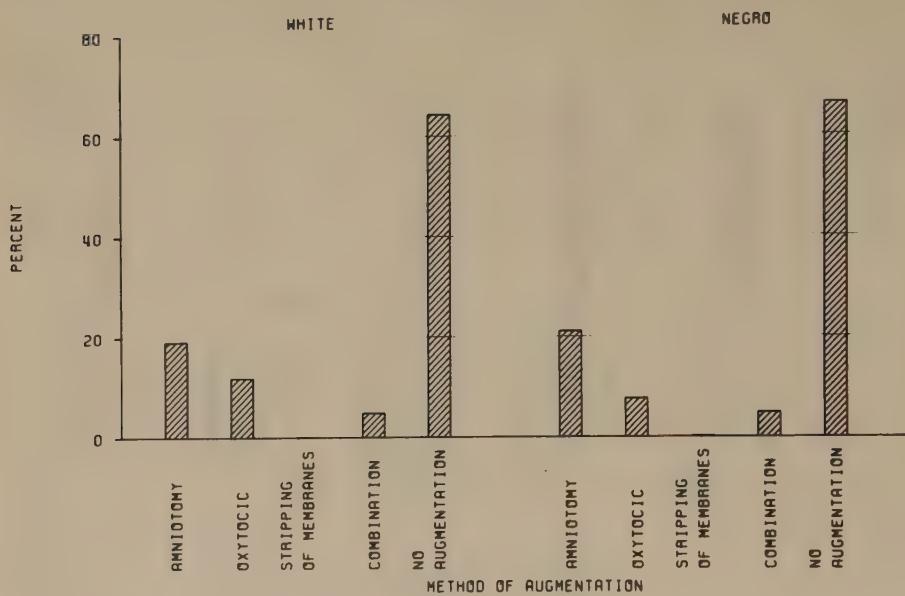
METHOD OF INDUCTION OF LABOR BY INSTITUTION - NEGRO

	BO	CH	CO	JH	VA			
METHOD OF INDUCTION	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
AMNIOTOMY	20	2.37	3	0.13	0	0	6	0.29
OXYTOCIC	46	5.45	45	1.95	18	2.37	74	3.54
STRIPPING OF MEMBRANES	1	0.12	7	0.30	0	0	105	5.03
COMBINATION	11	1.30	10	0.43	2	0.26	31	1.48
NO INDUCTION	766	90.76	2240	97.18	738	97.36	1873	89.66
TOTAL	844	100.00	2305	100.00	758	100.00	2089	100.00
UNKNOWN	69	7.56	75	3.15	84	9.98	121	5.48
GRAND TOTAL	913	100.00	2380	100.00	842	100.00	2210	100.00

METHOD OF INDUCTION OF LABOR BY INSTITUTION - NEGRO (CONT.)

	NY	OR	PA	PR	TN	
METHOD OF INDUCTION	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
AMNIOTOMY	0	0	0	0	7	0.12
OXYTOCIC	66	4.88	30	5.80	162	2.78
STRIPPING OF MEMBRANES	0	0	1	0.19	15	0.26
COMBINATION	3	0.22	1	0.19	10	0.17
NO INDUCTION	1284	94.90	485	93.81	5642	96.68
TOTAL	1353	100.00	517	100.00	5836	100.00
UNKNOWN	102	7.00	86	14.26	322	5.23
GRAND TOTAL	1455	100.00	603	100.00	6158	100.00

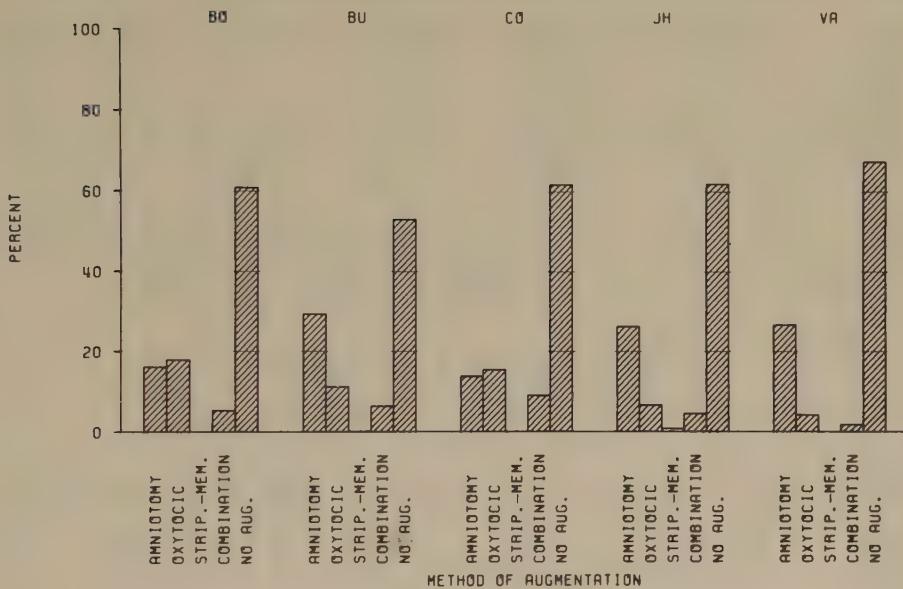
METHOD OF AUGMENTATION OF LABOR BY RACE



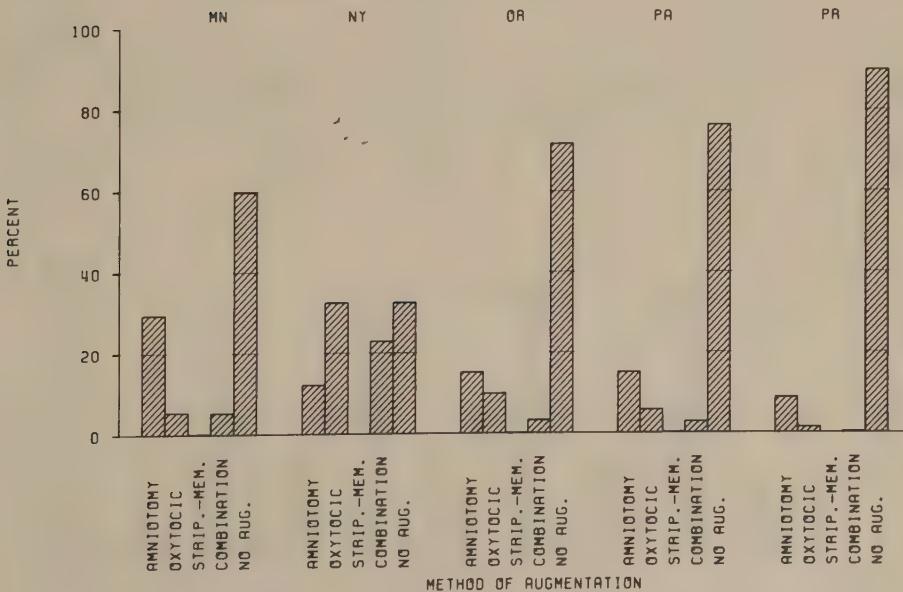
METHOD OF AUGMENTATION OF LABOR BY RACE

METHOD OF AUGMENTATION	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
AMNIOTOMY	3368	19.10	3996	21.05
OXYTOCIC	2083	11.81	1460	7.69
STRIPPING OF MEMBRANES	11	0.06	29	0.15
COMBINATION	841	4.77	914	4.81
NO AUGMENTATION	11335	64.26	12587	66.30
TOTAL	17638	100.00	18986	100.00
UNKNOWN	1410	7.40	1181	5.86
GRAND TOTAL	19048	100.00	20167	100.00

METHOD OF AUGMENTATION OF LABOR BY INSTITUTION - WHITE



METHOD OF AUGMENTATION OF LABOR BY INSTITUTION - WHITE (CONT.)



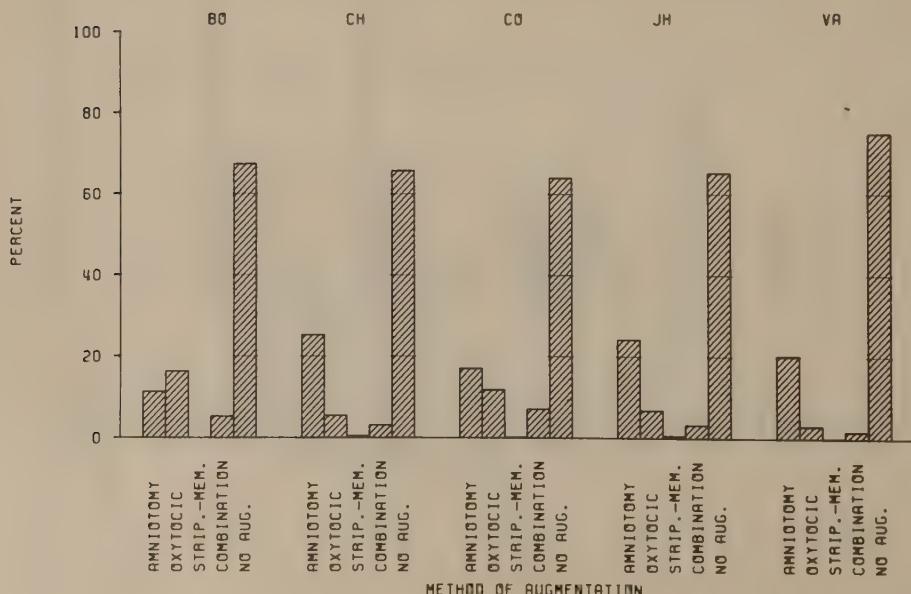
METHOD OF AUGMENTATION OF LABOR BY INSTITUTION - WHITE

	BO	BU	CO	JH	VA					
METHOD OF AUGMENTATION	NUMBER	PERCENT								
AMNIOTOMY	1165	16.08	540	29.32	75	13.79	168	26.21	181	26.70
OXYTOCIC	1291	17.82	206	11.18	84	15.44	42	6.55	28	4.13
STRIPPING OF MEMBRANES	0	0	1	0.05	0	0	5	0.78	0	0
COMBINATION	378	5.22	117	6.35	49	9.01	29	4.52	12	1.77
NO AUGMENTATION	4410	60.88	978	53.09	336	61.76	397	61.93	457	67.40
TOTAL	7244	100.00	1842	100.00	544	100.00	641	100.00	678	100.00
UNKNOWN	579	7.40	84	4.36	59	9.78	26	3.90	63	8.50
GRAND TOTAL	7823	100.00	1926	100.00	603	100.00	667	100.00	741	100.00

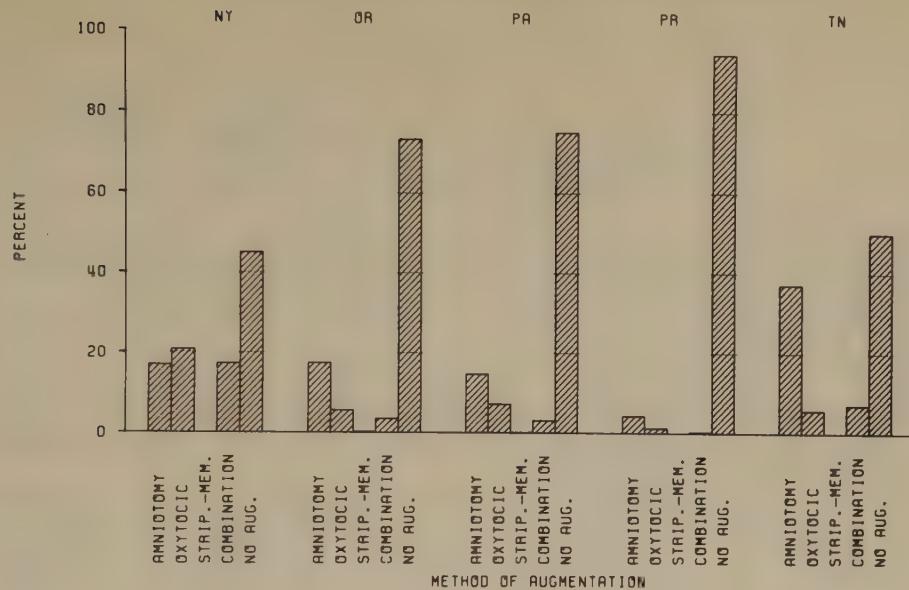
METHOD OF AUGMENTATION OF LABOR BY INSTITUTION - WHITE (CONT.)

	MN	NY	OR	PA	PR					
METHOD OF AUGMENTATION	NUMBER	PERCENT								
AMNIOTOMY	706	29.43	28	12.12	251	15.10	103	15.04	147	8.69
OXYTOCIC	130	5.42	75	32.47	164	9.87	39	5.69	22	1.30
STRIPPING OF MEMBRANES	3	0.13	0	0	1	0.06	1	0.15	0	0
COMBINATION	126	5.25	53	22.94	53	3.19	19	2.77	3	0.18
NO AUGMENTATION	1434	59.77	75	32.47	1193	71.78	523	76.35	1520	89.83
TOTAL	2399	100.00	231	100.00	1662	100.00	685	100.00	1692	100.00
UNKNOWN	224	8.54	22	8.70	232	12.25	43	5.91	77	4.35
GRAND TOTAL	2623	100.00	253	100.00	1894	100.00	728	100.00	1769	100.00

METHOD OF AUGMENTATION OF LABOR BY INSTITUTION - NEGRO



METHOD OF AUGMENTATION OF LABOR BY INSTITUTION - NEGRO (CONT.)



METHOD OF AUGMENTATION OF LABOR BY INSTITUTION - NEGRO

	BO	CH	CO	JH	VA			
METHOD OF AUGMENTATION	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
AMNIOTOMY	95	11.26	583	25.29	129	17.02	504	24.13
OXYTOCIC	137	16.23	125	5.42	89	11.74	141	6.75
STRIPPING OF MEMBRANES	0	0	9	0.39	1	0.13	13	0.62
COMBINATION	44	5.21	72	3.12	54	7.12	68	3.26
NO AUGMENTATION	568	67.30	1516	65.77	485	63.98	1363	65.25
TOTAL	844	100.00	2305	100.00	758	100.00	2089	100.00
UNKNOWN	69	7.56	75	3.15	84	9.98	121	5.48
GRAND TOTAL	913	100.00	2380	100.00	842	100.00	2210	100.00

METHOD OF AUGMENTATION OF LABOR BY INSTITUTION - NEGRO (CONT.)

	NY	OR	PA	PR	TN	
METHOD OF AUGMENTATION	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
AMNIOTOMY	229	16.93	90	17.41	854	14.63
OXYTOCIC	281	20.77	29	5.61	420	7.20
STRIPPING OF MEMBRANES	0	0	1	0.19	3	0.05
COMBINATION	234	17.29	18	3.48	178	3.05
NO AUGMENTATION	609	45.01	379	73.31	4381	75.07
TOTAL	1353	100.00	517	100.00	5836	100.00
UNKNOWN	102	7.01	86	14.26	322	5.23
GRAND TOTAL	1455	100.00	603	100.00	6158	100.00

SUMMARY DATA FOR WHITE

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		LIVE-BIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY-ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	BIRTHS	NO.	RATE	NO.	NO.	RATE	EXAMS	NO.	RATE	MEAN BWT.
METHOD OF AUGMENTATION																
OF LABOR																
AMNIOTOMY	3368	19.1	54	16.0	30	8.9	3338	24	7.2	3330	136	40.8	2715	32	11.8	3354
OXYTOCIC	2083	11.8	76	36.5	52	25.0	2031	24	11.8	2025	171	84.4	1661	39	23.5	3240
STRIPPING OF MEMBRANES	11	0.1	0	0	0	0	11	0	0	11	1	90.9	9	0	0	3255
COMBINATION	841	4.8	30	35.7	19	22.6	822	11	13.4	818	51	62.3	657	10	15.2	3353
METHOD OF INDUCTION																
OF LABOR																
AMNIOTOMY	390	2.2	3	7.7	1	2.6	389	2	5.1	387	26	67.2	324	4	12.3	3372
OXYTOCIC	916	5.2	45	49.1	29	31.7	887	16	18.0	884	84	95.0	732	17	23.2	3207
STRIPPING OF MEMBRANES	204	1.2	6	29.4	4	19.6	200	2	10.0	199	7	35.2	170	1	5.9	3413
COMBINATION	305	1.7	20	65.6	17	55.7	288	3	10.4	287	20	69.7	224	8	35.7	3296
REACTIONS TO UTERINE STIMULANT																
USUAL	9973	96.4	262	26.3	138	13.8	9835	124	12.6	9795	693	70.8	7824	121	15.5	3258
NO RESPONSE	141	1.4	7	49.6	5	35.5	136	2	14.7	135	8	59.3	115	2	17.4	3434
CONTRACTION	46	0.4	1	21.7	1	21.7	45	0	0	45	3	66.7	39	1	25.6	3313
INCREASED TONE	17	0.2	3	176.5	2	117.6	15	1	66.7	15	3	200.0	12	1	83.3	3319
FETAL HEART RATE	70	0.7	3	42.9	0	0	70	3	42.9	69	14	202.9	55	0	0	3078
LABOR/DELIVERY	40	0.4	2	50.0	2	50.0	38	0	0	38	6	157.9	32	2	62.5	3142
OTHER	14	0.1	0	0	0	0	14	0	0	14	0	0	12	0	0	3469
COMBINATION	41	0.4	1	24.4	1	24.4	40	0	0	39	3	76.9	32	0	0	3251
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		LIVE-BIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	BIRTHS	NO.	RATE	NO.	NO.	RATE	EXAMS	NO.	RATE	MEAN BWT.
METHOD OF AUGMENTATION																
OF LABOR																
AMNIOTOMY	3996	21.1	73	18.3	37	9.3	3959	36	9.1	3945	352	89.2	3568	50	14.0	3118
OXYTOCIC	1460	7.7	93	63.7	56	38.4	1404	37	26.4	1388	209	150.6	1205	16	13.3	3041
STRIPPING OF MEMBRANES	29	0.2	1	34.5	0	0	29	1	34.5	29	5	172.4	25	0	0	3002
COMBINATION	914	4.8	48	52.5	29	31.7	885	19	21.5	881	75	85.1	756	11	14.6	3136
METHOD OF INDUCTION																
OF LABOR																
AMNIOTOMY	46	0.2	7	152.2	5	108.7	41	2	48.8	41	7	170.7	35	2	57.1	3138
OXYTOCIC	584	3.1	30	51.4	16	27.4	568	14	24.6	565	104	184.1	499	11	22.0	2979
STRIPPING OF MEMBRANES	158	0.8	3	19.0	3	19.0	155	0	0	155	10	64.5	143	0	0	3207
COMBINATION	78	0.4	16	205.1	11	141.0	67	5	74.6	65	12	184.6	56	1	17.9	3037
REACTIONS TO UTERINE STIMULANT																
USUAL	10797	97.0	342	31.7	166	15.4	10631	176	16.6	10576	1441	136.3	9307	132	14.2	3020
NO RESPONSE	143	1.3	4	28.0	3	21.0	140	1	7.1	140	13	92.9	130	1	7.7	3211
CONTRACTION	15	0.1	1	66.7	0	0	15	1	66.7	15	4	266.7	14	1	71.4	2865
INCREASED TONE	12	0.1	1	83.3	0	0	12	1	83.3	12	4	333.3	11	1	90.9	2797
FETAL HEART RATE	62	0.6	3	48.4	0	0	62	3	48.4	62	12	193.5	56	0	0	3060
LABOR/DELIVERY	53	0.5	6	113.2	3	56.6	50	3	60.0	49	10	204.1	40	1	25.0	2919
OTHER	13	0.1	2	153.8	2	153.8	1	0	0	11	1	90.9	11	0	0	2995
COMBINATION	34	0.3	5	147.1	4	117.6	30	1	33.3	30	6	200.0	28	2	71.4	2990
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 4. TYPE OF DELIVERY

As might be expected, the great majority (92 per cent) of the babies in the Study were delivered vaginally following vertex presentation. Cesarean section was used to effect delivery in five per cent of the cases; the remaining 3 per cent were breech deliveries.

Table 8. Type of Deliveries

Type	White		Negro	
	No.	%	No.	%
Vaginal vertex	17176	91.7	18406	92.4
Vaginal breech	626	3.3	519	2.6
Cesarean section	921	4.9	992	5.0
Total	18723	100.0	19917	100.0

Breech delivery is associated with the highest mortality rates and the lowest mean birthweights for both races. Vertex delivery is associated with the lowest mortality rates and the heaviest mean birthweights.

The fetal outcome data for the various procedures used to effect delivery appear in some detail in the Summary Tables on pages 381 through 385.

PROCEDURE FOR VAGINAL DELIVERY OF VERTEX

There were marked differences in the frequency of the use of forceps by institution. Among White patients, Buffalo stood at one extreme, with only ten per cent of patients delivered spontaneously. By contrast, at the University of Minnesota, only ten per cent of patients were delivered by forceps. The remainder of the institutions fell in the middle range of forceps use. The corresponding range for Negroes delivered by forceps was between 20 and 40 per cent.

Forty-three per cent of White patients and 68 per cent of Negro patients delivered spontaneously, without operative assistance. Forceps were used for delivery in all other cases.

The definitions formulated by the American College of Obstetricians and Gynecologists were used to classify forceps applications into outlet, low, mid, and high according to the following level of application:

1. Outlet forceps—head or perineum in antero-posterior diameter.
2. Low forceps—head on perineum, not in antero-posterior diameter.
3. Mid forceps—head engaged but above the perineum.
4. High forceps—head not engaged.

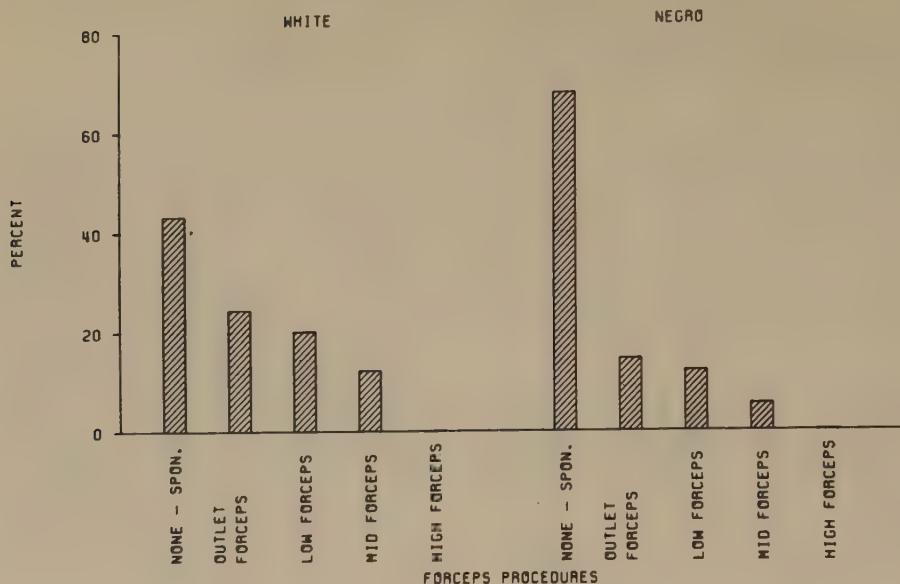
Examination of the data relating the use of forceps to fetal outcome produces results which require considerable care in their interpretation. The perinatal mortality rates for White and Negro babies delivered by forceps are substantially less than for those delivered spontaneously. This diminution in the rates of forceps-delivered infants is consistent for stillbirths and for neonatal deaths. The low birthweight rate is higher for the babies delivered spontaneously than for any of the forceps groups, for both races. The mean birthweights show the same trend. There is a slight tendency for the neurologic abnormality rate to be highest for the spontaneously-delivered babies.

The effects on the fetus of the use of forceps is a matter of debate in the medical profession. The wide variation in the use of this procedure suggests that the issue is, as yet, unresolved.

The fact of the matter is that the characteristics of the gravidas delivered by forceps differ considerably from those delivering spontaneously. The birthweight data indicate that the smaller babies, for example, are more frequently found in the no-forceps groups, which is logical. Gestational age, age of gravida, and parity differ between the forceps and no-forceps groups.⁹ Since all of these factors are known to have an effect on the outcomes of pregnancy, they must be considered in any assessment of the effects of the use of forceps. A detailed study including these and possibly other factors is required to determine the value to the fetus of delivery by outlet and elective low forceps delivery.

⁹Unpublished paper "Forceps in Delivery," by Fisch, R., Graven, H., Spellacy, W., presented at the Meeting of the Collaborative Study, Washington, D.C., June 13-14, 1963.

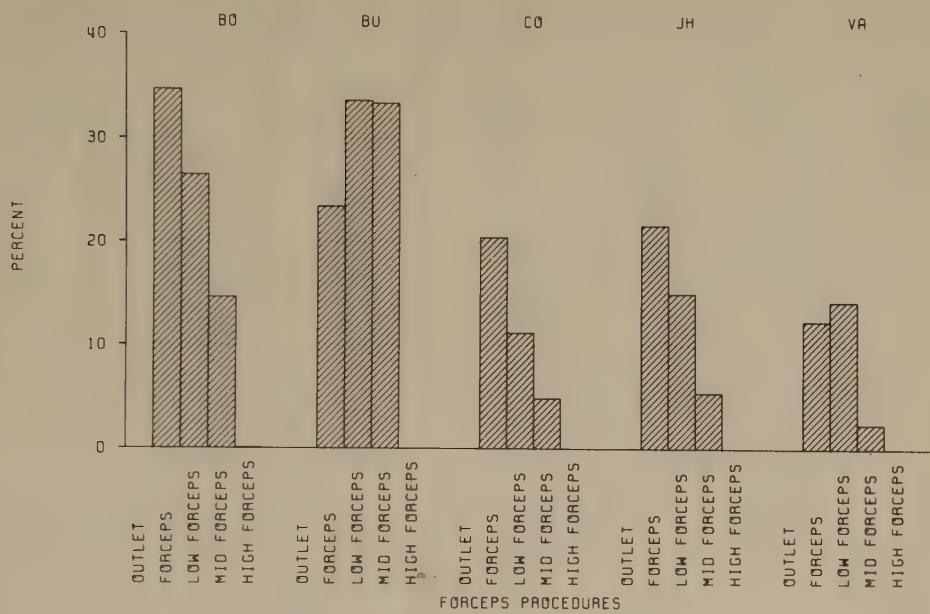
PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE



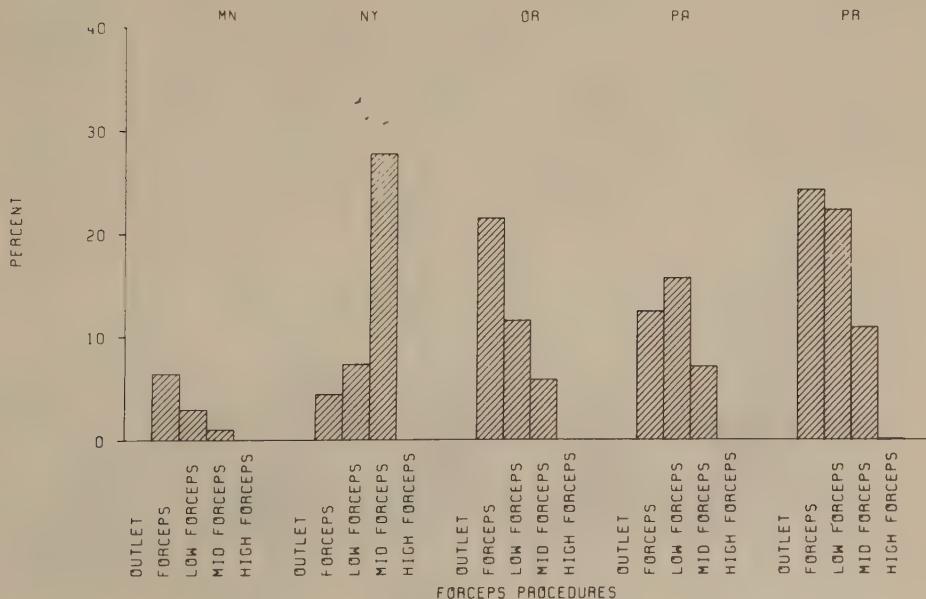
PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE

FORCEPS PROCEDURES	WHITE	NEGRO		
	NUMBER	PERCENT	NUMBER	PERCENT
NONE - SPON.	7108	43.22	12135	67.92
OUTLET FORCEPS	4017	24.43	2594	14.52
LOW FORCEPS	3308	20.11	2166	12.12
MID FORCEPS	2009	12.22	964	5.40
HIGH FORCEPS	4	0.02	7	0.04
TOTAL	16446	100.00	17866	100.00
UNKNOWN	730	4.25	540	2.93
GRAND TOTAL	17176	100.00	18406	100.00

PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE BY INSTITUTION - WHITE



PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE BY INSTITUTION - WHITE (CONT.)



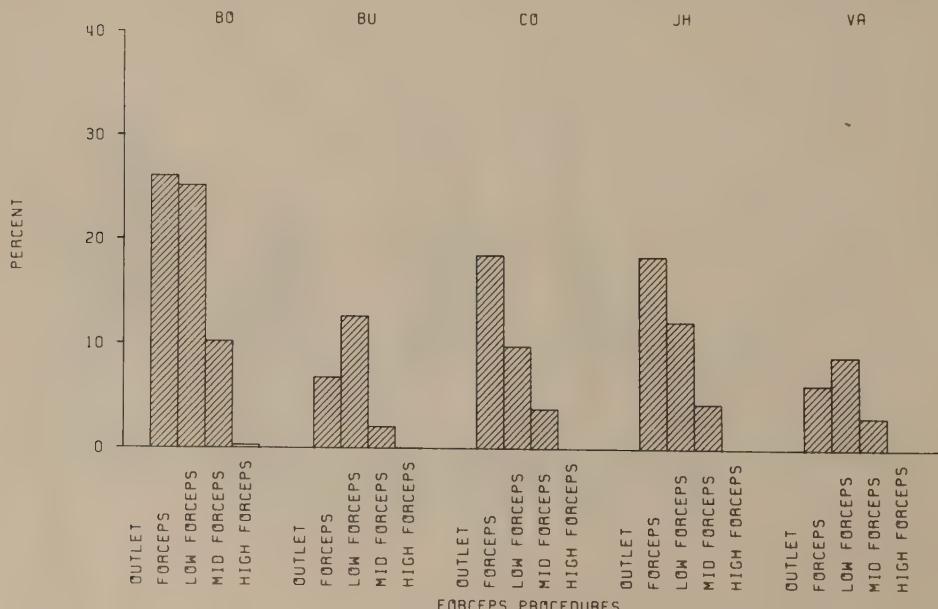
PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE BY INSTITUTION - WHITE

	BO	BU	CO	JH	VA					
FORCEPS PROCEDURES	NUMBER	PERCENT								
NONE - SPON.	1648	24.21	160	9.55	329	63.51	332	57.94	449	71.04
OUTLET FORCEPS	2359	34.66	392	23.39	106	20.46	124	21.64	78	12.34
LOW FORCEPS	1802	26.48	564	33.65	58	11.20	86	15.01	90	14.24
MID FORCEPS	994	14.61	560	33.41	25	4.83	31	5.41	15	2.37
HIGH FORCEPS	3	0.04	0	0	0	0	0	0	0	0
TOTAL	6806	100.00	1676	100.00	518	100.00	573	100.00	632	100.00
UNKNOWN	268	3.79	58	3.34	13	2.45	29	4.82	34	5.11
GRAND TOTAL	7074	100.00	1734	100.00	531	100.00	602	100.00	666	100.00

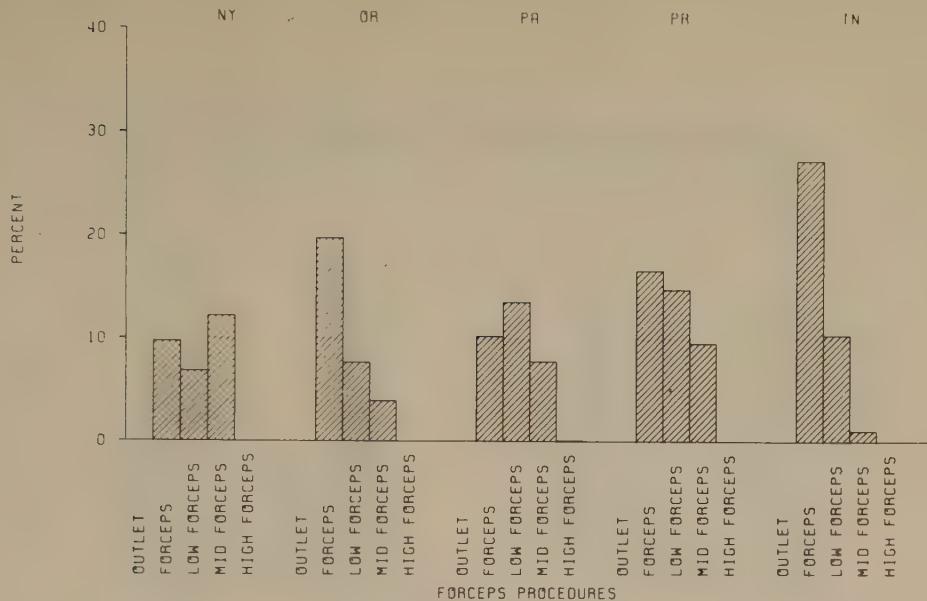
PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE BY INSTITUTION - WHITE (CONT.)

	MN	NY	OR	PA	PR					
FORCEPS PROCEDURES	NUMBER	PERCENT								
NONE - SPON.	2049	89.67	123	60.29	953	60.90	417	64.55	641	42.09
OUTLET FORCEPS	146	6.39	9	4.41	339	21.66	81	12.54	372	24.43
LOW FORCEPS	67	2.93	15	7.35	182	11.63	102	15.79	342	22.46
MID FORCEPS	23	1.01	57	27.94	91	5.82	46	7.12	167	10.97
HIGH FORCEPS	0	0	0	0	0	0	0	0	1	0.07
TOTAL	2285	100.00	204	100.00	1565	100.00	646	100.00	1523	100.00
UNKNOWN	85	3.59	18	8.11	148	8.64	12	1.82	64	4.03
GRAND TOTAL	2370	100.00	222	100.00	1713	100.00	658	100.00	1587	100.00

PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE BY INSTITUTION - NEGRO



PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE BY INSTITUTION - NEGRO (CONT.)



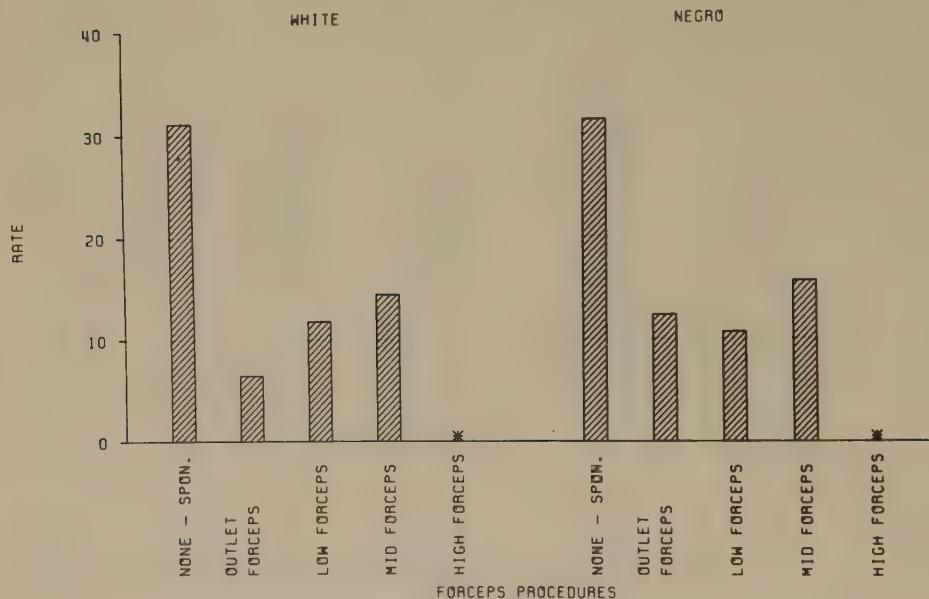
PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE BY INSTITUTION - NEGRO

INSTITUTION	BO	CH	CO	JH	VA			
FORCEPS PROCEDURES	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
NONE - SPON.	291	38.44	1705	78.61	490	68.06	1235	65.28
OUTLET FORCEPS	197	26.02	146	6.73	133	18.47	347	18.34
LOW FORCEPS	190	25.10	273	12.59	70	9.72	229	12.10
MID FORCEPS	77	10.17	44	2.03	27	3.75	81	4.28
HIGH FORCEPS	2	0.26	1	0.05	0	0	0	0
TOTAL	757	100.00	2169	100.00	720	100.00	1892	100.00
UNKNOWN	41	5.14	47	2.12	18	2.44	120	5.96
GRAND TOTAL	798	100.00	2216	100.00	738	100.00	2012	100.00
							1697	100.00

PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE BY INSTITUTION - NEGRO (CONT.)

INSTITUTION	NY		OR		PA		PR		TN	
FORCEPS PROCEDURES	NUMBER	PERCENT								
NONE - SPON.	918	71.27	347	68.58	3765	68.24	258	58.90	1775	61.17
OUTLET FORCEPS	125	9.71	100	19.76	567	10.28	73	16.67	795	27.40
LOW FORCEPS	88	6.83	39	7.71	750	13.59	65	14.84	302	10.41
MID FORCEPS	157	12.19	20	3.95	431	7.81	42	9.59	30	1.03
HIGH FORCEPS	0	0	0	0	4	0.07	0	0	0	0
TOTAL	1288	100.00	506	100.00	5517	100.00	438	100.00	2902	100.00
UNKNOWN	49	3.66	41	7.50	78	1.39	10	2.23	57	1.93
GRAND TOTAL	1337	100.00	547	100.00	5595	100.00	448	100.00	2959	100.00

PERINATAL DEATHS BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE



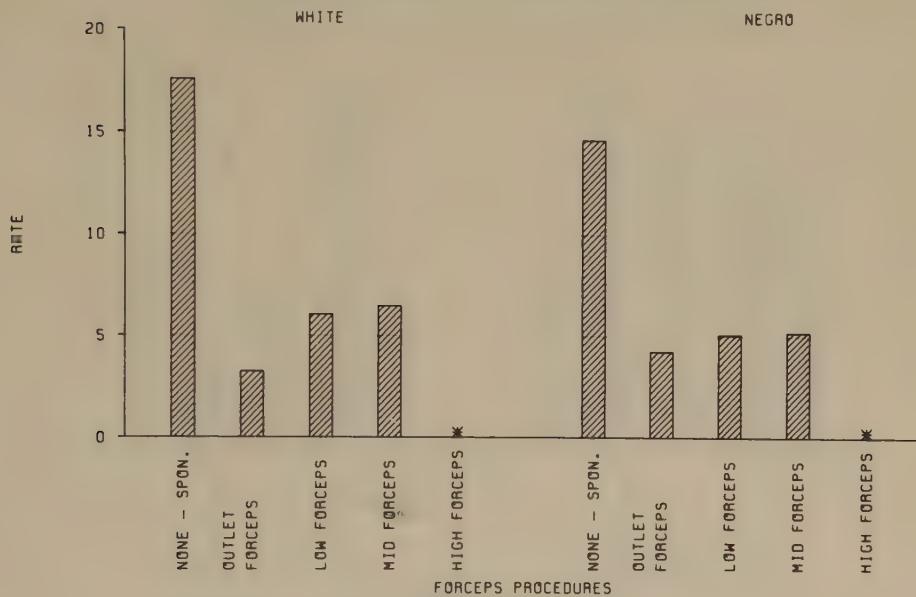
* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE

FORCEPS PROCEDURES	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NONE - SPON.	7108	221	31.09	12135	381	31.40
OUTLET FORCEPS	4017	26	6.47	2594	32	12.34
LOW FORCEPS	3308	39	11.79	2166	23	10.62
MID FORCEPS	2009	29	14.44	964	15	15.56
HIGH FORCEPS	4	1	250.00*	7	1	142.86*
TOTAL	16446	316	19.21	17866	452	25.30
UNKNOWN	730	14	19.18	540	33	61.11
GRAND TOTAL	17176	330	19.21	18406	485	26.35

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE



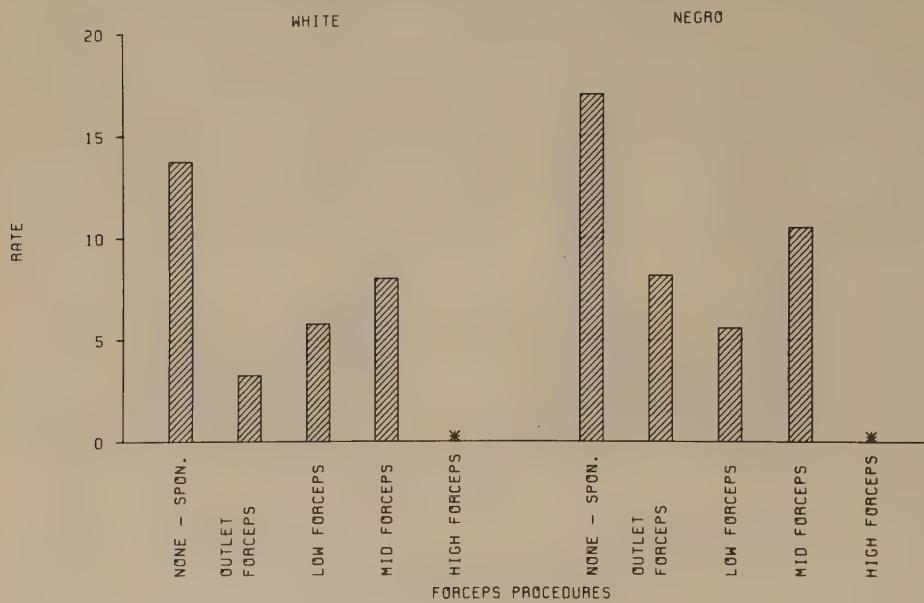
* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE

FORCEPS PROCEDURES	BIRTHS	WHITE			NEGRO		
		ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE	FRESH STILLBIRTHS NO.	FRESH STILLBIRTHS RATE	ALL STILLBIRTHS NO.	ALL STILLBIRTHS RATE
NONE - SPON.	7108	125	17.59	39	5.49	12135	178
OUTLET FORCEPS	4017	13	3.24	5	1.24	2594	11
LOW FORCEPS	3308	20	6.05	6	1.81	2166	11
MID FORCEPS	2009	13	6.47	9	3.98	964	5
HIGH FORCEPS	4	0	0.0*	0	0.0*	7	0.0*
TOTAL	16446	171	10.40	58	3.53	17866	205
UNKNOWN	730	9	12.33	2	2.74	540	19
GRAND TOTAL	17176	180	10.48	60	3.49	18406	224

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE



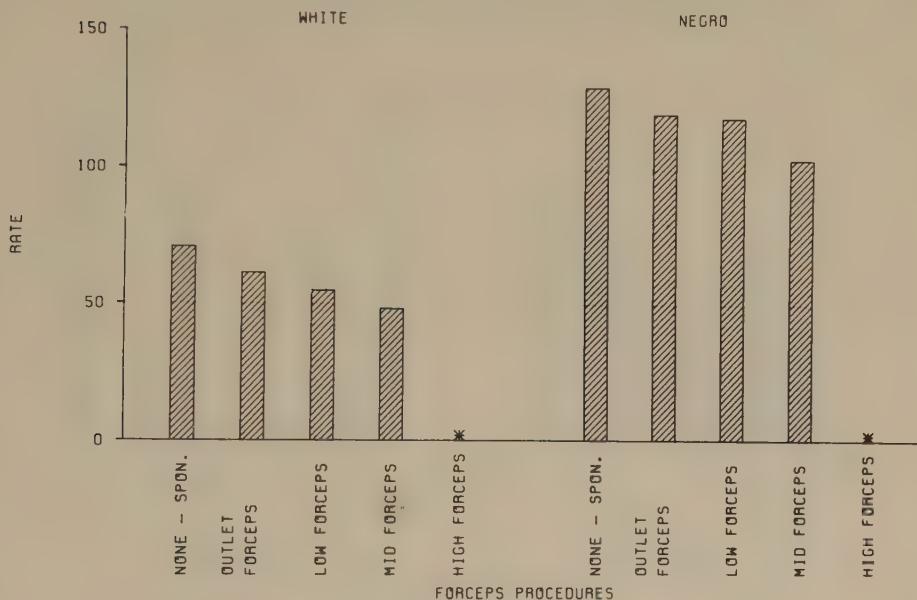
* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE

FORCEPS PROCEDURES	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NONE - SPON.	6983	96	13.75	11957	203	16.98
OUTLET FORCEPS	4004	13	3.25	2583	21	8.13
LOW FORCEPS	3288	19	5.78	2155	12	5.57
MID FORCEPS	1996	16	8.02	959	10	10.43
HIGH FORCEPS	4	1	250.00*	7	1	142.86*
TOTAL	16275	145	8.91	17661	247	13.99
UNKNOWN	721	5	6.93	521	14	26.87
GRAND TOTAL	16996	150	8.83	18182	261	14.35

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE



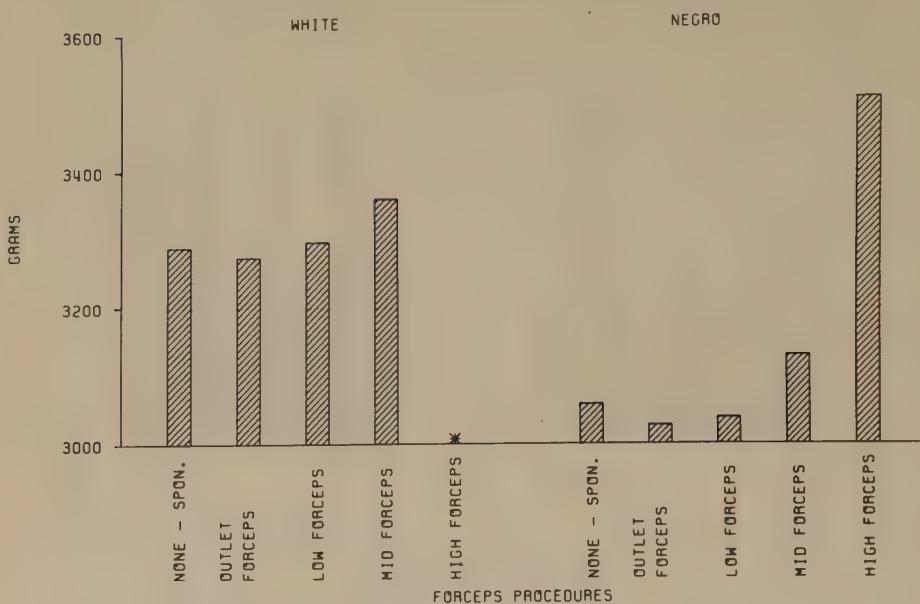
* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE

PROCEDURES	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NONE - SPON.	6945	491	70.70	11901	1547	129.99
OUTLET FORCEPS	4001	245	61.23	2571	309	120.19
LOW FORCEPS	3283	180	54.83	2147	255	118.77
MID FORCEPS	1988	96	48.29	956	99	103.56
HIGH FORCEPS	4	1	250.00*	7	0	0 *
TOTAL	16221	1013	62.45	17582	2210	125.70
UNKNOWN	685	46	67.15	484	58	119.83
GRAND TOTAL	16906	1059	62.64	18066	2268	125.54

* RATE BASED ON LESS THAN 20 CASES.

MEAN BIRTHWEIGHT BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE



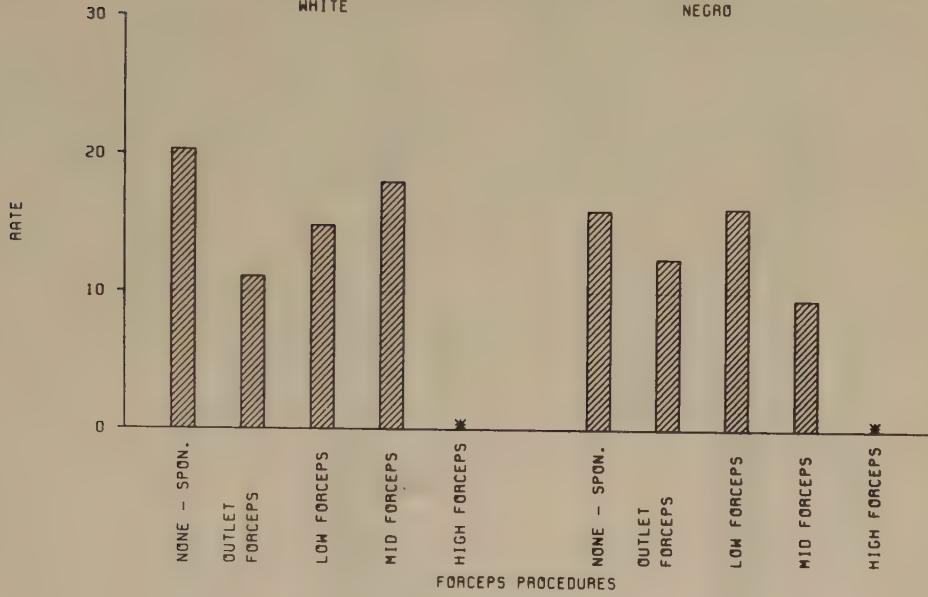
* MEAN BASED ON LESS THAN 5 CASES.

MEAN BIRTHWEIGHT BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE

	WHITE			NEGRO		
FORCEPS PROCEDURES	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	
NONE - SPON.	6945	3288	11901	3058		
OUTLET FORCEPS	4001	3274	2571	3027		
LOW FORCEPS	3283	3297	2147	3038		
MID FORCEPS	1988	3361	956	3130		
HIGH FORCEPS	4	3104*	7	3507		
TOTAL	16221	3295	17582	3054		
UNKNOWN	685	3246	484	3017		
GRAND TOTAL	16906	3293	18066	3053		

* MEAN BASED ON LESS THAN 5 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE



* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PROCEDURE FOR VAGINAL DELIVERY OF VERTEX BY RACE

FORCEPS PROCEDURES	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
NONE - SPON.	5521	112	20.29	10435	167	16.00
OUTLET FORCEPS	3239	36	11.11	2323	29	12.48
LOW FORCEPS	2624	39	14.86	1912	31	16.21
MID FORCEPS	1664	30	18.03	843	8	9.49
HIGH FORCEPS	3	0	0 *	5	0	0 *
TOTAL	13051	217	16.63	15518	235	15.14
UNKNOWN	488	5	10.25	419	5	11.93
GRAND TOTAL	13539	222	16.40	15937	240	15.06

* RATE BASED ON LESS THAN 20 CASES.

SECTION 4. TYPE OF DELIVERY (Continued)

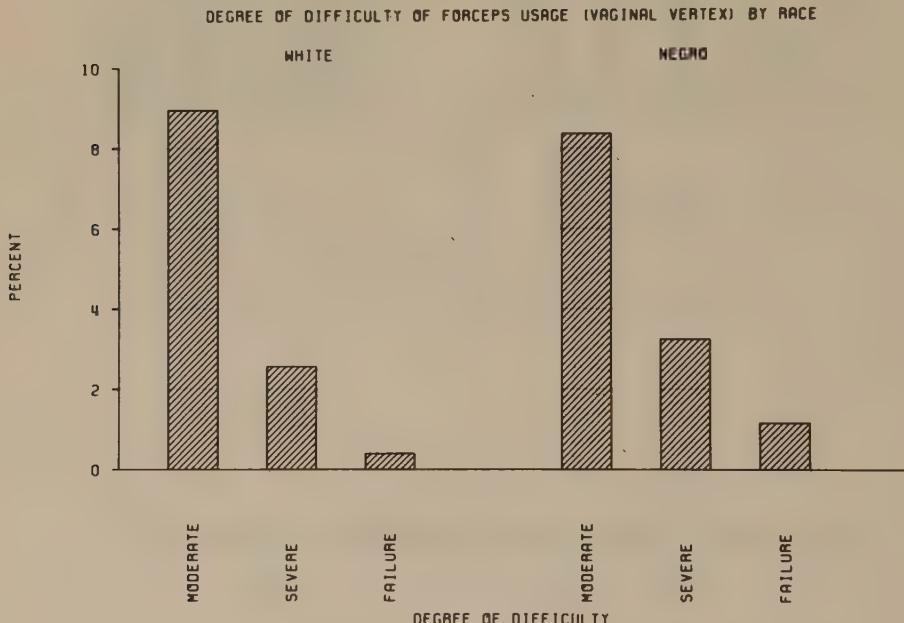
DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX)

The degree of difficulty in delivering the infant with forceps was assessed by the obstetrician and classified as none, moderate, severe, or failed. While there was considerable variation among institutions with respect to the frequency of forceps usage, the classification, by degree of difficulty encountered in their use, was relatively consistent. When the neonatal death rate is examined for each of these four cat-

egories, the death rate increases strikingly with the difficulty experienced in delivery.

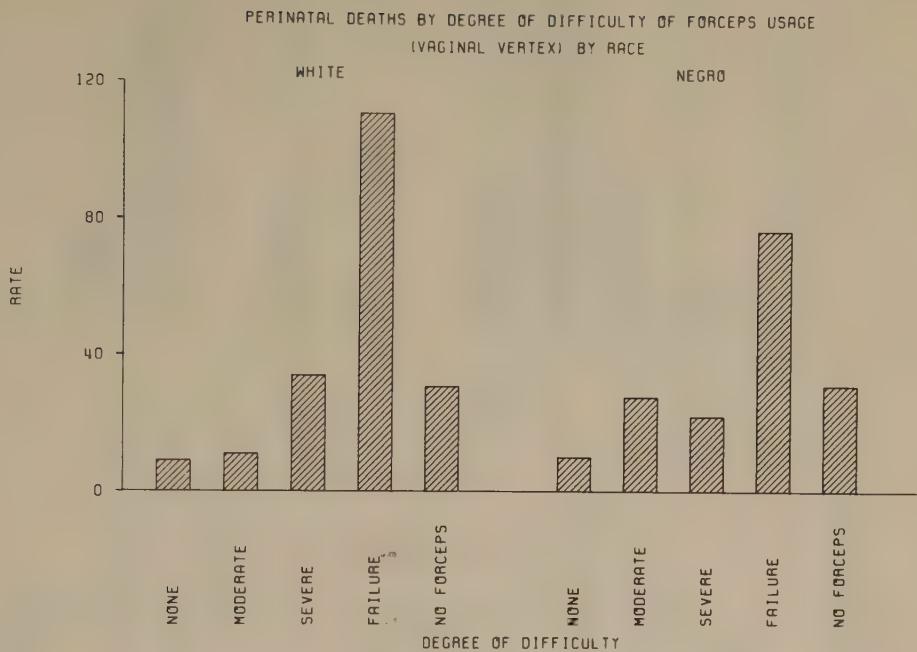
Paralleling the results seen in the preceding section, the neonatal death rate for spontaneously-delivered infants is higher than that for infants delivered with easy forceps. Infants delivered by easy forceps (in most instances outlet or low forceps) have neonatal death rates approximately one-third those for spontaneously born infants.

A fairly consistent increase in both mortality and the risk of neurologic abnormality was noted with increasing difficulty of forceps usage. As expected, the frequency of low birthweight decreased and the mean birthweight increased with increasing difficulty in effecting delivery.



DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX) BY RACE

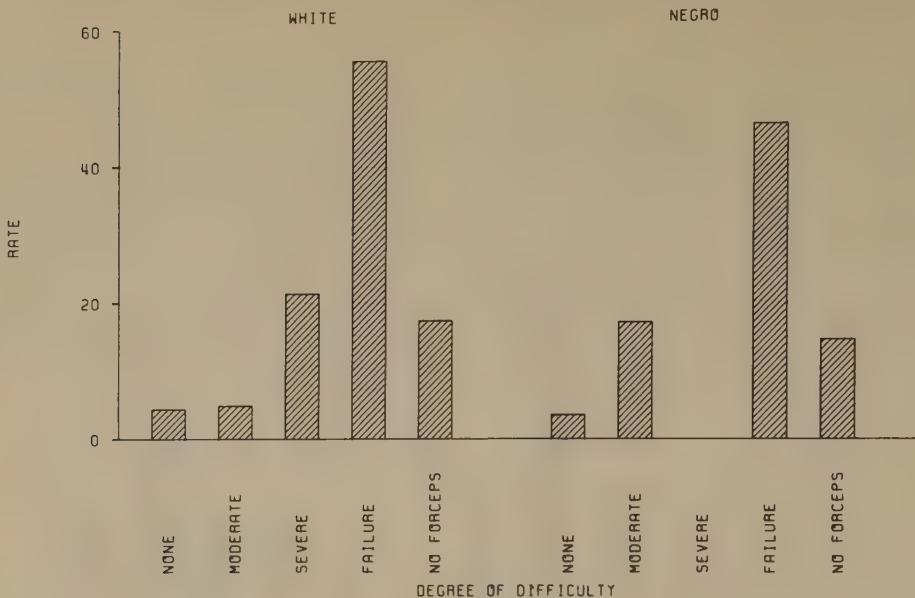
DEGREE OF DIFFICULTY	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
NONE	8090	88.10	4881	87.24
MODERATE	822	8.95	468	8.36
SEVERE	235	2.56	181	3.24
FAILURE	36	0.39	65	1.16
TOTAL	9183	100.00	5595	100.00
NO FORCEPS	7108	41.38	12135	65.93
UNKNOWN	885	5.15	676	3.67
GRAND TOTAL	17176	100.00	18406	100.00



PERINATAL DEATHS BY DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX) BY RACE

Degree of Difficulty	White			Negro		
	Births	Perinatal Deaths	Rate	Births	Perinatal Deaths	Rate
NONE	8090	72	8.90	4881	49	10.04
Moderate	822	9	10.95	468	13	27.78
Severe	235	8	34.04	181	4	22.10
Failure	36	4	111.11	65	5	76.92
TOTAL	9183	93	10.13	5595	71	12.69
NO FORCEPS	7108	221	31.09	12135	381	31.40
UNKNOWN	885	16	18.08	676	33	48.82
GRAND TOTAL	17176	330	19.21	18406	485	26.35

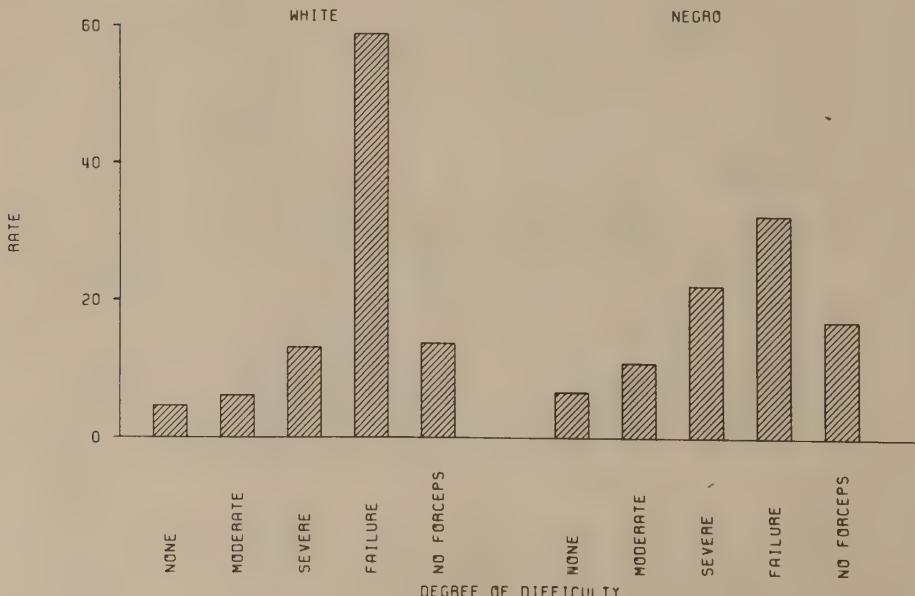
STILLBIRTHS BY DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX) BY RACE



STILLBIRTHS BY DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX) BY RACE

DEGREE OF DIFFICULTY	WHITE			NEGRO						
	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.	RATE	BIRTHS	ALL STILLBIRTHS NO.	RATE	FRESH STILLBIRTHS NO.	RATE
NONE	8090	35	4.33	13	1.61	4881	17	3.48	7	1.43
MODERATE	822	4	4.87	2	2.43	468	8	17.09	5	10.68
SEVERE	235	5	21.28	3	12.77	181	0	0	0	0
FAILURE	36	2	55.56	2	55.56	65	3	46.15	2	30.77
TOTAL	9183	46	5.01	20	2.18	5595	28	5.00	14	2.50
NO FORCEPS	7108	125	17.59	39	5.49	12135	178	14.67	70	5.77
UNKNOWN	885	9	10.17	1	1.13	676	18	26.63	3	4.44
GRAND TOTAL	17176	180	10.48	60	3.49	18406	224	12.17	87	4.73

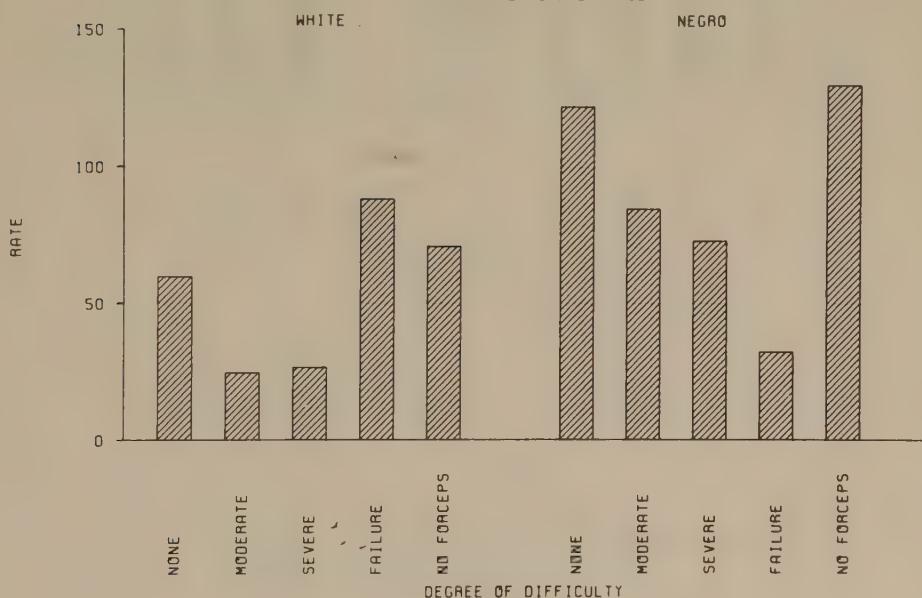
NEONATAL DEATHS BY DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX) BY RACE



NEONATAL DEATHS BY DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX) BY RACE

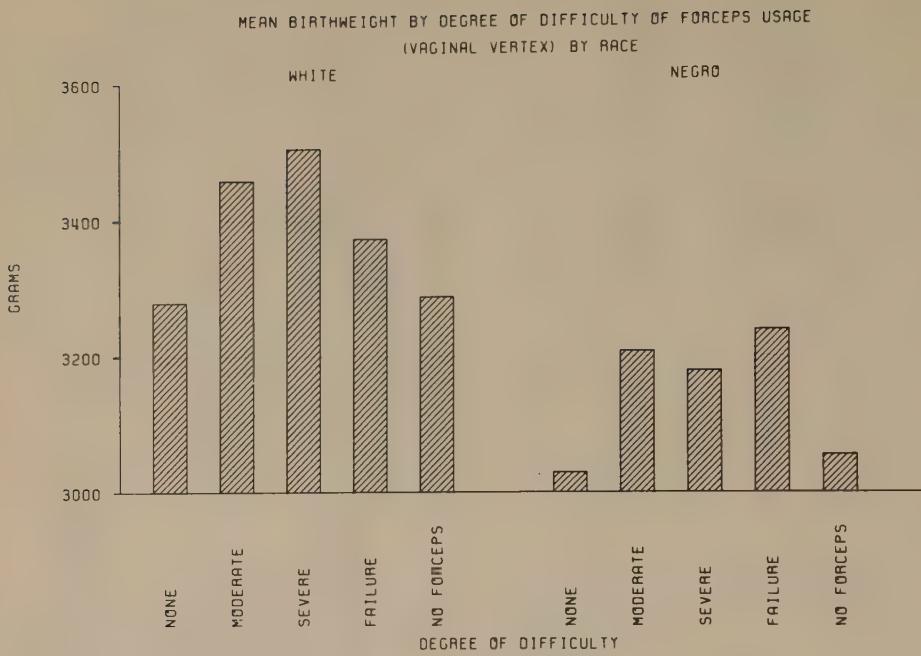
DEGREE OF DIFFICULTY	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NONE	8055	37	4.59	4864	32	6.58
MODERATE	818	5	6.11	460	5	10.87
SEVERE	230	3	13.04	181	4	22.10
FAILURE	34	2	58.82	62	2	32.26
TOTAL	9137	47	5.14	5567	43	7.72
NO FORCEPS	6983	96	13.75	11957	203	16.98
UNKNOWN	876	7	7.99	658	15	22.80
GRAND TOTAL	16996	150	8.83	18182	261	14.35

BIRTHWEIGHTS UNDER 2501 GM BY DEGREE OF DIFFICULTY OF FORCEPS USAGE
(VAGINAL VERTEX) BY RACE



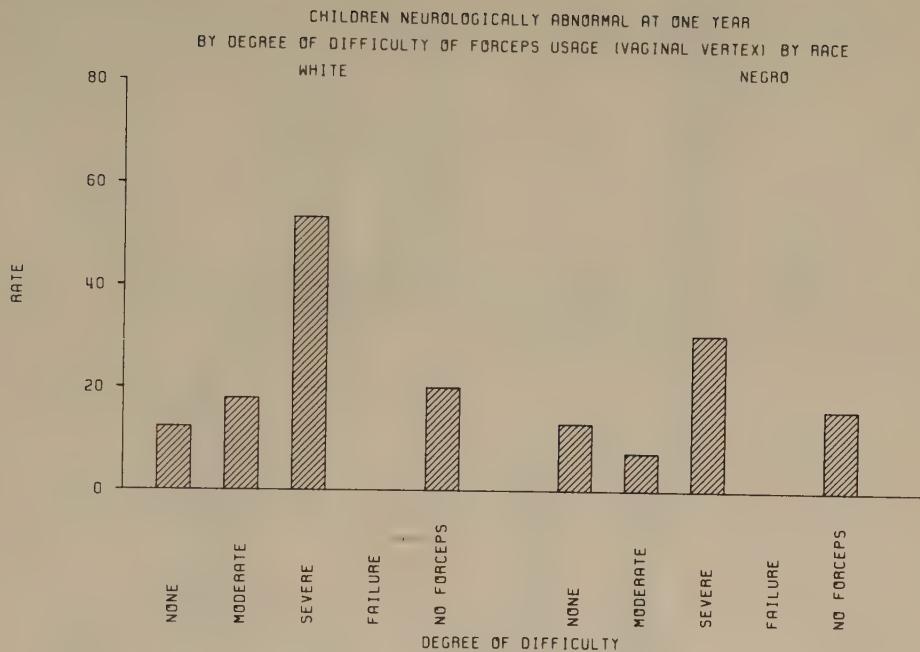
BIRTHWEIGHTS UNDER 2501 GM BY DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX) BY RACE

DEGREE OF DIFFICULTY	WHITE			NEGRO		
	LIVEBIRTHS	BIRTHWEIGHTS	RATE	LIVEBIRTHS	BIRTHWEIGHTS	RATE
	WITH KNOWN BIRTHWEIGHT	UNDER 2501 GM.		WITH KNOWN BIRTHWEIGHT	UNDER 2501 GM.	
NONE	8049	481	59.76	4852	593	122.22
MODERATE	815	20	24.54	460	39	84.78
SEVERE	226	6	26.55	178	13	73.03
FAILURE	34	3	88.24	62	2	32.26
TOTAL	9124	510	55.90	5552	647	116.53
NO FORCEPS	6945	491	70.70	11901	1547	129.99
UNKNOWN	837	58	69.30	613	74	120.72
GRAND TOTAL	16906	1059	62.64	18066	2268	125.54



MEAN BIRTHWEIGHT BY DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX) BY RACE

	WHITE		NEGRO	
DEGREE OF DIFFICULTY	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NONE	8049	3279	4852	3029
MODERATE	815	3458	460	3208
SEVERE	226	3505	178	3179
FAILURE	34	3373	62	3239
TOTAL	9124	3301	5552	3051
NO FORCEPS	6945	3288	11901	3058
UNKNOWN	837	3247	613	2974
GRAND TOTAL	16906	3293	18066	3053



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX) BY RACE

Degree of Difficulty	White			Negro		
	One Year Exams	Abnormals	Rate	One Year Exams	Abnormals	Rate
NONE	6567	81	12.33	4348	57	13.11
Moderate	669	12	17.94	406	3	7.39
Severe	187	10	53.48	163	5	30.67
Failure	26	0	0	51	0	0
TOTAL	7449	103	13.83	4968	65	13.08
NO FORCEPS	5521	112	20.29	10435	167	16.00
UNKNOWN	569	7	12.30	534	8	14.98
GRAND TOTAL	13539	222	16.40	15937	240	15.06

SECTION 4. TYPE OF DELIVERY (Continued)

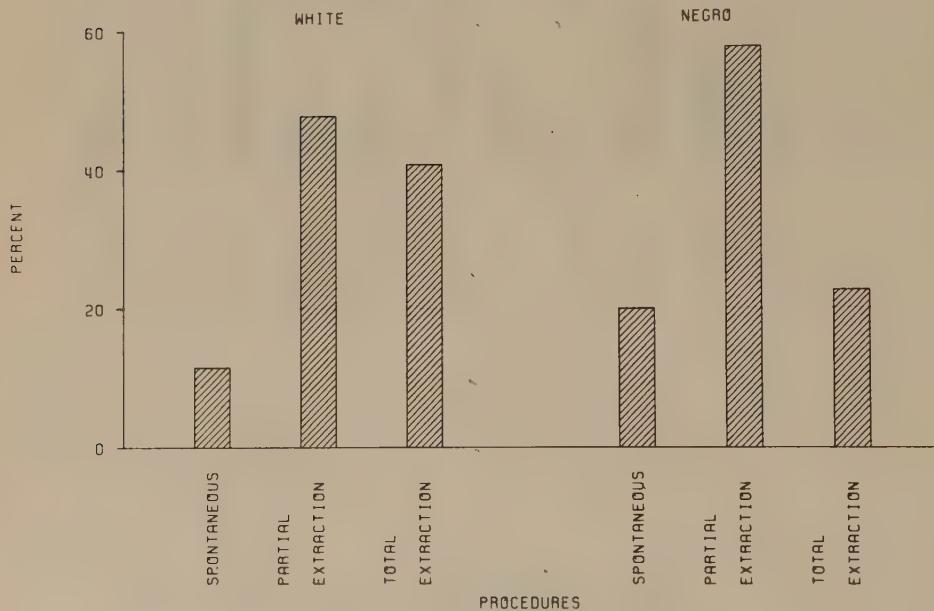
PROCEDURES FOR BREECH DELIVERY

As indicated, breech deliveries accounted for only about three per cent of all deliveries. While breech delivery, in general, carried the highest degrees of perinatal mortality, the various subclassifications of

procedures used to effect delivery reduced the number of cases available for study within each group to the point where meaningful analysis with respect to fetal outcome was difficult.

The procedures used, the degree of difficulty encountered in effecting delivery, and their relationships with the fetal outcome observed are shown in some detail in the summary tables which follow.

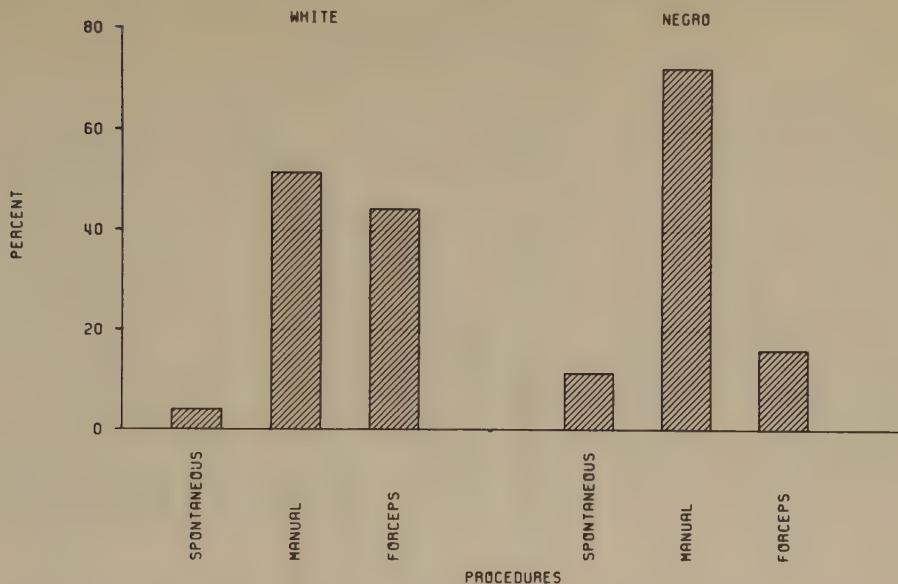
PROCEDURE FOR DELIVERY OF BODY, BREECH DELIVERY, BY RACE



PROCEDURE FOR DELIVERY OF BODY, BREECH DELIVERY, BY RACE

PROCEDURES	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
SPONTANEOUS	69	11.48	98	19.92
PARTIAL EXTRACTION	287	47.75	283	57.52
TOTAL EXTRACTION	245	40.77	111	22.56
TOTAL	601	100.00	492	100.00
UNKNOWN	25	3.99	27	5.20
GRAND TOTAL	626	100.00	519	100.00

PROCEDURE FOR DELIVERY OF AFTERCOMING HEAD, BREECH DELIVERY, BY RACE



PROCEDURE FOR DELIVERY OF AFTERCOMING HEAD, BREECH DELIVERY, BY RACE

PROCEDURES	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
SPONTANEOUS	24	4.02	56	11.38
MANUAL	308	51.59	357	72.56
FORCEPS	265	44.39	79	16.06
TOTAL	597	100.00	492	100.00
UNKNOWN	29	4.63	27	5.20
GRAND TOTAL	626	100.00	519	100.00

SECTION 4. TYPE OF DELIVERY (Continued)

PRIMARY INDICATIONS FOR CESAREAN SECTION

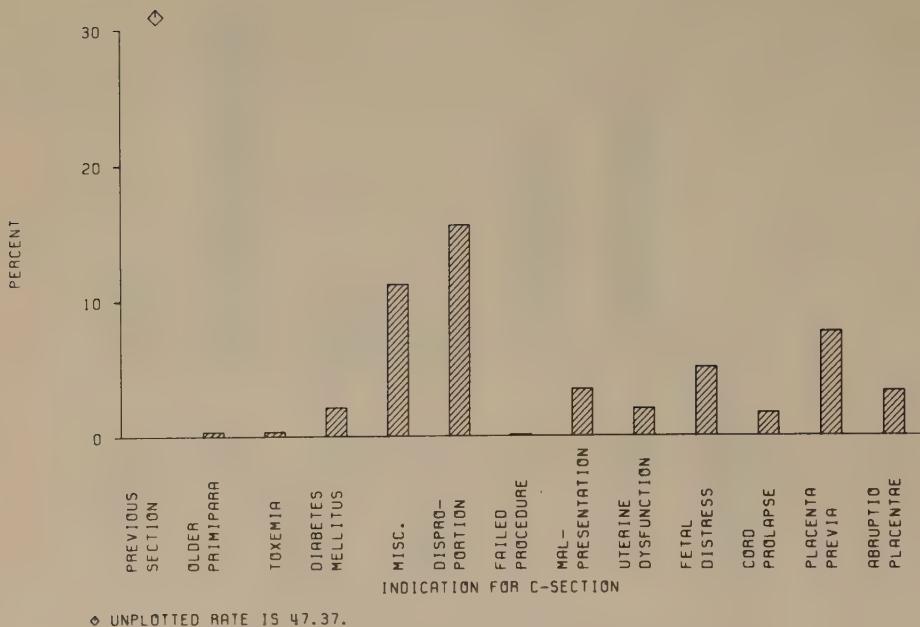
A total of 921 White and 992 Negro women (about 5 per cent the population) were delivered by cesarean section. The primary indications for section are presented in some detail in the first table below. By far the most common indication was the fact that the woman had had a previous cesarean section, the indication in 47 per cent of the White and 43 per cent of

the Negro gravidas. Cephalopelvic disproportion was the next most common, accounting for 15.5 per cent of the White and 19.9 per cent of the Negro cases.

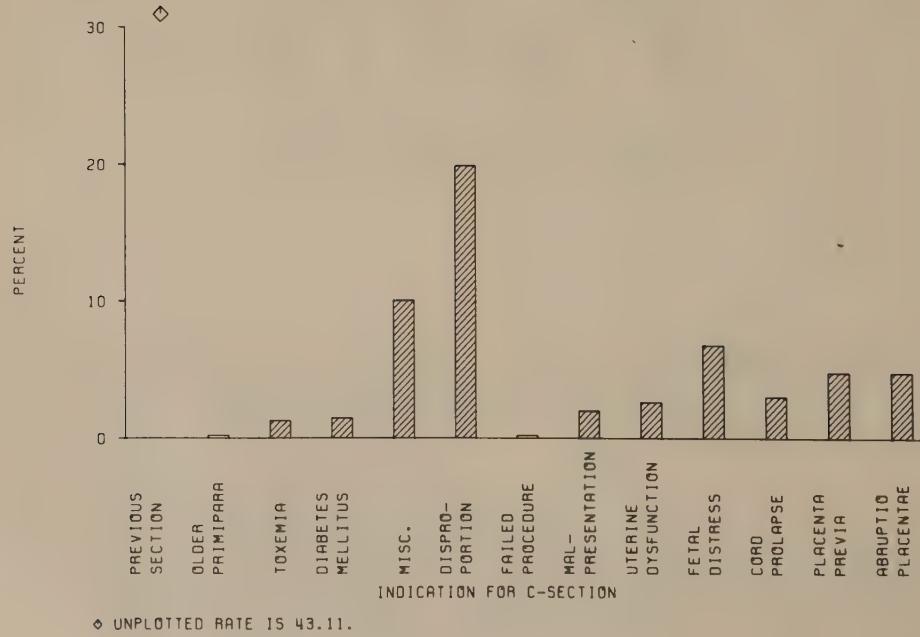
Fetal outcome for women delivered by cesarean section is attended by a perinatal death rate of 66.2 per thousand for Whites and 62.5 per thousand for Negroes. These rates are not presented in detail, as they probably reflect the underlying conditions which formed the basis for the decision to section.

Considerable additional information pertaining to the type of incision used, the method employed for delivering the infant and the degree of difficulty encountered in the delivery is given in the summary tables.

PRIMARY INDICATION FOR C-SECTION - WHITE



PRIMARY INDICATION FOR C-SECTION - NEGRO



PRIMARY INDICATION FOR C-SECTION BY RACE

PRIMARY INDICATION FOR C-SECTION	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
MATERNAL FACTORS						
PREVIOUS SECTION	424	47.37	47.37	416	43.11	43.11
OLDER PRIMIPARA	3	0.34	47.71	2	0.21	43.32
TOXEMIA	3	0.34	48.04	12	1.24	44.56
DIABETES MELLITUS	19	2.12	50.17	14	1.45	46.01
MISCELLANEOUS	100	11.17	61.34	97	10.05	56.06
OTHER FACTORS						
DISPROPORTION	139	15.53	76.87	192	19.90	75.96
FAILED PROCEDURE	1	0.11	76.98	2	0.21	76.17
MALPRESENTATION	31	3.46	80.45	19	1.97	78.13
UTERINE DYSFUNCTION	18	2.01	82.46	25	2.59	80.73
FETAL DISTRESS	45	5.03	87.49	65	6.74	87.46
CORD PROLAPSE	15	1.68	89.16	29	3.01	90.47
PLACENTA PREVIA	68	7.60	96.76	46	4.77	95.23
ABRUPTIO PLACENTAE	29	3.24	100.00	46	4.77	100.00
TOTAL	895	100.00	100.00	965	100.00	100.00
UNKNOWN	26	2.82		27	2.72	
GRAND TOTAL	921	100.00		992	100.00	

SUMMARY DATA FOR WHITE

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT		NEUROLOGICALLY ABNORMAL					
	NO.	%	NO.	RATE	NO.	RATE	LIVE- BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR. EXAMS	NO.	RATE	MEAN BWT.		
TYPE OF DELIVERY																
C-SECTION	921	4.9	61	66.2	19	20.6	902	42	46.6	894	129	144.3	695	19	27.3	3097
VAGINAL:																
VERTEX	17176	91.7	330	19.2	180	10.5	16996	150	8.8	16906	1059	62.6	13539	222	16.4	3293
BREECH	626	3.3	130	207.7	72	115.0	554	58	104.7	543	125	230.2	393	12	30.5	2868
PROCEDURE FOR VAGINAL DELIVERY OF VERTEX																
NONE - SPON.	7108	43.2	221	31.1	125	17.6	6983	96	13.7	6945	491	70.7	5521	112	20.3	3288
OUTLET FORCEPS	4017	24.4	26	6.5	13	3.2	4004	13	3.2	4001	245	61.2	3239	36	11.1	3274
LOW FORCEPS	3308	20.1	39	11.8	20	6.0	3288	19	5.8	3283	180	54.8	2624	39	14.9	3297
MID FORCEPS	2009	12.2	29	14.4	13	6.5	1996	16	8.0	1988	96	48.3	1664	30	18.0	3361
HIGH FORCEPS	4	0.0	1	250.0	0	0	4	1	250.0	4	1	250.0	3	0	0	3104
VACUUM EXTRACTOR USED FOR VAGINAL VERTEX																
DELIVERY	10	0.1	0	0	0	0	10	0	0	10	0	0	9	0	0	3101
DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX)																
NONE	8090	88.1	72	8.9	35	4.3	8055	37	4.6	8049	481	59.8	6567	81	12.3	3279
MODERATE	822	9.0	9	10.9	4	4.9	818	5	6.1	815	20	24.5	669	12	17.9	3458
SEVERE	235	2.6	8	34.0	5	21.3	230	3	13.0	226	6	26.5	187	10	53.5	3505
FAILURE	36	0.4	4	111.1	2	55.6	34	2	58.8	34	3	88.2	26	0	0	3373
BREECH DELIVERY WITH INTERNAL PODALIC VERSION	7	1.0	7	*	5	714.3	2	2	*	2	2	*	0	0	-	3083
PROCEDURE FOR DELIVERY OF BODY, BREECH																
DELIVERY																
SPONTANEOUS	69	11.5	38	550.7	25	362.3	44	13	295.5	42	19	452.4	22	2	90.9	2412
PARTIAL EXTRACTION	287	47.7	42	146.3	20	69.7	267	22	82.4	261	61	233.7	193	8	41.5	2873
TOTAL EXTRACTION	245	40.8	43	175.5	24	98.0	221	19	86.0	219	37	168.9	162	2	12.3	2949

* RATE IS 1000.0.

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	MEAN BWT.		
TYPE OF DELIVERY																
C-SECTION	992	5.0	62	62.5	22	22.2	970	40	41.2	965	179	185.5	824	19	23.1	2994
VAGINAL:																
VERTEX	18406	92.4	485	26.4	224	12.2	18182	261	14.4	18066	2268	125.5	15937	240	15.1	3053
BREACH	519	2.6	163	314.1	91	175.3	428	72	168.2	405	156	385.2	312	13	41.7	2563
PROCEDURE FOR VAGINAL DELIVERY OF VERTEX																
NONE - SPON.	12135	67.9	381	31.4	178	14.7	11957	203	17.0	11901	1547	130.0	10435	167	16.0	3058
OUTLET FORCEPS	2594	14.5	32	12.3	11	4.2	2583	21	8.1	2571	309	120.2	2323	29	12.5	3027
LOW FORCEPS	2166	12.1	23	10.6	111	5.1	2155	12	5.6	2147	255	118.8	1912	31	16.2	3038
MID FORCEPS	964	5.4	15	15.6	5	5.2	959	10	10.4	956	99	103.6	843	8	9.5	3130
HIGH FORCEPS	7	0.0	1	142.9	0	0	7	1	142.9	7	0	0	5	0	0	3507
VACUUM EXTRACTOR USED FOR VAGINAL VERTEX DELIVERY	30	0.3	1	33.3	1	33.3	29	0	0	29	2	69.0	26	1	38.5	3256
DEGREE OF DIFFICULTY OF FORCEPS USAGE (VAGINAL VERTEX)																
NONE	4881	87.2	49	10.0	17	3.5	4864	32	6.6	4852	593	122.2	4348	57	13.1	3029
MODERATE	468	8.4	13	27.8	8	17.1	460	5	10.9	460	39	811.8	406	3	7.4	3208
SEVERE	181	3.2	4	22.1	0	0	181	4	22.1	178	13	73.0	163	5	30.7	3179
FAILURE	65	1.2	5	76.9	3	46.2	62	2	32.3	62	2	32.3	51	0	0	3239
BREECH DELIVERY WITH INTERNAL PODALIC VERSION	4	0.7	3	750.0	2	500.0	2	1	500.0	2	2	*	0	0	-	2784
PROCEDURE FOR DELIVERY OF BODY, BREECH DELIVERY																
SPONTANEOUS	98	19.9	45	459.2	31	316.3	67	14	209.0	58	20	344.8	45	1	22.2	2532
PARTIAL EXTRACTION	283	57.5	65	229.7	32	113.1	251	33	131.5	245	95	387.8	195	9	46.2	2616
TOTAL EXTRACTION	111	22.6	40	360.4	21	189.2	90	19	211.1	85	34	400.0	60	3	50.0	2507

* RATE IS 1000.0.

SUMMARY DATA FOR WHITE

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	MEAN BWT.		
DEGREE OF DIFFICULTY																
PARTIAL EXTRACTION																
BREECH DELIVERY (I)																
AVERAGE	168	49.6	21	125.0	9	53.6	159	12	75.5	157	42	267.5	116	4	34.5	2846
DIFFICULT	5	1.5	0	0	0	0	5	0	0	5	0	0	5	0	0	3266
VERY DIFFICULT	3	0.9	0	0	0	0	3	0	0	2	0	0	3	0	0	3530
FAILED	0	0	0	-	0	-	0	0	-	0	0	-	0	0	-	-
DEGREE OF DIFFICULTY																
TOTAL EXTRACTION (I)																
AVERAGE	101	30.1	19	188.1	9	89.1	92	10	108.7	91	17	166.8	65	1	15.4	2892
DIFFICULT	16	4.8	3	187.5	2	125.0	14	1	71.4	14	1	71.4	11	0	0	3151
VERY DIFFICULT	2	0.6	1	500.0	1	500.0	1	1	0	1	0	0	0	0	-	3402
FAILED	0	0	0	-	0	-	0	0	-	0	0	-	0	0	-	-
PROCEDURE FOR DELIVERY OF AFTERCOMING HEAD																
BREECH DELIVERY																
SPONTANEOUS	24	4.0	16	666.7	13	541.7	11	3	272.7	11	5	454.5	4	0	0	2654
MANUAL	308	51.6	96	311.7	52	168.8	256	44	171.9	247	90	364.4	165	8	48.5	2606
FORCEPS	265	44.4	11	41.5	4	15.1	261	7	26.8	260	25	96.2	207	4	19.3	3112
DEGREE OF DIFFICULTY																
MANUAL DELIVERY OF HEAD																
BREECH DELIVERY (I)																
AVERAGE	142	42.1	45	316.9	20	140.8	122	25	204.9	117	48	410.3	76	5	65.8	2528
DIFFICULT	9	2.7	3	333.3	2	222.2	7	1	142.9	7	2	285.7	6	0	0	2620
VERY DIFFICULT	8	2.4	2	250.0	2	250.0	6	0	0	6	1	166.7	6	0	0	3175
FAILED	10	3.0	2	200.0	2	200.0	8	0	0	8	2	250.0	6	0	0	3253
DEGREE OF DIFFICULTY																
FORCEPS DELIVERY OF HEAD-BREECH DELIVERY (I)																
AVERAGE	138	41.1	5	36.2	2	14.5	136	3	22.1	136	15	110.3	103	2	19.4	3085
DIFFICULT	16	4.8	1	62.5	1	62.5	15	0	0	15	2	133.3	14	0	0	3037
VERY DIFFICULT	2	0.6	1	500.0	0	0	2	1	500.0	2	1	500.0	1	0	0	2708
FAILED	11	3.3	0	0	0	0	11	0	0	11	1	90.9	10	0	0	3108

(I) REPORTED ON 08-55 ONLY.

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT		NEUROLOGICALLY ABNORMAL		MEAN BWT.
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE
DEGREE OF DIFFICULTY													
PARTIAL EXTRACTION													
BREECH DELIVERY (I)													
AVERAGE	145	57.3	35	241.4	16	110.3	129	19	147.3	126	50	396.8	97
DIFFICULT	9	3.6	4	444.4	3	333.3	6	1	166.7	6	4	666.7	5
VERY DIFFICULT	2	0.8	2	×	2	×	0	0	0	0	0	0	0
FAILED	0	0	0	-	0	-	0	0	-	0	0	0	-
DEGREE OF DIFFICULTY													
TOTAL EXTRACTION													
BREECH DELIVERY (I)													
AVERAGE	35	13.8	15	428.6	8	228.6	27	7	259.3	27	12	444.4	18
DIFFICULT	9	3.5	5	555.6	2	222.2	7	3	428.6	6	4	666.7	4
VERY DIFFICULT	3	1.2	2	666.7	1	333.3	2	1	500.0	2	2	×	1
FAILED	0	0	0	-	0	-	0	0	-	0	0	0	-
PROCEDURE FOR DELIVERY OF AFTERCOMING HEAD													
BREECH DELIVERY													
SPONTANEOUS													
MANUAL	56	11.4	35	625.0	27	482.1	29	8	275.9	23	17	739.1	16
FORCEPS	357	72.6	106	296.9	54	151.3	303	52	171.6	291	112	384.9	222
FORCEPS	79	16.1	12	151.9	5	63.3	74	7	94.6	74	21	283.8	60
DEGREE OF DIFFICULTY													
MANUAL DELIVERY OF HEAD													
BREECH DELIVERY (I)													
AVERAGE	153	61.0	39	254.9	21	137.3	132	18	136.4	129	47	364.3	102
DIFFICULT	16	5.6	4	285.7	1	71.4	13	3	230.8	12	6	500.0	10
VERY DIFFICULT	14	5.6	12	857.1	8	571.4	6	4	666.7	6	6	×	2
FAILED	1	0.4	0	0	0	0	1	0	0	1	0	0	0
DEGREE OF DIFFICULTY													
HEAD-BREECH DELIVERY (I)													
AVERAGE	31	12.2	6	193.5	2	64.5	29	4	137.9	29	11	379.3	21
DIFFICULT	2	0.8	1	500.0	0	0	2	1	500.0	2	1	500.0	1
VERY DIFFICULT	1	0.4	0	0	0	0	1	0	0	1	0	0	0
FAILED	6	2.4	4	666.7	2	333.3	4	2	500.0	4	3	750.0	2
*RATE IS 1000.0													
(I) REPORTED ON OB-55 ONLY.													

SUMMARY DATA FOR WHITE

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT		NEUROLOGICALLY ABNORMAL		MEAN BWT.
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE
PRIMARY INDICATION FOR C-SECTION													
MATERNAL FACTORS													
PREVIOUS SECTION	424	47.4	11	25.9	1	2.4	423	10	23.6	422	40	94.8	334
OLDER PRIMIPARA	3	0.3	0	0	0	0	3	0	0	3	0	0	3298
TOXEMIA	3	0.3	0	0	0	0	3	0	0	3	0	0	1 333.3
DIABETES MELLITUS	19	2.1	2	105.3	0	0	19	2	105.3	19	3	157.9	14
MISCELLANEOUS	100	11.2	18	180.0	7	70.0	93	11	118.3	91	27	296.7	76
OTHER FACTORS													
DISPROPORTION	139	15.5	1	7.2	0	0	139	1	7.2	139	2	14.4	104
FAILED PROCEDURE	1	0.1	0	0	0	0	1	0	0	1	0	0	4564
MALPRESENTATION	31	3.5	1	32.3	1	32.3	30	0	0	29	2	69.0	28
UTERINE DYSFUNCTION	18	2.0	0	0	0	0	18	0	0	18	3	166.7	15
FETAL DISTRESS	45	5.0	6	133.3	1	22.2	44	5	113.6	42	7	166.7	31
CORD PROLAPSE	15	1.7	0	0	0	0	15	0	0	15	4	266.7	11
PLACENTA PREVIA	68	7.6	7	102.9	1	14.7	67	6	89.6	66	31	469.7	43
ABRUPTIO PLACENTAE	29	3.2	11	379.3	6	206.9	23	5	217.4	23	7	304.3	17

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS				PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	MEAN BWT.		
PRIMARY INDICATION FOR C-SECTION																
MATERNAL FACTORS																
PREVIOUS SECTION	416	43.1	8	19.2	0	0	416	8	19.2	415	57	137.3	351	8	22.8	3012
OLDER PRIMIPARA	2	0.2	0	0	0	0	2	0	0	2	1	500.0	2	0	0	2608
TOXEMIA	12	1.2	0	0	0	0	12	0	0	12	7	583.3	12	0	0	2585
DIABETES MELLITUS	14	1.5	0	0	0	0	14	0	0	14	0	0	14	0	0	3141
MISCELLANEOUS	97	10.1	10	103.1	5	51.5	92	5	54.3	92	25	271.7	79	4	50.6	2837
OTHER FACTORS																
DISPROPORTION	192	19.9	3	15.6	0	0	192	3	15.6	192	14	72.9	171	3	17.5	3323
FAILED PROCEDURE	2	0.2	0	0	0	0	2	0	0	2	0	0	2	0	0	3289
MALPRESENTATION	19	2.0	0	0	0	0	19	0	0	19	3	157.9	17	0	0	3157
UTERINE DYSFUNCTION	25	2.6	2	80.0	0	0	25	2	80.0	24	4	166.7	19	0	0	3029
FETAL DISTRESS	65	6.7	5	76.9	2	30.8	63	3	47.6	63	10	158.7	55	3	54.5	2929
CORD PROLAPSE	29	3.0	4	137.9	0	0	29	4	137.9	29	7	241.4	25	0	0	2924
PLACENTA PREVIA	46	4.8	8	173.9	1	21.7	45	7	155.6	44	25	568.2	32	0	0	2411
ABRUPTIO PLACENTAE	46	4.8	22	478.3	14	304.3	32	8	250.0	31	17	548.4	21	0	0	2336

SUMMARY DATA

WHITE NEGRO

ITEM	NO.	%	NO.	%
TYPE OF UTERINE INCISION-C-SECTION				
LOW, TRANSVERSE	291	34.1	367	39.5
LOW, VERTICAL	143	16.7	89	9.6
LOW, UNSPC.	283	33.1	357	38.4
CLASSICAL	77	9.0	88	9.5
EXTRA-PERITONEAL	46	5.4	14	1.5
OTHER	14	1.6	14	1.5

SUMMARY DATA FOR WHITE

ITEM	BIRTHS				PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	MEAN BWT.		
METHOD OF DELIVERY INFANT BODY-C-SECTION*																
AFTER VERTEX	416	81.6	24	57.7	7	16.8	409	17	41.6	405	48	118.5	313	6	19.2	3126
BREECH	84	16.5	5	59.5	0	0	84	5	59.5	83	15	180.7	65	4	61.5	3062
TURN EXTRACT	10	2.0	2	200.0	0	0	10	2	200.0	10	5	500.0	7	0	0	2744
METHOD OF DELIVERY INFANT HEAD-C-SECTION																
MANUAL	765	87.4	47	61.4	11	14.4	754	36	47.7	748	111	148.4	580	18	31.0	3078
FORCEPS	110	12.6	5	45.5	2	18.2	108	3	27.8	107	12	112.1	90	1	11.1	3233

* EXCLUDES OB-34 C SECTION.

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT		NEUROLOGICALLY ABNORMAL		MEAN BWT.	
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	
METHOD OF DELIVERY														
INFANT BODY-C-SECTION*	465	87.4	24	51.6	9	19.4	456	15	32.9	456	77	168.9	396	4 10.1 3027
AFTER VERTEx	61	11.5	4	65.6	0	0	61	4	65.6	61	18	295.1	54	1 18.5 2700
BREECH	6	1.1	0	0	0	0	6	0	0	6	2	333.3	3	1 333.3 2334
TURN/EXTRACT														
METHOD OF DELIVERY														
INFANT HEAD-C-SECTION														
MANUAL	909	94.9	58	63.8	20	22.0	889	38	42.7	885	166	187.6	752	18 23.9 2990
FORCEPS	49	5.1	2	40.8	0	0	49	2	40.8	49	4	81.6	44	0 0 3128

* EXCLUDES OB-34 C-SECTIONS.

SUMMARY DATA FOR WHITE

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT		NEUROLOGICALLY ABNORMAL		MEAN BWT.	
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	
DEGREE OF DIFFICULTY IN DELIVERING HEAD*														
C-SECTION														
AVERAGE	430	84.8	31	72.1	8	18.6	422	23	54.5	420	62	147.6	323	6 18.6 3084
DIFFICULT	64	12.6	0	0	0	0	64	0	0	62	3	48.4	50	3 60.0 3254
VERY DIFFICULT	13	2.6	1	76.9	0	0	13	1	76.9	13	3	230.8	10	1 100.0 3173
DEGREE OF DIFFICULTY IN DELIVERING BODY*														
C-SECTION														
AVERAGE	478	94.3	29	60.7	8	16.7	470	21	44.7	466	61	130.9	358	9 25.1 3105
DIFFICULT	23	4.5	2	87.0	0	0	23	2	87.0	23	4	173.9	20	1 50.0 3275
VERY DIFFICULT	6	1.2	1	166.7	0	0	6	1	166.7	6	3	500.0	5	0 0 2670
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253 17.3 3272

* EXCLUDES OB-34 C-SECTIONS.

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT		NEUROLOGICALLY ABNORMAL		MEAN BWT.	
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	
DEGREE OF DIFFICULTY IN DELIVERING HEAD*														
C-SECTION														
AVERAGE	463	87.4	25	54.0	8	17.3	455	17	37.4	455	86	189.0	398	6 15.1 2979
DIFFICULT	53	10.0	3	56.6	1	18.9	52	2	38.5	52	9	173.1	41	0 0 3002
VERY DIFFICULT	14	2.6	0	0	0	0	14	0	0	14	1	71.4	13	0 0 2999
DEGREE OF DIFFICULTY IN DELIVERING BODY*														
C-SECTION														
AVERAGE	511	96.4	25	48.9	8	15.7	503	17	33.8	503	92	182.9	439	6 13.7 2978
DIFFICULT	19	3.6	3	157.9	1	52.6	18	2	111.1	18	4	222.2	13	0 0 3096
VERY DIFFICULT	0	0	0	-	0	0	0	0	0	0	0	0	0	-
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274 16.0 3039

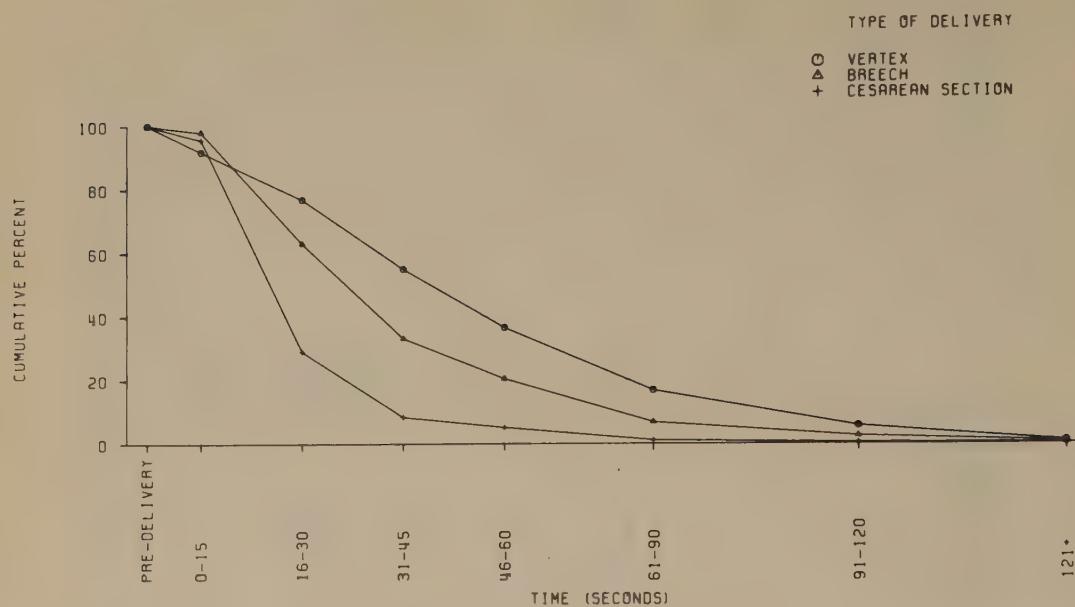
* EXCLUDES OB-34 C-SECTIONS.

SECTION 5. CORD CLAMPING

The time interval between the delivery of the infant and the clamping of the umbilical cord was shortest with cesarean section, of an intermediate time

length with breech presentation, and longest with vertex delivery. Since a more detailed study than is available in this volume is needed before relationships between time of cord clamping and fetal and neonatal outcomes can be investigated, the outcome tables have not been included.

TIME INTERVAL BETWEEN DELIVERY AND CORD CLAMP BY TYPE OF DELIVERY - WHITE

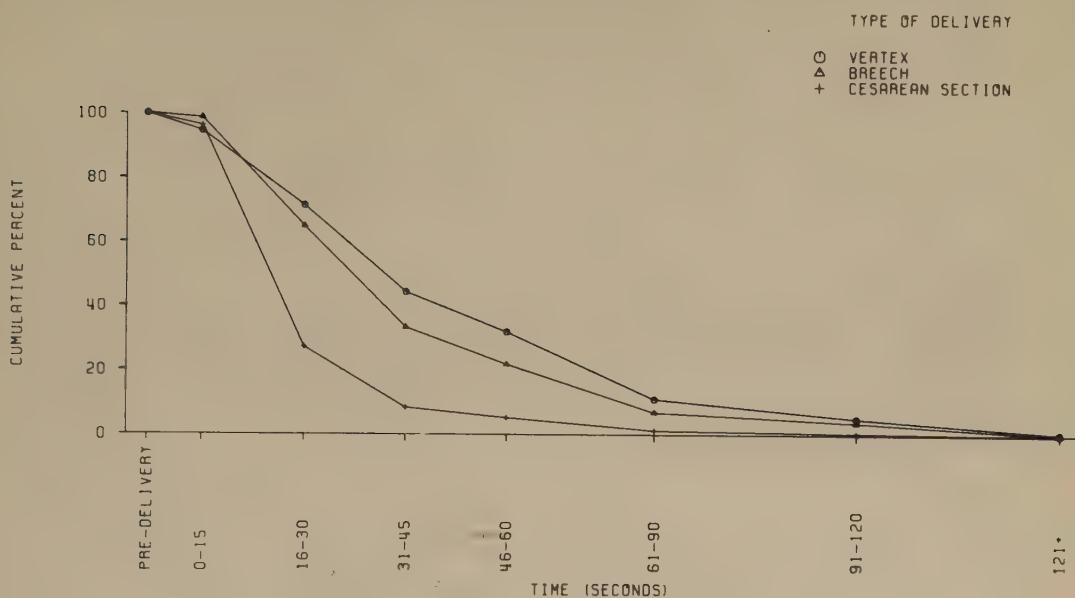


121.

TIME INTERVAL BETWEEN DELIVERY AND CORD CLAMP BY TYPE OF DELIVERY - WHITE

TYPE OF DELIVERY:	VERTEX			BREECH			CESAREAN SECTION			
	TIME (SECONDS)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
PRE-DELIVERY	1321	8.30	100.00		11	2.05	100.00	37	4.51	100.00
0-15	2383	14.97	91.70		188	35.01	97.95	545	66.46	95.49
16-30	3477	21.85	76.73		160	29.80	62.94	169	20.61	29.02
31-45	2927	18.39	54.88		68	12.66	33.15	27	3.29	8.41
46-60	3139	19.72	36.49		74	13.78	20.48	33	4.02	5.12
61-90	1788	11.23	16.76		23	4.28	6.70	6	0.73	1.10
91-120	757	4.76	5.53		10	1.86	2.42	2	0.24	0.37
121+	123	0.77	0.77		3	0.56	0.56	1	0.12	0.12
TOTAL	15915	100.00			537	100.00		820	100.00	
UNKNOWN	1261	7.34			89	14.22		101	10.97	
GRAND TOTAL	17176	100.00			626	100.00		921	100.00	

TIME INTERVAL BETWEEN DELIVERY AND CORD CLAMP BY TYPE OF DELIVERY - NEGRO



121+

TIME INTERVAL BETWEEN DELIVERY AND CORD CLAMP BY TYPE OF DELIVERY - NEGRO

TYPE OF DELIVERY:	VERTEX			BREECH			CESAREAN SECTION			
	TIME (SECONDS)	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
PRE-DELIVERY	872	5.34	100.00		5	1.20	100.00	32	3.56	100.00
0-15	3762	23.02	94.66	94.66	141	33.73	98.80	622	69.11	96.44
16-30	4419	27.04	71.64	71.64	132	31.58	65.07	171	19.00	27.33
31-45	2047	12.53	44.60	44.60	48	11.48	33.49	28	3.11	8.33
46-60	3422	20.94	32.07	32.07	63	15.07	22.01	35	3.89	5.22
61-90	988	6.05	11.13	11.13	13	3.11	6.94	7	0.78	1.33
91-120	761	4.66	5.09	5.09	16	3.83	3.83	5	0.56	0.56
121+	70	0.43	0.43	0.43	0	0	0	0	0	0
TOTAL	16341	100.00			418	100.00		900	100.00	
UNKNOWN	2065	11.22			101	19.46		92	9.27	
GRAND TOTAL	18406	100.00			519	100.00		992	100.00	

SECTION 6. ANESTHESIA

No anesthesia was used for delivery of 8 per cent of the White women and 26 per cent of the Negroes, reflecting to a large extent the current practices in the

hospitals where they were delivered. The relationships between type of delivery, analgesic and anesthetic agents employed to provide pain relief and their possible effect on fetal outcome is a complex matter requiring a sophisticated study design. It is the subject of special study by a Task Force Committee.

SUMMARY DATA FOR WHITE

ITEM	BIRTHS			PERINATAL DEATHS			STILLBIRTHS			NEONATAL DEATHS			LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	NO.	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	NO.	RATE	MEAN BWT.
USAGE OF ANESTHETIC AGENTS AT DELIVERY																		
NONE USED	1453	7.9	154	106.0	91	62.6	1362	63	46.3	1330	172	129.3	982	19	19.3	3166		
GAS-CONTINUOUS	2385	13.0	96	40.3	71	29.8	2314	25	10.8	2313	143	81.8	1761	26	14.8	3317		
GAS-INTERMITTENT	416	2.3	13	31.3	9	21.6	407	4	9.8	406	24	59.1	308	8	26.0	3244		
IV ONLY	32	0.2	22	687.5	21	656.3	11	3	90.9	11	3	272.7	11	0	0	2979		
CONDUCTION ONLY	12781	69.5	200	15.6	78	6.1	12703	122	9.6	12661	827	65.3	10305	170	16.5	3280		
OTHER-COMBINATION	1329	7.2	67	50.4	37	27.8	1292	30	23.2	1288	119	92.4	1029	27	26.2	3240		
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272		

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS			PERINATAL DEATHS			STILLBIRTHS			NEONATAL DEATHS			LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	NO.	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	NO.	RATE	MEAN BWT.
USAGE OF ANESTHETIC AGENTS AT DELIVERY																		
NONE USED	5163	26.3	321	62.2	159	30.8	5004	162	32.4	4941	739	149.6	4308	91	21.1	3008		
GAS-CONTINUOUS	3333	17.0	125	37.5	77	23.1	3256	48	14.7	3247	365	112.4	2785	35	12.6	3102		
GAS-INTERMITTENT	1440	7.3	41	28.5	20	13.9	1420	21	14.8	1418	196	103.0	1267	16	12.6	3119		
IV ONLY	13	0.1	5	384.6	5	384.6	8	0	0	8	1	125.0	8	0	0	3012		
CONDUCTION ONLY	8337	42.4	178	21.4	65	7.8	8272	113	13.7	8234	1163	141.2	7298	110	15.1	3015		
OTHER-COMBINATION	1375	7.0	56	40.7	30	21.8	1345	26	19.3	1339	160	119.5	1183	17	14.4	3056		
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039		

Chapter 10

COMPLICATIONS OF PREGNANCY AND LABOR

INTRODUCTION

Certain complications, unavoidable because they are inherent in the nature of the reproductive process, and the steps taken by the obstetrician to correct these deviations, have long been thought to be important determinants of fetal outcome.

While the data presented here do indeed confirm already suspected relationships, they do not define precisely the underlying causal mechanisms. For example, abruptio placenta obviously is hypoxicogenic for some fetuses and perhaps for all. Equally important is its association with shortened gestation and low birthweight. It is known that low birthweight adversely affects the perinatal death rate and the risk of subsequent neurologic damage. Hypoxia is also suspected of causing both of these effects. Which factor, then, ac-

counts for the disastrous fetal consequences of abruptio placenta?

The data presented are of value in indicating the strength of the relationships observed between a number of pregnancy complications and fetal outcome and may serve to indicate specific areas for intervention on the one hand and further investigation on the other.

HYPEREMESIS GRAVIDARUM

Hyperemesis gravidarum occurred in 308 (1.6 per cent) White patients and 141 (0.71 per cent) Negro women. No deleterious effect on pregnancy outcome was noted in these data.

HYPEREMESIS GRAVIDARUM BY RACE

	ALL GRAVIDAS	WITH CONDITION	
	NUMBER	PERCENT	
WHITE	18801	308	1.64
NEGRO	19932	141	0.71

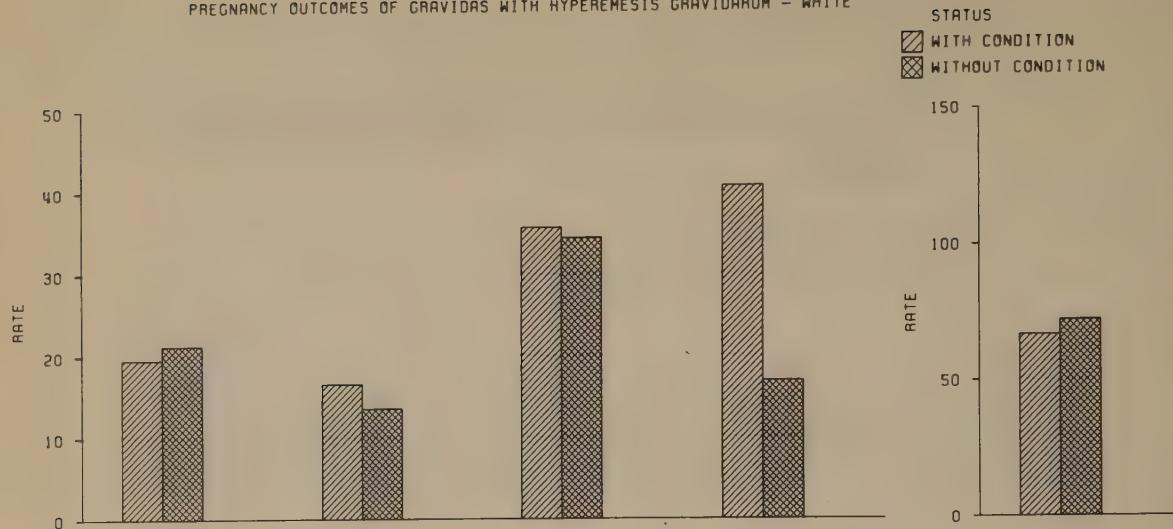
PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPEREMESIS GRAVIDARUM BY RACE

	BIRTHS	STILLBIRTHS NO.	STILLBIRTHS RATE	LIVEBIRTHS	NEONATAL DEATHS NO.	NEONATAL DEATHS RATE	BIRTHS	PERINATAL DEATHS NO.	PERINATAL DEATHS RATE
WHITE	308	6	19.48	302	5	16.56	308	11	35.71
WITHOUT CONDITION	18493	392	21.20	18101	245	13.54	18493	637	34.45
NEGRO	141	2	14.18	139	3	21.58	141	5	35.46
WITHOUT CONDITION	19791	431	21.78	19360	372	19.21	19791	803	40.57

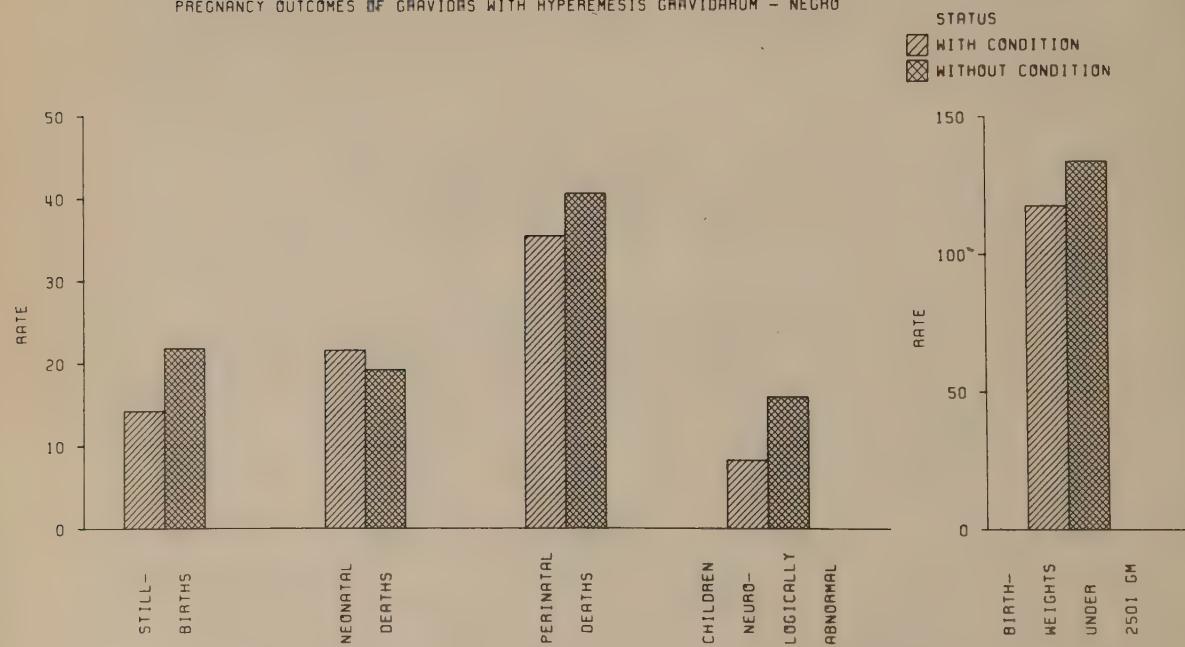
PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPEREMESIS GRAVIDARUM BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM. NO.	BWT. UNDER 2501 GM. RATE	MEAN BWT. ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	NEUROLOGICALLY ABNORMAL RATE	
WHITE	300	20	66.67	3290	246	10	40.65
WITHOUT CONDITION	17987	1294	71.94	3271	14342	242	16.87
NEGRO	136	16	117.65	3037	121	1	8.26
WITHOUT CONDITION	19192	2566	133.70	3040	16861	268	15.89

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPEREMESIS GRAVIDARUM - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH HYPEREMESIS GRAVIDARUM - NEGRO



THE TOXEMIAS OF PREGNANCY

The acute toxemias of pregnancy include a group of conditions of unknown etiology occurring during the second half of pregnancy and the immediate postpartum period. These conditions, frequently called preeclampsia and eclampsia, are characterized by hypertension, edema, and proteinuria, either singly or in combination. Uncontrolled, the condition may result in eclamptic convulsions, coma, and even death. Over the past two decades, there appears to have been a marked decrease in the frequency of occurrence of the condition in the western world.

The chronic toxemias include preexisting chronic, hypertensive, cardiovascular disease, with or without superimposed acute toxemia.

The diagnosis and classification of the toxemias are subjective at best, in spite of the precise definitions given in textbooks of obstetrics. Furthermore, some symptoms used as criteria for diagnosis (for example a blood pressure of greater than 140/90) may occur in the absence of the disease. Other possibly confounding factors in its occurrence are geographic, social, and racial differences. Despite the problems, a manual defining diagnostic criteria was provided to the Study physician. The data were collected in the early part of the Study on Form OB-34, which included a diagnosis of "preeclampsia" among the subclassifications. It became apparent that this diagnosis was not precise. When the form was revised and replaced by OB-55, the classification was changed to achieve greater precision. This new form provided for the reporting of suspect cases. These have been combined in this report with those considered mild, which has increased greatly the number of cases reported. The tables describing the distribution of toxemia of pregnancy by type are presented separately from Forms OB-34 and OB-55, because of the marked difference in the frequency of the conditions from the two sources.

In spite of the utmost effort made to clarify the diagnosis and classification, the data available from the

two sources (OB-34 and OB-55) cannot be readily combined, and it becomes quickly apparent that the cases catalogued represent for the most part a heterogeneous group, often of infrequent occurrence.

The fetal effects of the toxemias of pregnancy are generally considered to be unfavorable and to include malnutrition and increased rates of stillbirth and neonatal death. Seemingly, there should be, in this Study, no problem in the reliable assessment of the extent of fetal risk. However, for the reasons given above, it is not possible, without further study, to evaluate the extent of fetal risk. Therefore, no outcome tables are presented.

Eclampsia was an exception to the above. Its diagnosis presented no particular problems and its classification was the same on both OB-34 and OB-55 forms.

Fetal Outcome in 26 cases of Eclampsia

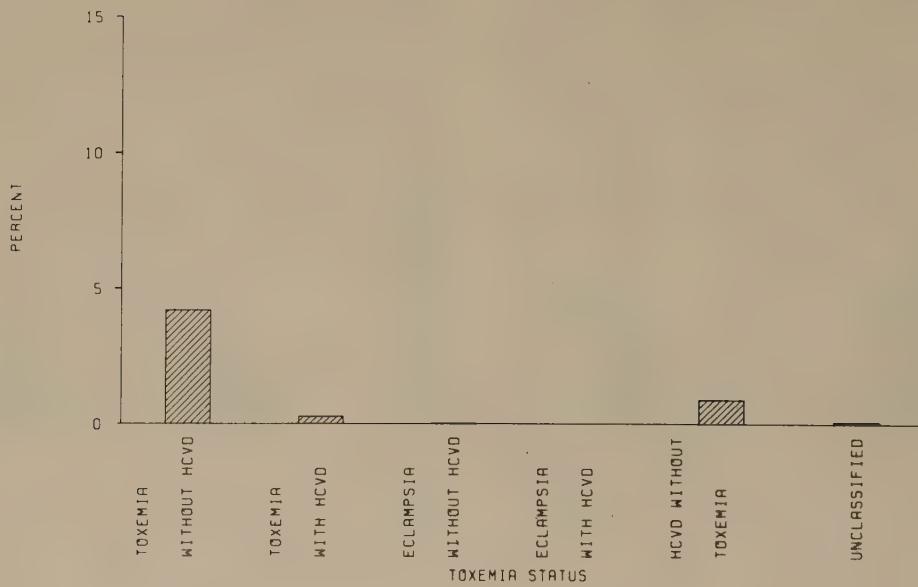
	Peri-natal Deaths	Still-births	Neonatal Deaths	under 2501 Gm.	Bwt. Mean Bwt.
White	3	0	0	0	3630
Negro	23	2	0	2	2793

¹includes one White case with unknown birthweight

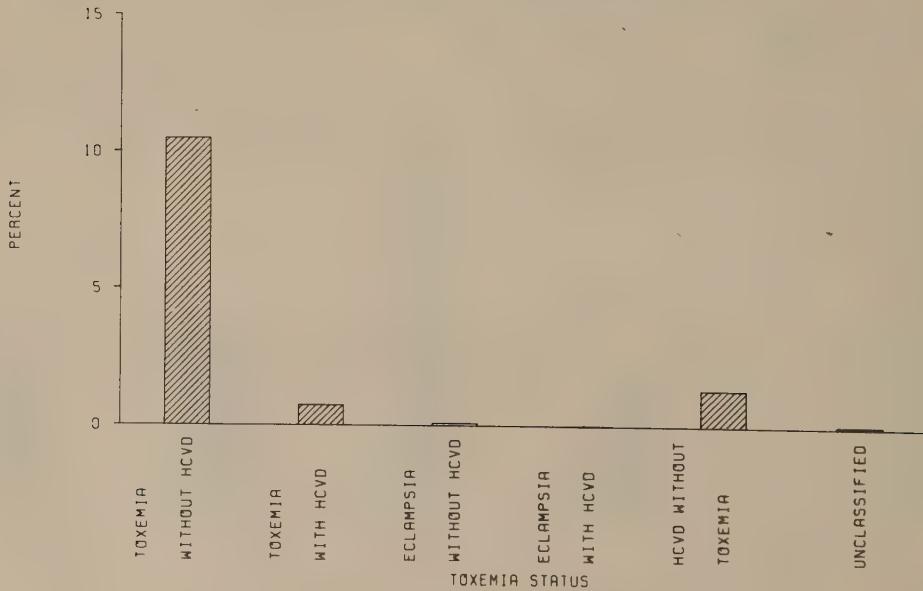
As expected, this condition occurred very infrequently. The diagnosis was made in only 3 White and 23 Negro patients. Surprisingly, the risk of adverse fetal outcome was not significantly increased. A more detailed analysis of the outcome in a somewhat larger group of patients with eclampsia is reported by Marmol.⁶

⁶Marmol, J. G. "Cases of Eclampsia in the Collaborative Project," *Schweiz. Z. Gynak. Geburtsh.*, 1:169, 1970. Additional cases were multiple and repeat pregnancies and those of women of other races.

THE ACUTE TOXEMIA OF PREGNANCY AND CHRONIC HYPERTENSIVE
CARDIOVASCULAR DISEASE - WHITE - OB-34



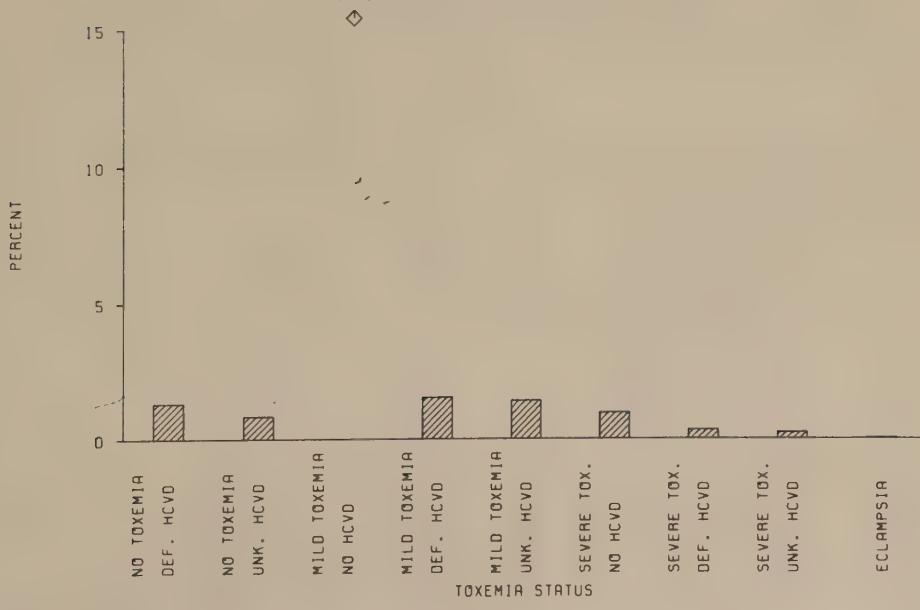
THE ACUTE TOXEMIA OF PREGNANCY AND CHRONIC HYPERTENSIVE
CARDIOVASCULAR DISEASE - NEGRO - OB-34



THE ACUTE TOXEMIA OF PREGNANCY AND CHRONIC HYPERTENSIVE CARDIOVASCULAR DISEASE, BY RACE - OB-34

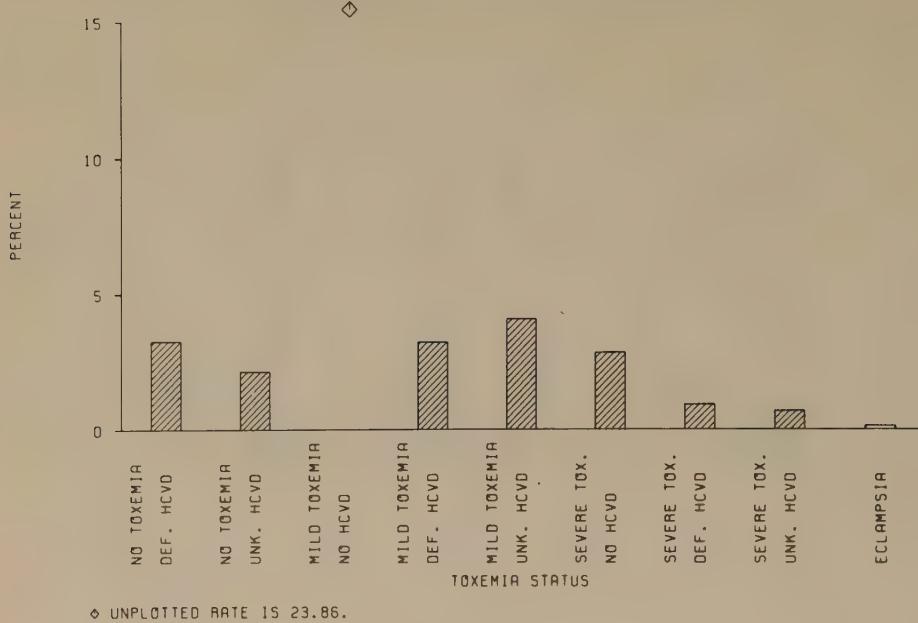
TOXEMIA STATUS	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
NONE	7530	94.57	7422	87.30
TOXEMIA WITHOUT HCVD	334	4.19	891	10.48
TOXEMIA WITH HCVD	21	0.26	61	0.72
ECLAMPSIA WITHOUT HCVD	1	0.01	8	0.09
ECLAMPSIA WITH HCVD	0	0	1	0.01
HCVD WITHOUT TOXEMIA	70	0.88	113	1.33
UNCLASSIFIED	6	0.08	6	0.07
TOTAL	7962	100.00	8502	100.00
REPORTED ON OB-55	10619	55.75	11133	55.20
UNKNOWN	467	2.45	532	2.64
TOTAL	19048	100.00	20167	100.00

THE ACUTE TOXEMIA OF PREGNANCY AND CHRONIC HYPERTENSIVE
CARDIOVASCULAR DISEASE - WHITE - OB-55



◊ UNPLOTTED RATE IS 23.72.

THE ACUTE TOXEMIA OF PREGNANCY AND CHRONIC HYPERTENSIVE
CARDIOVASCULAR DISEASE - NEGRO - OB-55



THE ACUTE TOXEMIA OF PREGNANCY AND CHRONIC HYPERTENSIVE CARDIOVASCULAR DISEASE, BY RACE - OB-55

TOXEMIA STATUS	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
NO TOXEMIA - NO HCVD	7149	69.65	6447	58.87
NO TOXEMIA - DEFINITE HCVD	134	1.31	357	3.26
NO TOXEMIA - UNKNOWN HCVD	86	0.84	234	2.14
MILD TOXEMIA - NO HCVD	2435	23.72	2613	23.86
MILD TOXEMIA - DEFINITE HCVD	158	1.54	353	3.22
MILD TOXEMIA - UNKNOWN HCVD	145	1.41	447	4.08
SEVERE TOXEMIA - NO HCVD	99	0.96	311	2.84
SEVERE TOXEMIA - DEFINITE HCVD	33	0.32	100	0.91
SEVERE TOXEMIA - UNKNOWN HCVD	23	0.22	75	0.68
ECLAMPSIA	2	0.02	14	0.13
TOTAL	10264	100.00	10951	100.00
REPORTED ON OB-34	8078	42.41	8670	42.99
UNKNOWN	706	3.71	546	2.71
GRAND TOTAL	19048	100.00	20167	100.00

* INCLUDES SUSPECT TOXEMIA.

INCOMPETENT CERVIX

Incompetent cervix was diagnosed in 136 women in the Study. The condition occurred with equal frequency in White and Negro women and with fair consistency from institution to institution. While the number of cases was small, the fetal risk is unquestionably substantially higher for women with this condition.

A surgical procedure for control of the incompetent cervix was performed in 78 cases—in about two-thirds of the Whites and one-half of the Negro patients presenting this condition. In all outcomes studied, the infants born following surgical intervention showed reduction in fetal risk. However, these patients continued to show rates which are higher than normal. The incidence of low birthweight was greatly increased and the mean birthweight greatly reduced in both races.

INCOMPETENT CERVIX BY RACE

	ALL GRAVIDAS	WITH CONDITION NUMBER	PERCENT
WHITE	18912	65	0.34
NEGRO	19966	71	0.36

PREGNANCY OUTCOMES OF GRAVIDAS WITH INCOMPETENT CERVIX BY RACE

BIRTHS	STILLBIRTHS		LIVEBIRTHS	NEONATAL DEATHS		PERINATAL DEATHS	PERINATAL DEATHS		
	NO.	RATE		NO.	RATE		NO.	RATE	
WHITE									
WITH CONDITION	65	4	61.54	61	17	278.69	65	21	323.08
WITHOUT CONDITION	18847	401	21.28	18446	234	12.69	18847	635	33.69
NEGRO									
WITH CONDITION	71	14	197.18	57	20	350.88	71	34	478.87
WITHOUT CONDITION	19895	425	21.36	19470	357	18.34	19895	782	39.31

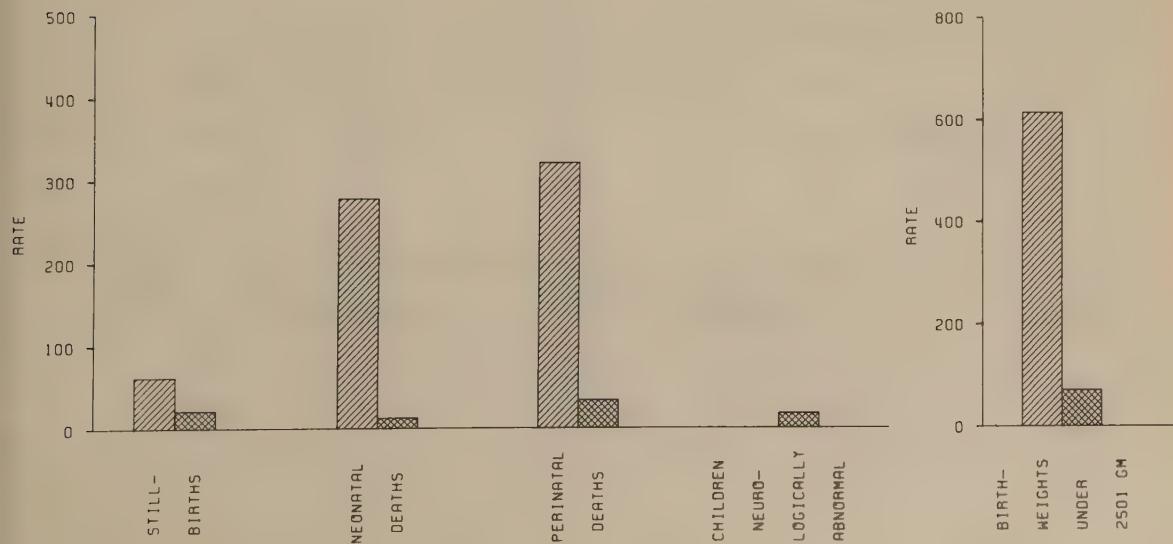
PREGNANCY OUTCOMES OF GRAVIDAS WITH INCOMPETENT CERVIX BY RACE

	LIVEBIRTHS		BWT. UNDER 2501 GM.	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL		
	WITH KNOWN BIRTHWEIGHT	NO.			NO.	RATE	
WHITE							
WITH CONDITION	57	35	614.04	2085	35	0	
WITHOUT CONDITION	18308	1278	69.81	3276	14550	252	17.32
NEGRO							
WITH CONDITION	53	36	679.25	1963	30	1	33.33
WITHOUT CONDITION	19288	2546	132.00	3043	16954	268	15.81

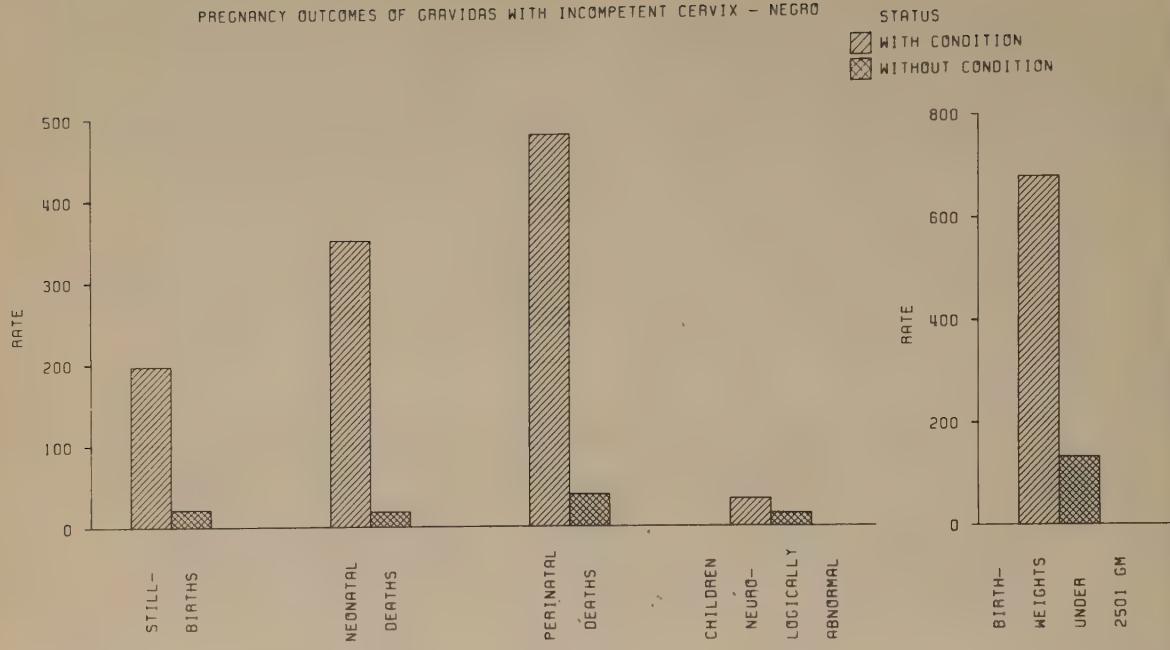
PREGNANCY OUTCOMES OF GRAVIDAS WITH INCOMPETENT CERVIX - WHITE

STATUS

WITH CONDITION
WITHOUT CONDITION



PREGNANCY OUTCOMES OF GRAVIDAS WITH INCOMPETENT CERVIX - NEGRO



SURGERY FOR INCOMPETENT CERVIX BY RACE

	ALL GRAVIDAS	WITH CONDITION	
		NUMBER	PERCENT
WHITE	18912	42	0.22
NEGRO	19966	36	0.18

PREGNANCY OUTCOMES OF GRAVIDAS WITH SURGERY FOR INCOMPETENT CERVIX BY RACE

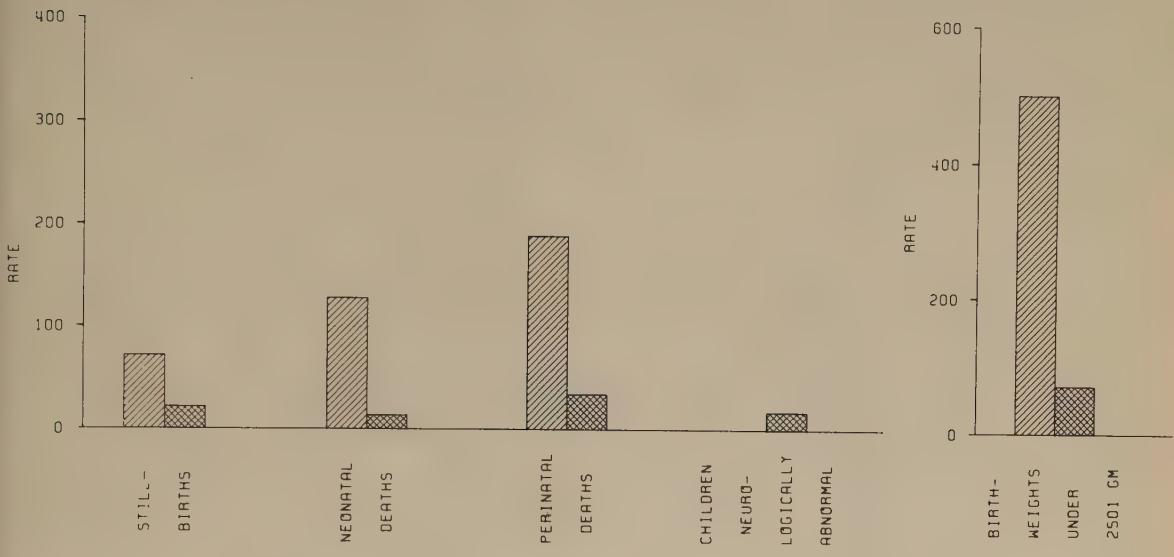
	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		PERINATAL DEATHS	
		NO.	RATE	NO.	RATE	BIRTHS	NO.
WHITE	18870	42	71.43	39	128.21	42	8
	19930	402	21.30	18468	13.32	18870	648
NEGRO	18870	36	111.11	10	312.50	36	14
	19930	435	21.83	19495	18.83	19930	802

PREGNANCY OUTCOMES OF GRAVIDAS WITH SURGERY FOR INCOMPETENT CERVIX BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.		ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	RATE
		NO.	RATE	MEAN BWT.		
WHITE	18327	38	19	500.00	2350	27
	19310	1294	70.61	3274	14558	252
NEGRO	18327	31	18	580.65	2057	20
	19310	2564	132.78	3042	16964	269

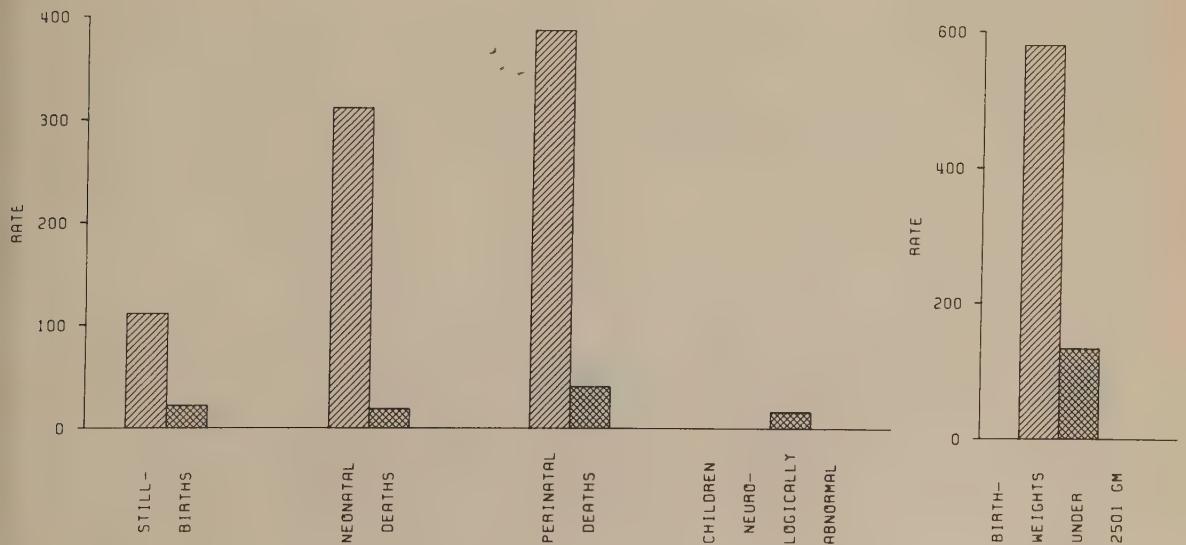
PREGNANCY OUTCOMES OF GRAVIDAS WITH SURGERY FOR INCOMPETENT CERVIX - WHITE

STATUS
 ▨ WITH CONDITION
 ▨ WITHOUT CONDITION



PREGNANCY OUTCOMES OF GRAVIDAS WITH SURGERY FOR INCOMPETENT CERVIX - NEGRO

STATUS
 ▨ WITH CONDITION
 ▨ WITHOUT CONDITION

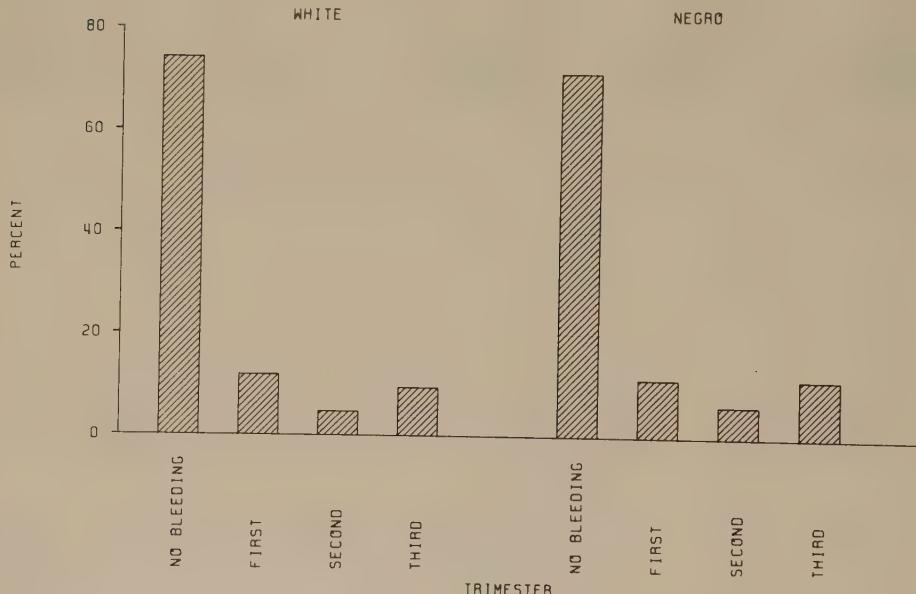


VAGINAL BLEEDING

Vaginal bleeding was reported to have occurred in about one of four patients in the Study. The information was collected historically from the patient as well as from physical examination. Little can be said about the incidence of abortion following a history of vaginal bleeding since only 8 per cent of Negro patients and 21 per cent of White patients registered in the first trimester. Most patients who aborted, therefore, never registered in the Study.

A history of vaginal bleeding in any trimester substantially increased the risk of fetal and neonatal death. The greater increase noted with first occurrence of bleeding in second trimester is unexplained but may be related to the presence of placenta previa, which frequently manifests its initial bleed during the mid-trimester. A history of vaginal bleeding in any trimester is also related to an increased risk of delivering a low birthweight infant and to lowered mean birthweight. The effect of vaginal bleeding on the risk of abnormal development of the infant at one year is less certain.

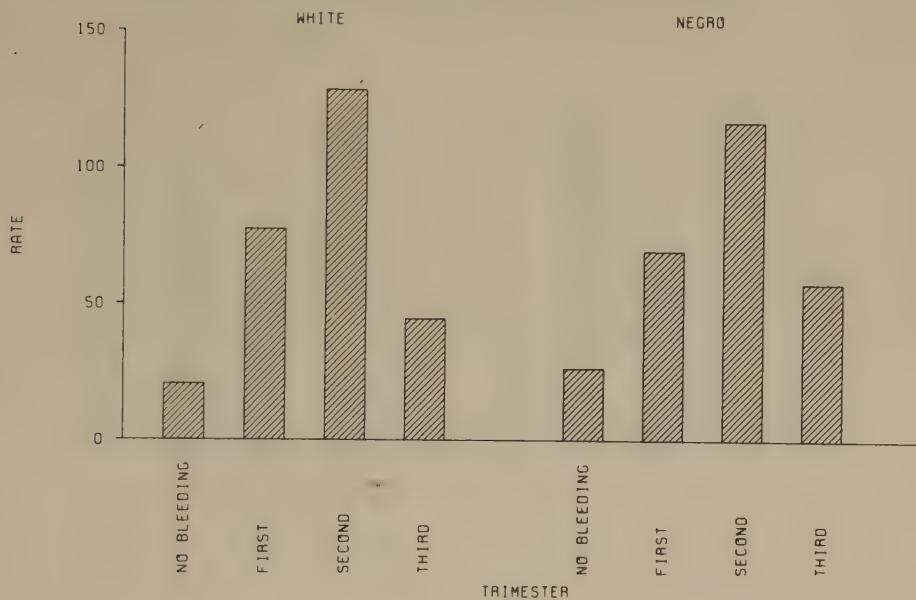
TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE



TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE

TRIMESTER	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
NO BLEEDING	13931	74.11	14180	71.13
FIRST	2219	11.80	2242	11.25
SECOND	877	4.67	1234	6.19
THIRD	1772	9.43	2278	11.43
TOTAL	18799	100.00	19934	100.00
UNKNOWN	249	1.31	233	1.16
GRAND TOTAL	19048	100.00	20167	100.00

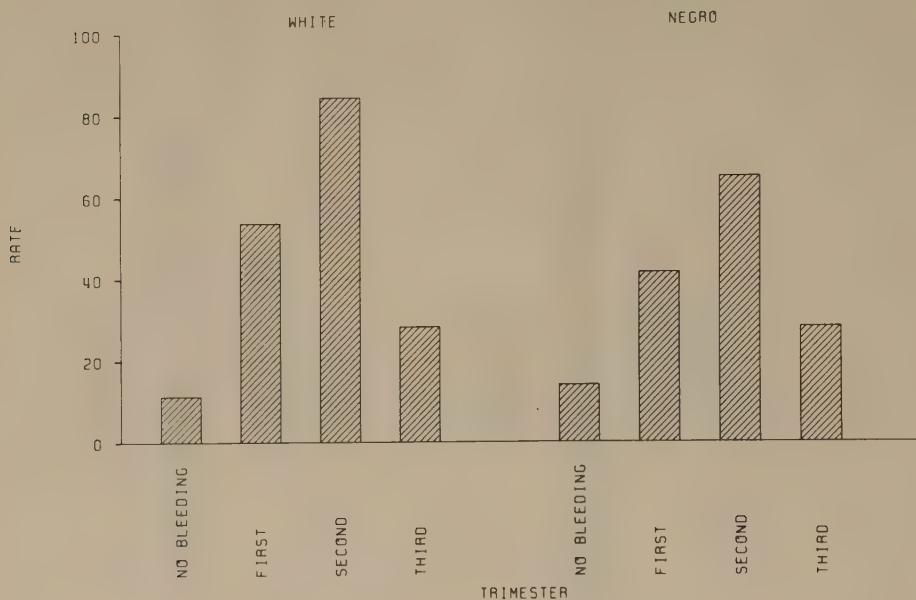
PERINATAL DEATHS BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE



PERINATAL DEATHS BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE

TRIMESTER	BIRTHS	WHITE		NEGRO	
		PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS
NO BLEEDING	13931	286	20.53	14180	376
FIRST	2219	172	77.51	2242	157
SECOND	877	113	128.85	1234	145
THIRD	1772	79	44.58	2278	132
TOTAL	18799	650	34.58	19934	810
UNKNOWN	249	18	72.29	233	35
GRAND TOTAL	19048	668	35.07	20167	845

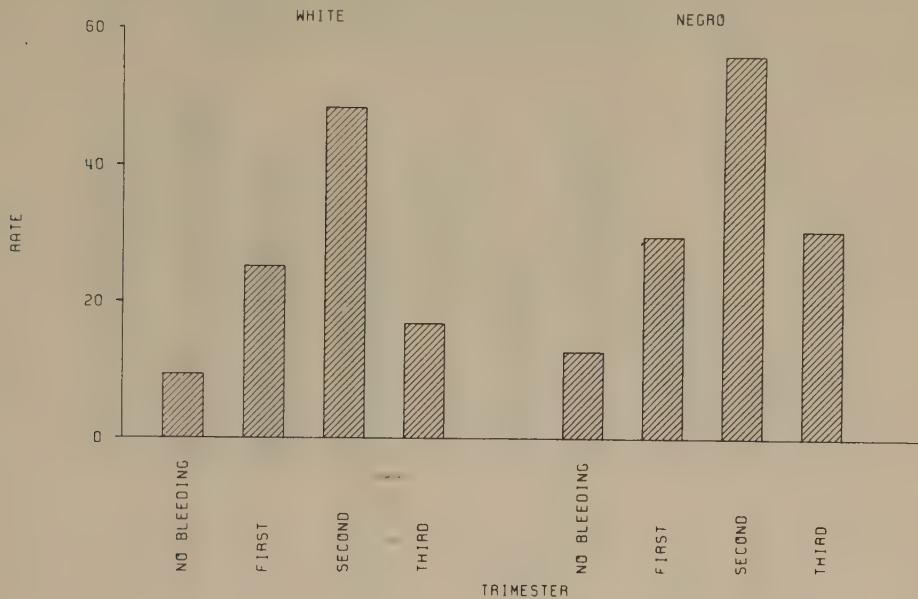
STILLBIRTHS BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE



STILLBIRTHS BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE

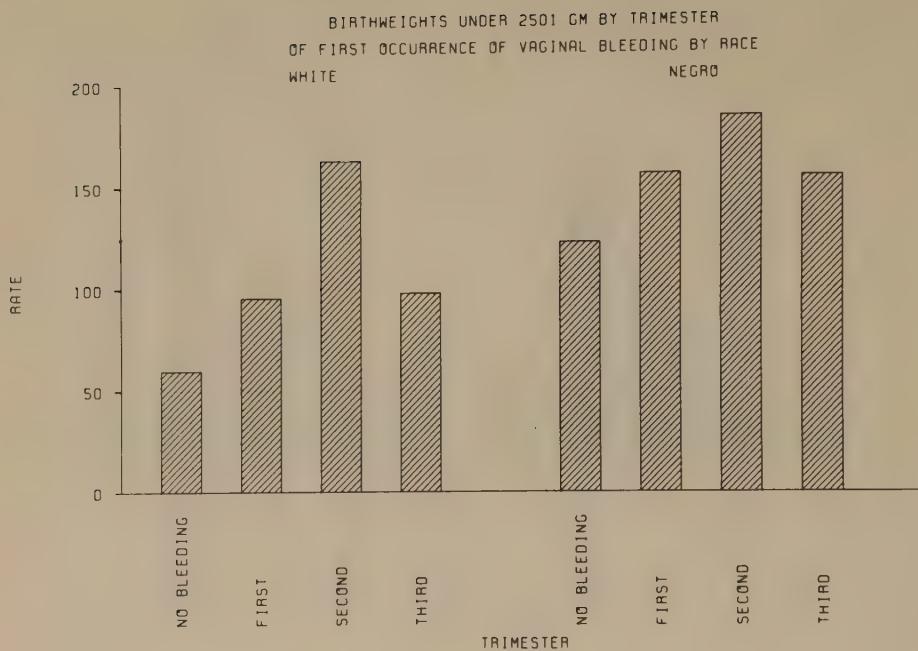
TRIMESTER	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NO BLEEDING	13931	157	11.27	14180	198	13.96
FIRST	2219	119	53.63	2242	93	41.48
SECOND	877	74	84.38	1234	80	64.83
THIRD	1772	50	28.22	2278	64	28.09
TOTAL	18799	400	21.28	19934	435	21.82
UNKNOWN	249	15	60.24	233	22	94.42
GRAND TOTAL	19048	415	21.79	20167	457	22.66

NEONATAL DEATHS BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE



NEONATAL DEATHS BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE

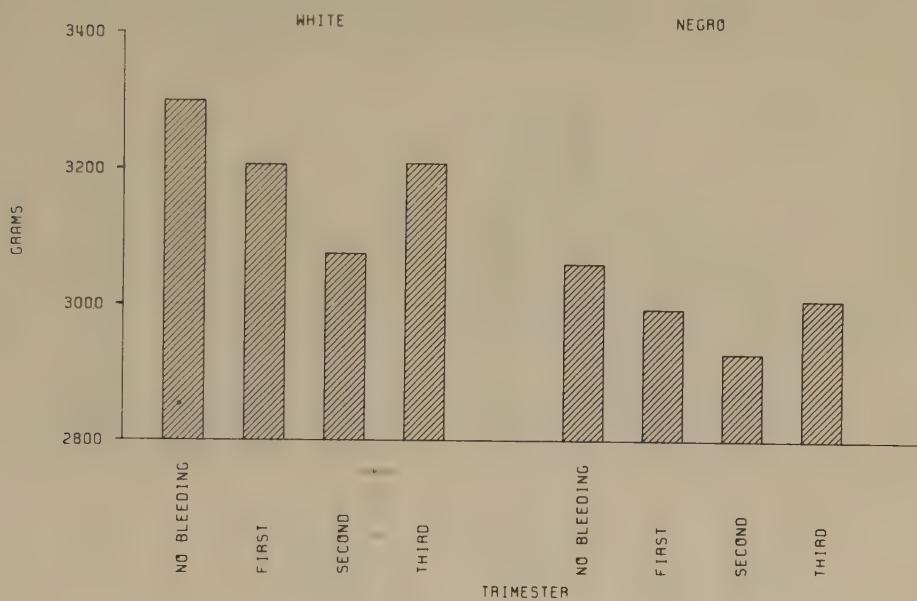
TRIMESTER	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NO BLEEDING	13774	129	9.37	13982	178	12.73
FIRST	2100	53	25.24	2149	64	29.78
SECOND	803	39	48.57	1154	65	56.33
THIRD	1722	29	16.84	2214	68	30.71
TOTAL	18399	250	13.59	19499	375	19.23
UNKNOWN	234	3	12.82	211	13	61.61
GRAND TOTAL	18633	253	13.58	19710	388	19.69



BIRTHWEIGHTS UNDER 2501 GM BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE

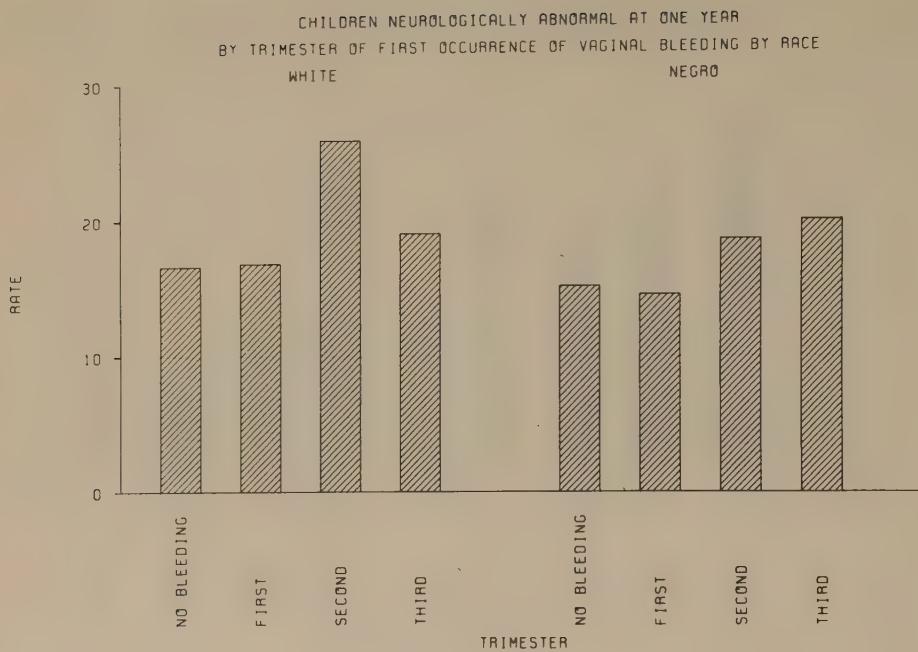
TRIMESTER	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NO BLEEDING	13702	818	59.70	13878	1702	122.64
FIRST	2074	198	95.47	2117	331	156.35
SECOND	792	129	162.88	1129	208	184.23
THIRD	1718	168	97.79	2202	341	154.86
TOTAL	18286	1313	71.80	19326	2582	133.60
UNKNOWN	195	6	30.77	178	35	196.63
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

MEAN BIRTHWEIGHT BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE



MEAN BIRTHWEIGHT BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE

TRIMESTER	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NO BLEEDING	13702	3300	13878	3062
FIRST	2074	3207	2117	2995
SECOND	792	3076	1129	2929
THIRD	1718	3210	2202	3009
TOTAL	18286	3271	19326	3040
UNKNOWN	195	3338	178	2921
GRAND TOTAL	18481	3272	19504	3039



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING BY RACE

TRIMESTER	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
NO BLEEDING	10943	182	16.63	12258	186	15.17
FIRST	1663	28	16.84	1856	27	14.55
SECOND	618	16	25.89	967	18	18.61
THIRD	1364	26	19.06	1902	38	19.98
TOTAL	14588	252	17.27	16983	269	15.84
UNKNOWN	74	1	13.51	140	5	35.71
GRAND TOTAL	14662	253	17.26	17123	274	16.00

HYDRAMNIOS

Hydramnios is the presence of an excessive amount of amniotic fluid.

The condition was reported in 563 patients; in 290 (1.5 per cent) White and in 252 (1.3 per cent) Negro patients. As expected this condition was observed to be associated with increased risk of adverse fetal outcome.

The perinatal mortality rate for Whites was almost four times, and for Negroes almost three times, those observed for pregnancies without the condition. The increase occurred in both the stillbirth and neonatal death rate components. An increase in the rate of neurologic abnormality at one year was also noted, particularly among the White infants. However, no association with low birthweight is apparent.

HYDRAMNIOS BY RACE

	ALL GRAVIDAS	WITH CONDITION	PERCENT
WHITE	18801	290	1.54
NEGRO	19932	252	1.26

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYDRAMNIOS BY RACE

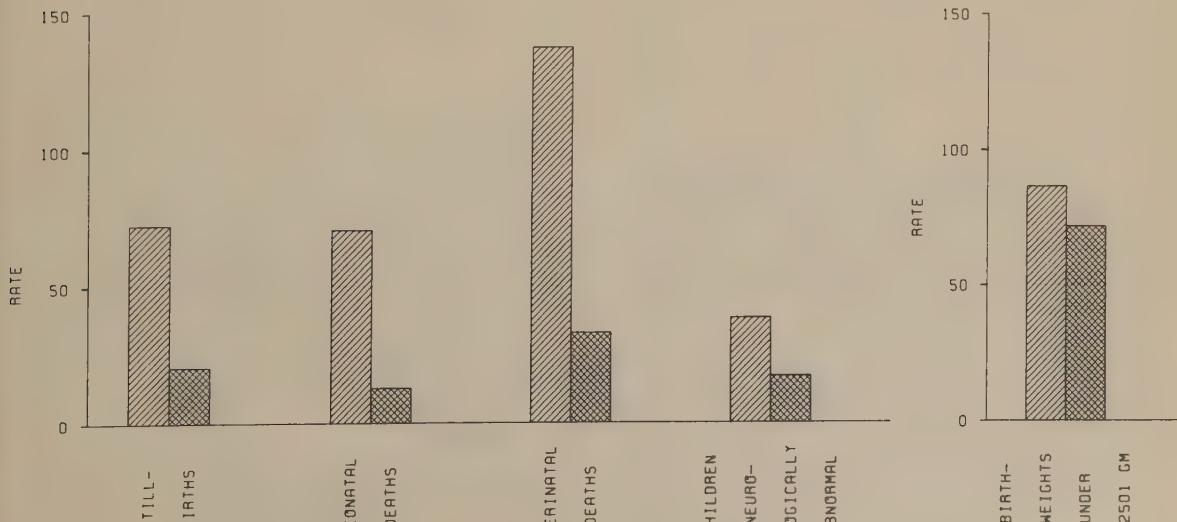
	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS	
		NO.	RATE	LIVEBIRTHS	NO.	RATE	NO.	RATE
WHITE	290	21	72.41	269	19	70.63	290	40
	18511	377	20.37	18134	231	12.74	18511	608
NEGRO	252	13	51.59	239	12	50.21	252	25
	19680	420	21.34	19260	363	18.85	19680	783

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYDRAMNIOS BY RACE

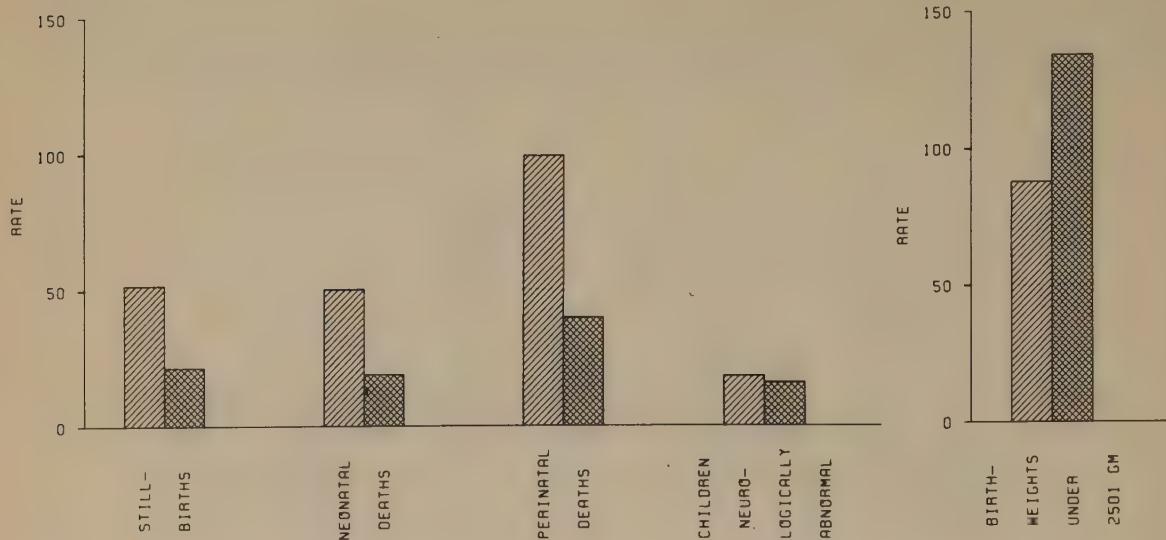
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BWT. UNDER 2501 GM.			NEUROLOGICALLY ABNORMAL NO.	RATE
		NO.	RATE	MEAN BWT. EXAMS		
WHITE	266	23	86.47	3425	209	8
	18021	1291	71.64	3269	14379	244
NEGRO	239	21	87.87	3319	220	4
	19089	2561	134.16	3037	16762	265

PREGNANCY OUTCOMES OF GRAVIDAS WITH HYDRAMNIOS - WHITE

STATUS



STATUS
 WITH CONDITION
 WITHOUT CONDITION



PLACENTA PREVIA

Placenta previa occurred in less than one per cent of White and Negro patients. Low implantation of the placenta was the most frequent diagnosis. Outcomes by degree of placenta previa are not presented since the number of patients in each group was too small to be meaningful.

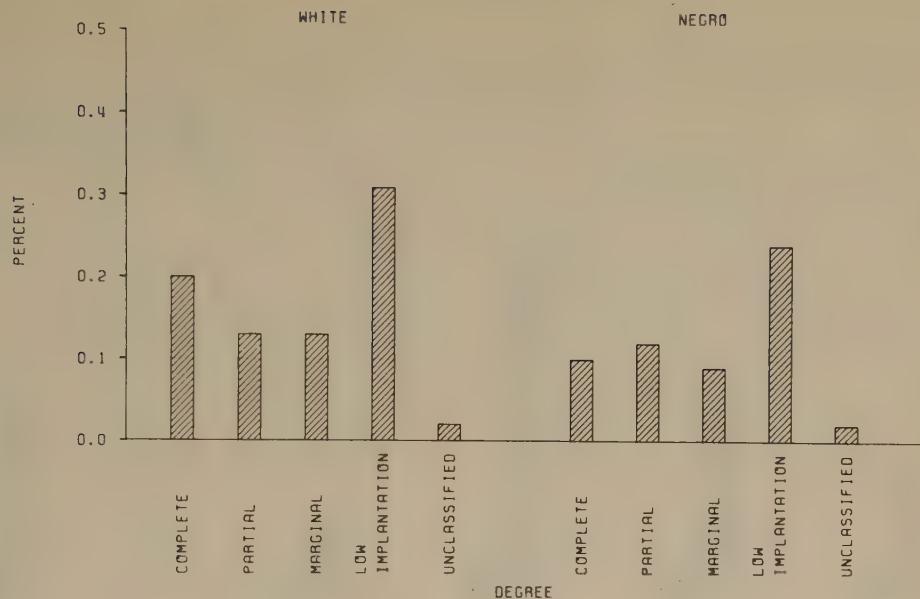
As expected, placenta previa is accompanied by an increase in fetal and neonatal death rates in both races. The relationship between placenta previa and low birthweight is strong, with one-third of the White babies and one-half of the Negro babies in this group weighing less than 2501 grams. The mean birthweight is also considerably lower for White and Negro women with placenta previa. The rate of neurologic abnormal-

ity at one year of age was observed to be increased in Whites but not in Negroes.

These figures confirm the findings from a preliminary study* reported in 1966. In that study the data for low birthweight babies were evaluated separately from those of normal birthweight. At the neonatal neurologic examination the low birthweight babies born following placenta previa were less frequently normal than were those without this complication. This difference was not observed among babies of normal birthweight. No differences related to placenta previa were noted on subsequent examinations during the first year of life.

*Niswander, et al., "Fetal Morbidity Following Potentially Anoxigenic Obstetric Conditions: II Placenta Previa," *Amer. J. Obstet. & Gynec.*, 95:846, July 1966.

PLACENTA PREVIA BY RACE



PLACENTA PREVIA BY RACE

DEGREE	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
NONE	18304	99.23	19579	99.44
COMPLETE	36	0.20	19	0.10
PARTIAL	23	0.12	23	0.12
MARGINAL	23	0.12	18	0.09
LOW IMPLANTATION	57	0.31	47	0.24
UNCLASSIFIED	3	0.02	3	0.02
TOTAL	18446	100.00	19689	100.00
UNKNOWN	602	3.16	478	2.37
GRAND TOTAL	19048	100.00	20167	100.00

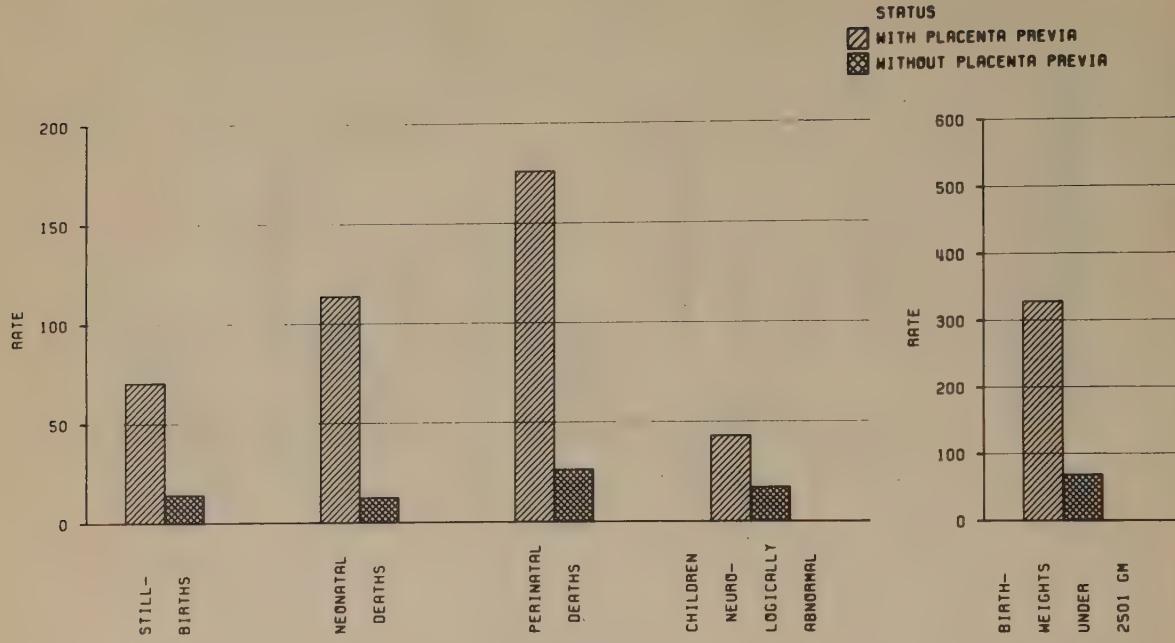
PREGNANCY OUTCOMES OF GRAVIDAS WITH PLACENTA PREVIA BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS	
		NO.	RATE	LIVEBIRTHS	NO.	RATE	NO.	RATE
WHITE								
WITH PLACENTA PREVIA	142	10	70.42	132	15	113.64	142	25
WITHOUT PLACENTA PREVIA	18304	255	13.93	18049	224	12.41	18304	479
NEGRO								
WITH PLACENTA PREVIA	110	7	63.64	103	14	135.92	110	21
WITHOUT PLACENTA PREVIA	19579	316	16.14	19263	334	17.34	19579	650

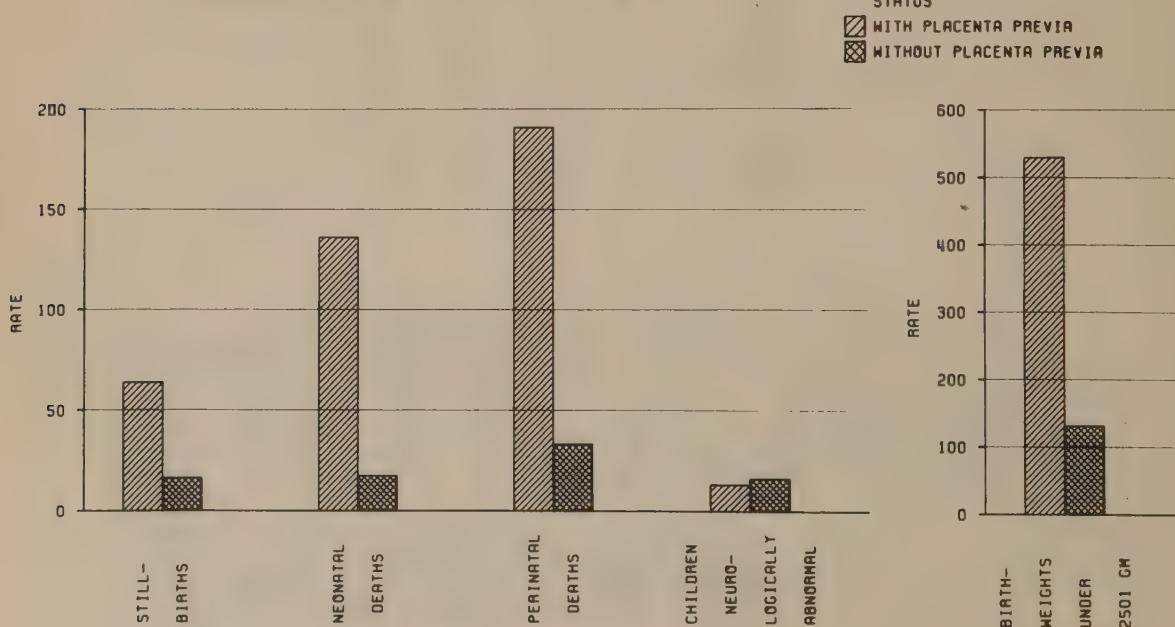
PREGNANCY OUTCOMES OF GRAVIDAS WITH PLACENTA PREVIA BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM. NO. RATE		MEAN BIRTHWEIGHT	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO. RATE	
		NO.	RATE			NO.	RATE
WHITE							
WITH PLACENTA PREVIA	131	43	328.24	2772	93	4	43.01
WITHOUT PLACENTA PREVIA	17967	1233	68.63	3277	14405	245	17.01
NEGRO							
WITH PLACENTA PREVIA	102	54	529.41	2488	76	1	13.16
WITHOUT PLACENTA PREVIA	19151	2506	130.85	3044	16837	271	16.10

PREGNANCY OUTCOMES OF GRAVIDAS WITH PLACENTA PREVIA - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH PLACENTA PREVIA - NEGRO



ABRUPTIO PLACENTAE

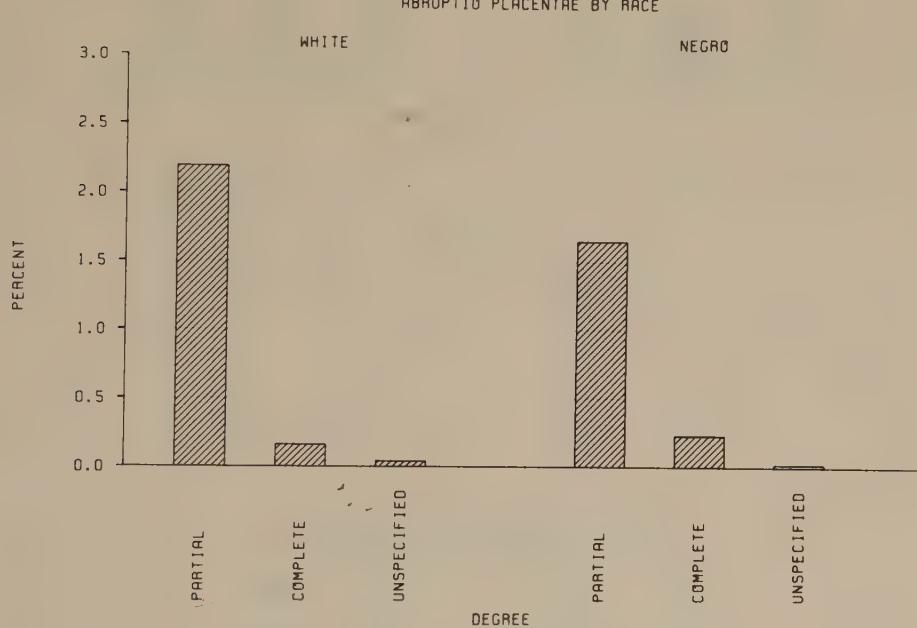
Abruptio placentae was diagnosed in about two per cent of White and Negro patients. Not surprisingly, there is an increased risk of fetal and neonatal death. The strong relationship between the condition and low birthweight is likewise not a surprising finding. However, no consistent relationship was observed between abruptio placentae and neurologic outcome at one year.

The findings confirm those of a previous study reported in 1966.* In that investigation, detailed re-

*Niswander, et al., "Fetal Morbidity Following Potentially Anoxigenic Obstetric Conditions: I Abruptio Placentae," *Amer. J. Obstet. & Gynec.*, 95:838, July 1966.

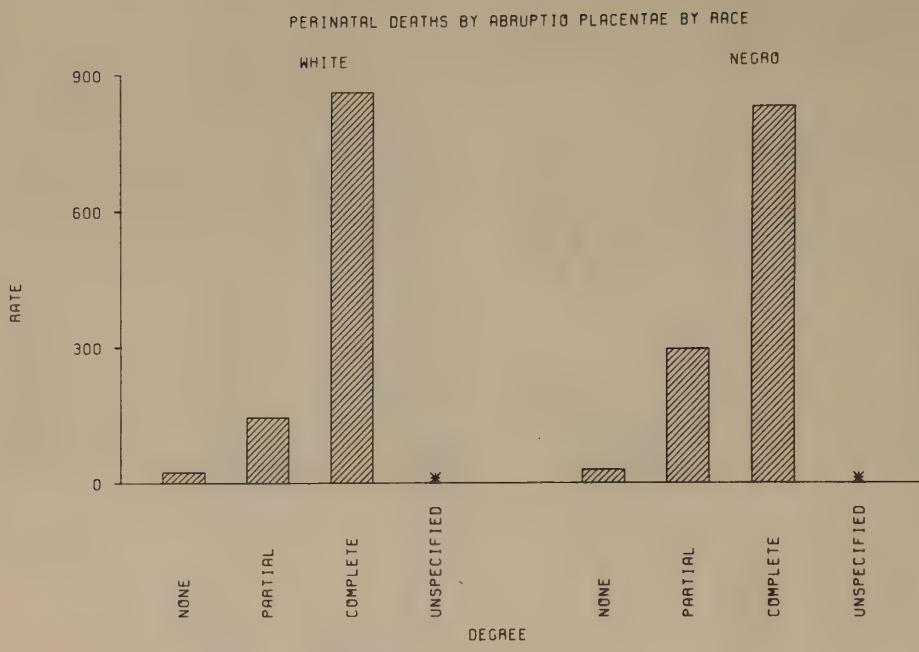
view of the records of patients with abruptio placentae, in a smaller sample of the Collaborative Study, reduced the observed frequency of the condition to 1.2 per cent, suggesting either slight over-diagnosis in the presently reported series or inclusion of milder cases of the disease.

In the earlier study the low birthweight infants were considered separately. As with placenta previa, the low birthweight infants born following abruptio placentae were more likely to be judged abnormal at the neonatal neurologic examination. Infants weighing over 2500 grams born following abruptio placentae showed no increased risk of abnormality as compared to the control cases on all of the follow-up examinations to one year.



ABRUPTIO PLACENTAE BY RACE

DEGREE	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
NONE	18177	97.61	19454	98.10
PARTIAL	408	2.19	328	1.65
COMPLETE	29	0.16	46	0.23
UNSPECIFIED	8	0.04	3	0.02
TOTAL	18622	100.00	19831	100.00
UNKNOWN	426	2.24	336	1.67
GRAND TOTAL	19048	100.00	20167	100.00



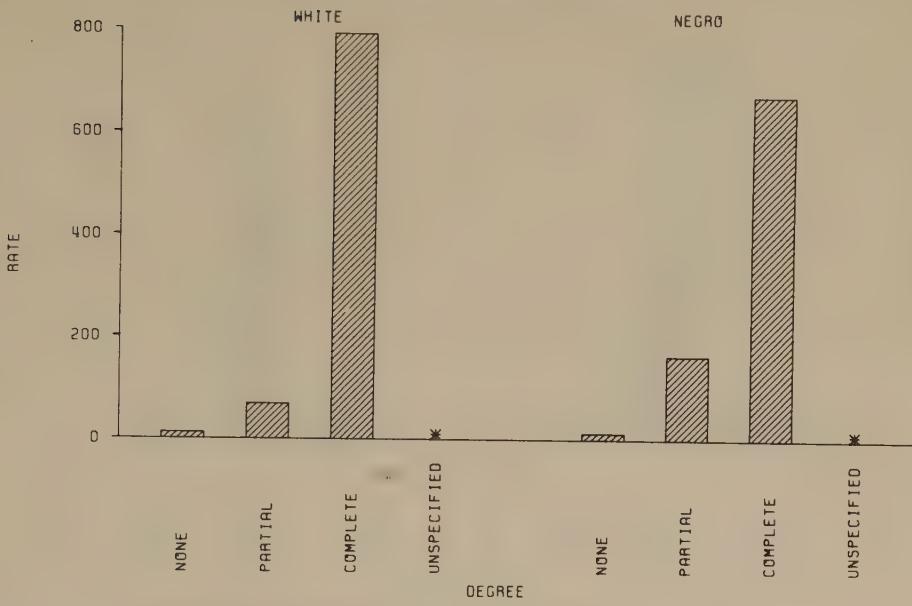
* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY ABRUPTIO PLACENTAE BY RACE

DEGREE	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NONE	18177	434	23.88	19454	563	28.94
PARTIAL	408	59	144.61	328	97	295.73
COMPLETE	29	25	862.07	46	38	826.09
UNSPECIFIED	1	3	375.00*	3	1	333.33*
TOTAL	18622	521	27.98	19831	699	35.25
UNKNOWN	426	147	345.07	336	146	434.52
GRAND TOTAL	19048	668	35.07	20167	845	41.90

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY ABRUPTIO PLACENTAE BY RACE

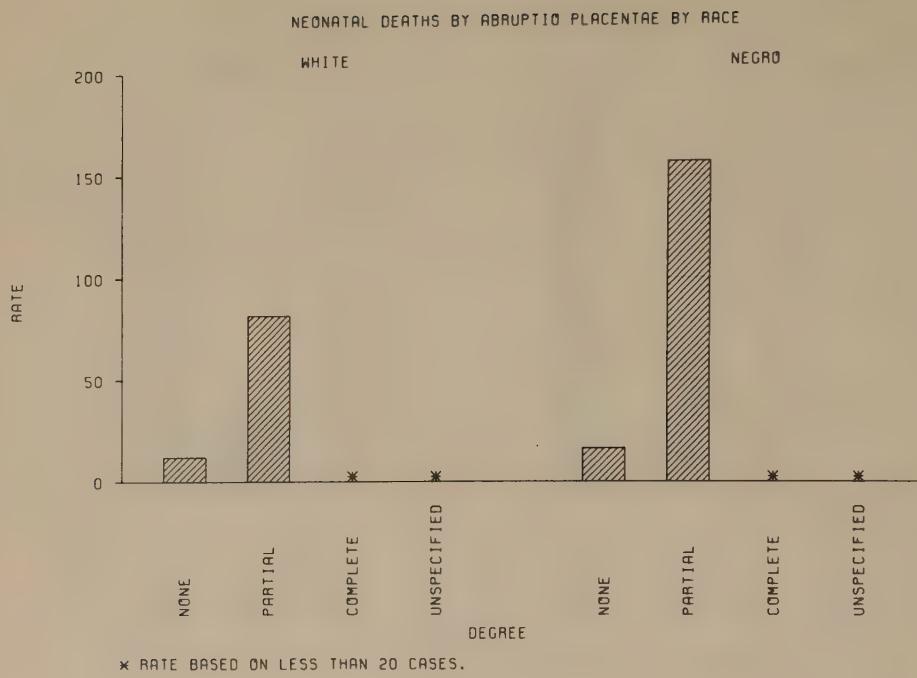


* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY ABRUPTIO PLACENTAE BY RACE

	WHITE			NEGRO		
DEGREE	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NONE	18177	220	12.10	19454	250	12.85
PARTIAL	408	28	68.63	328	54	164.63
COMPLETE	29	23	793.10	46	31	673.91
UNSPECIFIED	8	1	125.00*	3	1	333.33*
TOTAL	18622	272	14.61	19831	336	16.94
UNKNOWN	426	143	335.68	336	121	360.12
GRAND TOTAL	19048	415	21.79	20167	457	22.66

* RATE BASED ON LESS THAN 20 CASES.

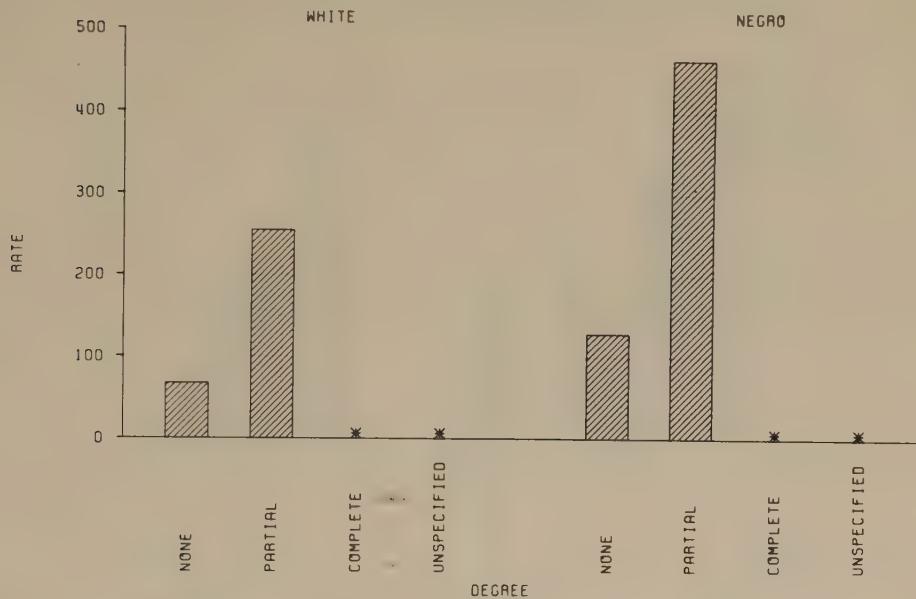


NEONATAL DEATHS BY ABRUPTIO PLACENTAE BY RACE

DEGREE	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NONE	17957	214	11.92	19204	313	16.30
PARTIAL	380	31	81.58	274	43	156.93
COMPLETE	6	2	333.33*	15	7	466.67*
UNSPECIFIED	7	2	285.71*	2	0	0 *
TOTAL	18350	249	13.57	19495	363	18.62
UNKNOWN	283	4	14.13	215	25	116.28
GRAND TOTAL	18633	253	13.58	19710	388	19.69

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. BY ABRUPTIO PLACENTAE BY RACE



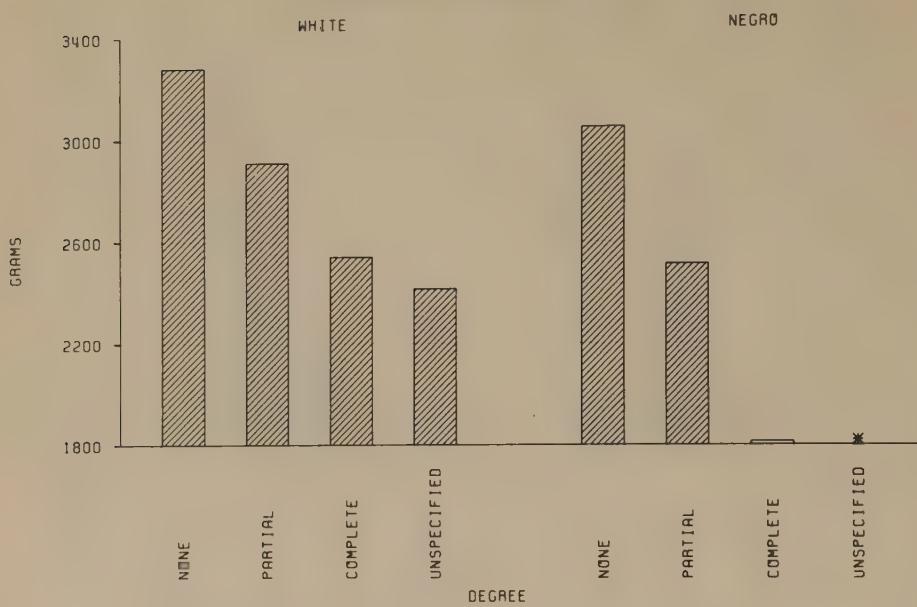
* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY ABRUPTIO PLACENTAE BY RACE

DEGREE	WHITE			NEGRO		
	LIVEBIRTHS BIRTHWEIGHT	BIRTHWEIGHTS WITH KNOWN UNDER 2501 GM.	RATE	LIVEBIRTHS BIRTHWEIGHT	BIRTHWEIGHTS WITH KNOWN UNDER 2501 GM.	RATE
NONE	17871	1201	67.20	19092	2458	128.75
PARTIAL	372	95	255.38	265	123	464.15
COMPLETE	5	3	600.00*	14	9	642.86*
UNSPECIFIED	7	3	428.57*	2	2	1000.00*
TOTAL	18255	1302	71.32	19373	2592	133.79
UNKNOWN	226	17	75.22	131	25	190.84
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

* RATE BASED ON LESS THAN 20 CASES.

MEAN BIRTHWEIGHT BY ABRUPTIO PLACENTAE BY RACE

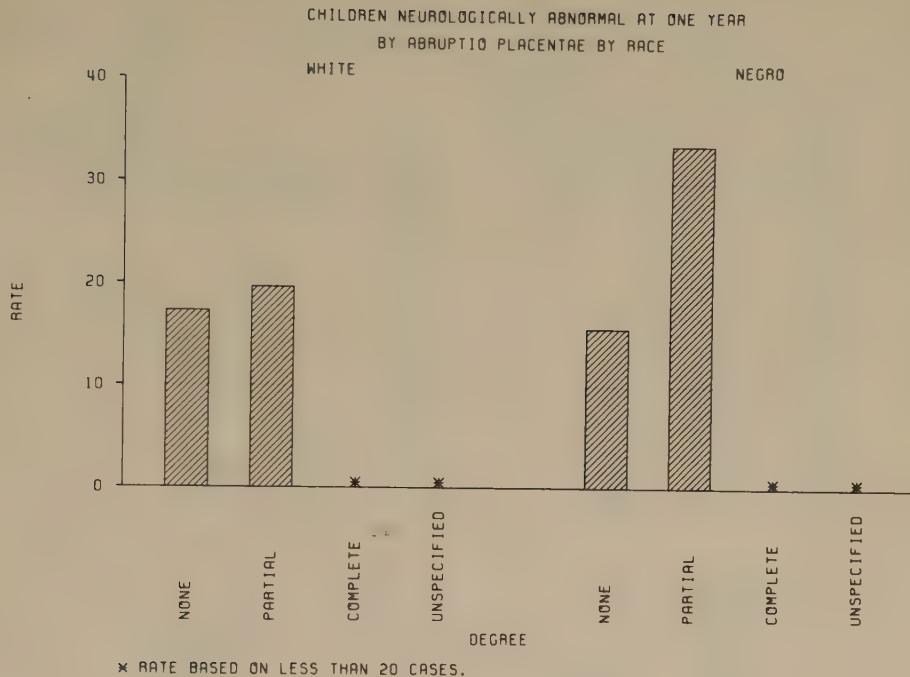


* MEAN BASED ON LESS THAN 5 CASES.

MEAN BIRTHWEIGHT BY ABRUPTIO PLACENTAE BY RACE

DEGREE	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NONE	17871	3280	19092	3048
PARTIAL	372	2909	265	2510
COMPLETE	5	2540	14	1814
UNSPECIFIED	7	2414	2	1843*
TOTAL	18255	3272	19373	3040
UNKNOWN	226	3222	131	2952
GRAND TOTAL	18481	3272	19504	3039

* MEAN BASED ON LESS THAN 5 CASES.



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY ABRUPTIO PLACENTAE BY RACE

DEGREE	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
NONE	14279	247	17.30	16797	263	15.66
PARTIAL	305	6	19.67	208	7	33.65
COMPLETE	3	0	0*	7	0	0*
UNSPECIFIED	5	0	0*	2	2	1000.00*
TOTAL	14592	253	17.34	17014	272	15.99
UNKNOWN	70	0	0	109	2	18.35
GRAND TOTAL	14662	253	17.26	17123	274	16.00

* RATE BASED ON LESS THAN 20 CASES.

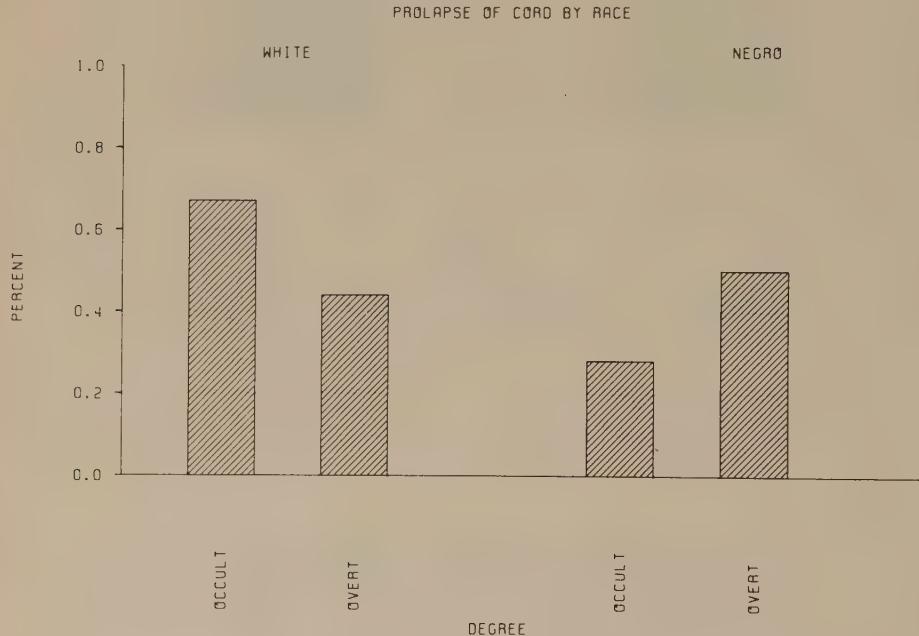
PROLAPSE OF THE UMBILICAL CORD

Occult prolapse of the cord was diagnosed in 0.7 per cent of White patients and 0.3 per cent of Negroes. Overt prolapse of the cord was diagnosed in 0.4 per cent of Whites and 0.5 per cent of the Negroes. As expected, both the fetal and neonatal death rates were increased with prolapse of the cord, especially with overt prolapse of the cord. Occult prolapse of the cord is not associated with low birthweight, while overt prolapse of the cord occurred more commonly among low birthweight infants. The association with mean birthweight was consistent with this observation. No

consistent increase is noted in the risk of neurologic abnormality at one year among babies born following prolapse of the cord. This latter observation confirms one made previously on a small sample of Collaborative Study patients.*

Prolapse of cord is unknown for only about four per cent of both White and Negro cases. These cases have unusually high death rates.

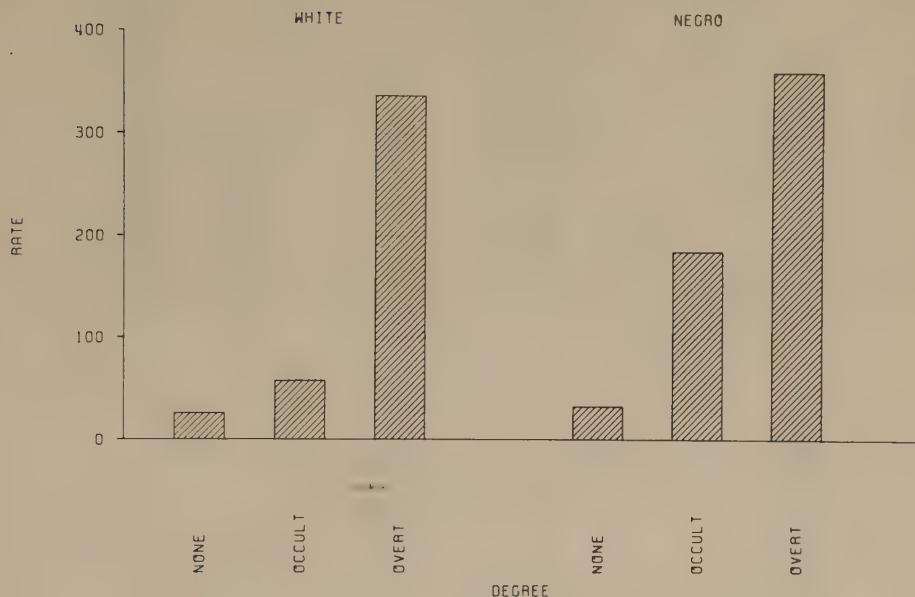
*Niswander, et al., "Fetal Morbidity Following Potentially Anoxigenic Obstetric Conditions: III Prolapse of the Umbilical Cord," *Amer. J. Obstet. & Gynec.*, 95:853, July 1966.



PROLAPSE OF CORD BY RACE

DEGREE	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
NONE	18085	98.90	19305	99.22
OCCULT	122	0.67	54	0.28
OVERT	80	0.44	97	0.50
TOTAL	18287	100.00	19456	100.00
UNKNOWN	761	4.00	711	3.53
GRAND TOTAL	19048	100.00	20167	100.00

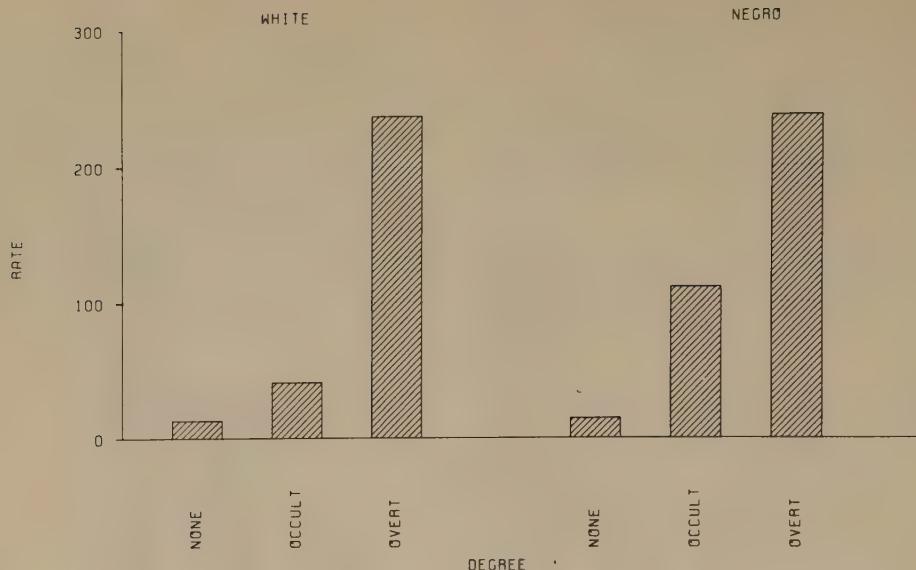
PERINATAL DEATHS BY PROLAPSE OF CORD BY RACE



PERINATAL DEATHS BY PROLAPSE OF CORD BY RACE

DEGREE	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NONE	18085	464	25.66	19305	624	32.32
OCCULT	122	7	57.38	54	10	185.19
OVERT	80	27	337.50	97	35	360.82
TOTAL	18287	498	27.23	19456	669	34.39
UNKNOWN	761	170	223.39	711	176	247.54
GRAND TOTAL	19048	668	35.07	20167	845	41.90

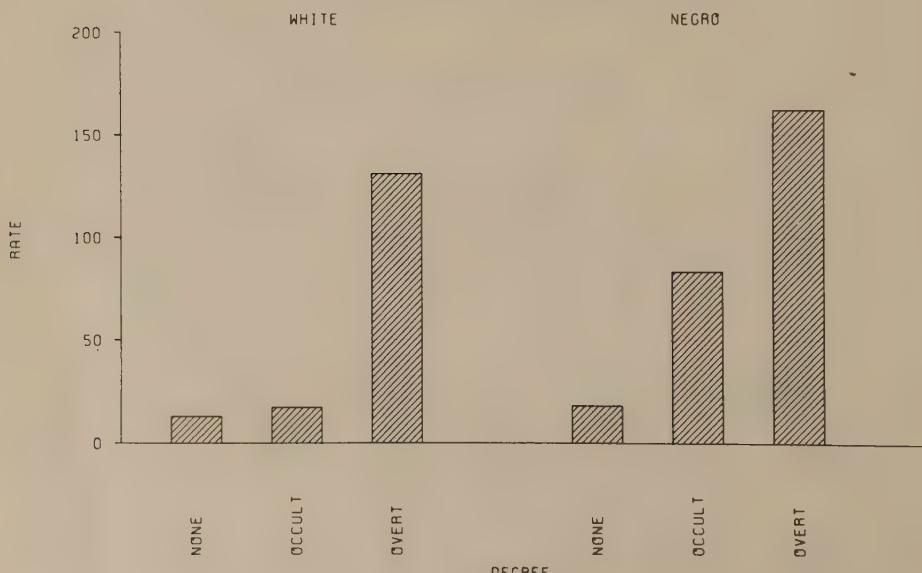
STILLBIRTHS BY PROLAPSE OF CORD BY RACE



STILLBIRTHS BY PROLAPSE OF CORD BY RACE

DEGREE	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NONE	18085	235	12.99	19305	282	14.61
OCCULT	122	5	40.98	54	6	111.11
OVERT	80	19	237.50	97	23	237.11
TOTAL	18287	259	14.16	19456	311	15.98
UNKNOWN	761	156	204.99	711	146	205.34
GRAND TOTAL	19048	415	21.79	20167	457	22.66

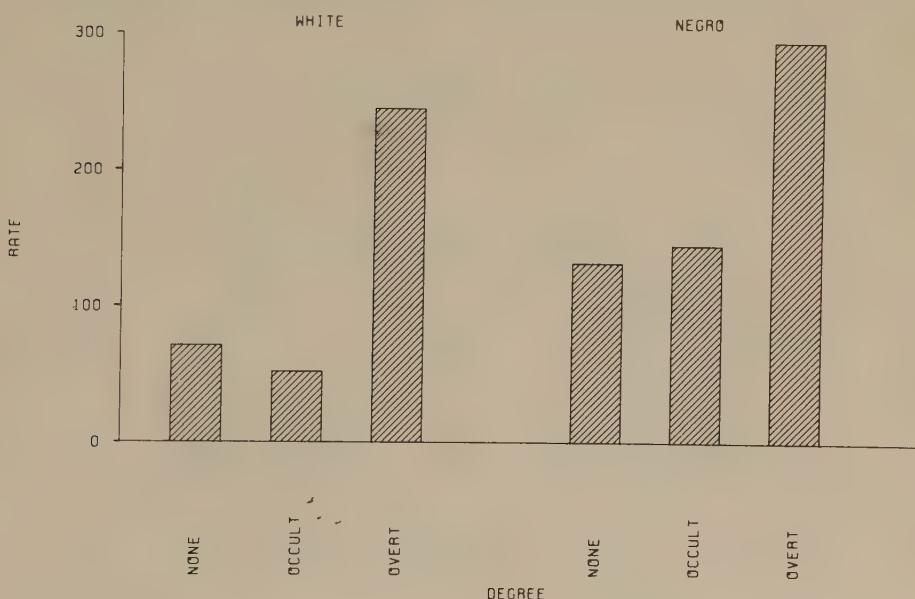
NEONATAL DEATHS BY PROLAPSE OF CORD BY RACE



NEONATAL DEATHS BY PROLAPSE OF CORD BY RACE

DEGREE	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NONE	17850	229	12.83	19023	342	17.98
OCCULT	117	2	17.09	48	4	83.33
OVERT	61	8	131.15	74	12	162.16
TOTAL	18028	239	13.26	19145	358	18.70
UNKNOWN	605	14	23.14	565	30	53.10
GRAND TOTAL	18633	253	13.58	19710	388	19.69

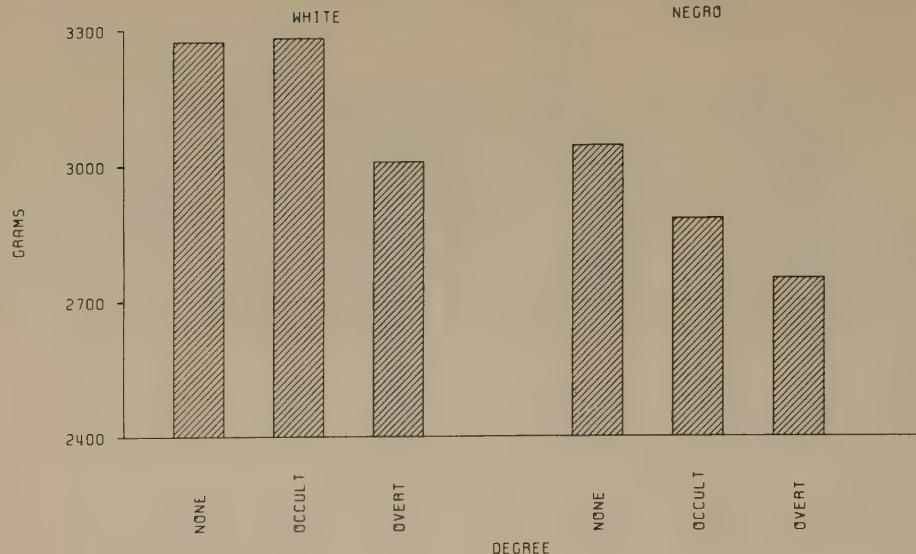
BIRTHWEIGHT UNDER 2501 GM BY PROLAPSE OF CORD BY RACE



BIRTHWEIGHT UNDER 2501 GM BY PROLAPSE OF CORD BY RACE

DEGREE	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 CM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NONE	17781	1263	71.03	18921	2507	132.50
OCCULT	116	6	51.72	48	7	145.83
OVERT	61	15	245.90	71	21	295.77
TOTAL	17958	1284	71.50	19040	2535	133.14
UNKNOWN	523	35	66.92	464	82	176.72
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

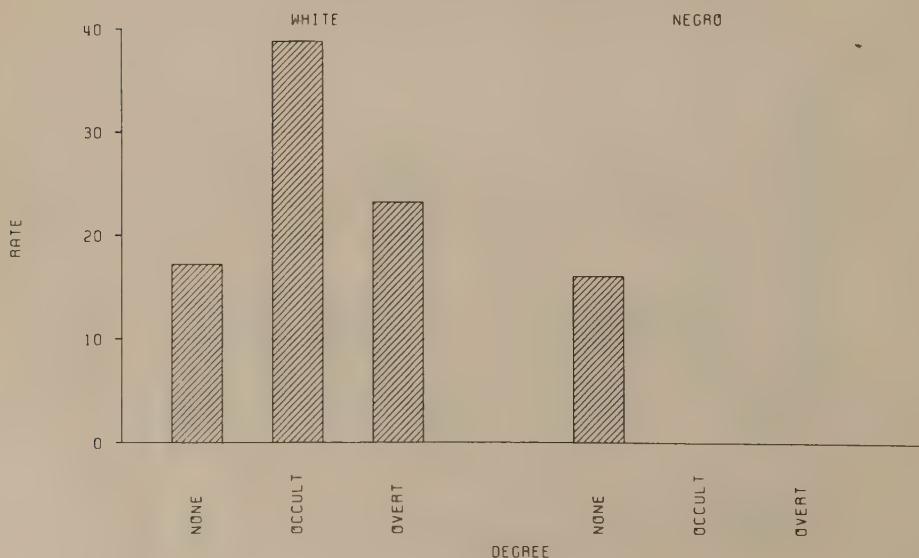
MEAN BIRTHWEIGHT BY PROLAPSE OF CORD BY RACE



MEAN BIRTHWEIGHT BY PROLAPSE OF CORD BY RACE

Degree	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NONE	17781	3273	18921	3043
OCCULT	116	3281	48	2881
OVERT	61	3009	71	2749
TOTAL	17958	3273	19040	3042
UNKNOWN	523	3241	464	2949
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY PROLAPSE OF CORD BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY PROLAPSE OF CORD BY RACE

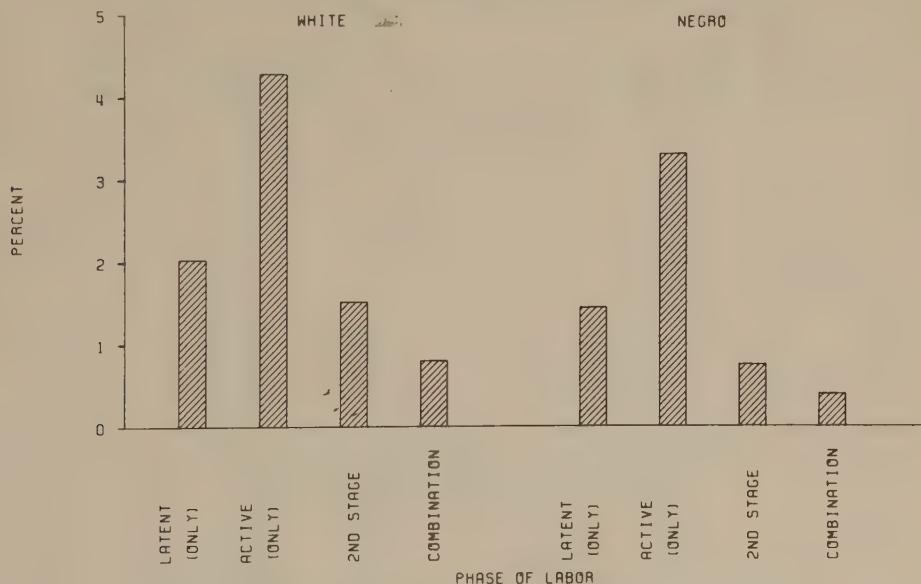
DEGREE	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
NONE	14256	245	17.19	16624	267	16.06
OCULT	103	4	38.83	40	0	0
OVERT	43	1	23.26	55	0	0
TOTAL	14402	250	17.36	16719	267	15.97
UNKNOWN	260	3	11.54	404	7	17.33
GRAND TOTAL	14662	253	17.26	17123	274	16.00

UTERINE DYSFUNCTION

Uterine dysfunction was diagnosed in nine per cent of White and six per cent of Negro patients. In both races the abnormality occurred more frequently in the active phase of labor than at any other time. No

consistent relationship between uterine dysfunction and stillbirth rate or neonatal death rate is apparent. The more severe degrees of uterine dysfunction were associated with fewer low birthweight babies and with higher mean birthweight. There does not appear to be any consistent relationship between uterine dysfunction and abnormality rate at one year.

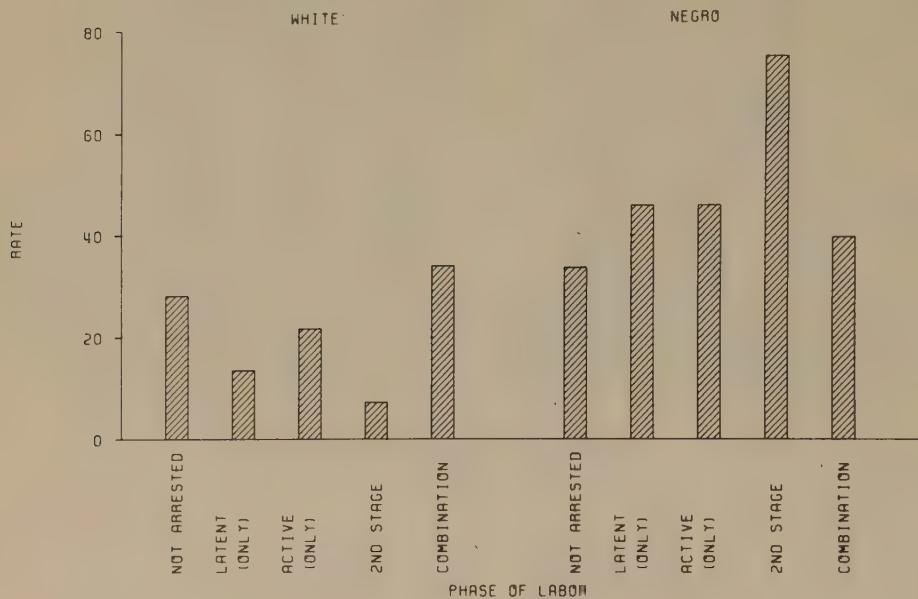
UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE



UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE

PHASE OF LABOR	WHITE		NEGRO	
	NUMBER	PERCENT	NUMBER	PERCENT
NOT ARRESTED	16712	91.35	18483	94.09
LATENT (ONLY)	372	2.03	284	1.45
ACTIVE (ONLY)	785	4.29	655	3.33
2ND STAGE	278	1.52	147	0.75
COMBINATION	147	0.80	76	0.39
TOTAL	18294	100.00	19645	100.00
UNKNOWN	754	3.96	522	2.59
GRAND TOTAL	19048	100.00	20167	100.00

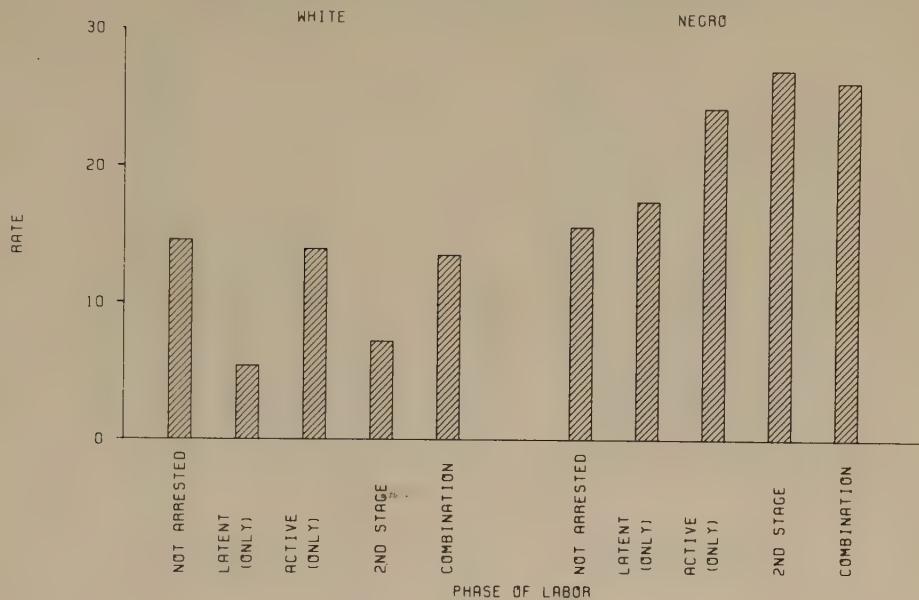
PERINATAL DEATHS BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE



PERINATAL DEATHS BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE

PHASE OF LABOR	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NOT ARRESTED	16712	470	28.12	18483	622	33.65
LATENT (ONLY)	372	5	13.44	284	13	45.77
ACTIVE (ONLY)	785	17	21.66	655	30	45.80
2ND STAGE	278	2	7.19	147	11	74.83
COMBINATION	147	5	34.01	76	3	39.47
TOTAL	18294	499	27.28	19645	679	34.56
UNKNOWN	754	169	224.14	522	166	318.01
GRAND TOTAL	19048	668	35.07	20167	845	41.90

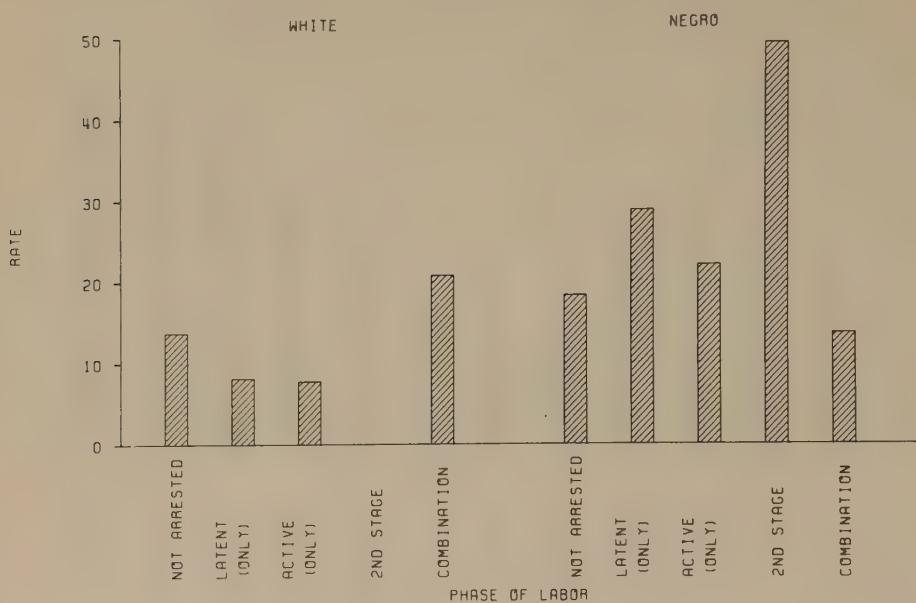
STILLBIRTHS BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE



STILLBIRTHS BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE

Phase of Labor	White		Negro			
	Births	Stillbirths	Rate	Births	Stillbirths	Rate
NOT ARRESTED	16712	244	14.60	18483	290	15.69
LATENT (ONLY)	372	2	5.38	284	5	17.61
ACTIVE (ONLY)	785	11	14.01	655	16	24.43
2ND STAGE	278	2	7.19	147	4	27.21
COMBINATION	147	2	13.61	76	2	26.32
TOTAL	18294	261	14.27	19645	317	16.14
UNKNOWN	754	154	204.24	522	140	268.20
GRAND TOTAL	19048	415	21.79	20167	457	22.66

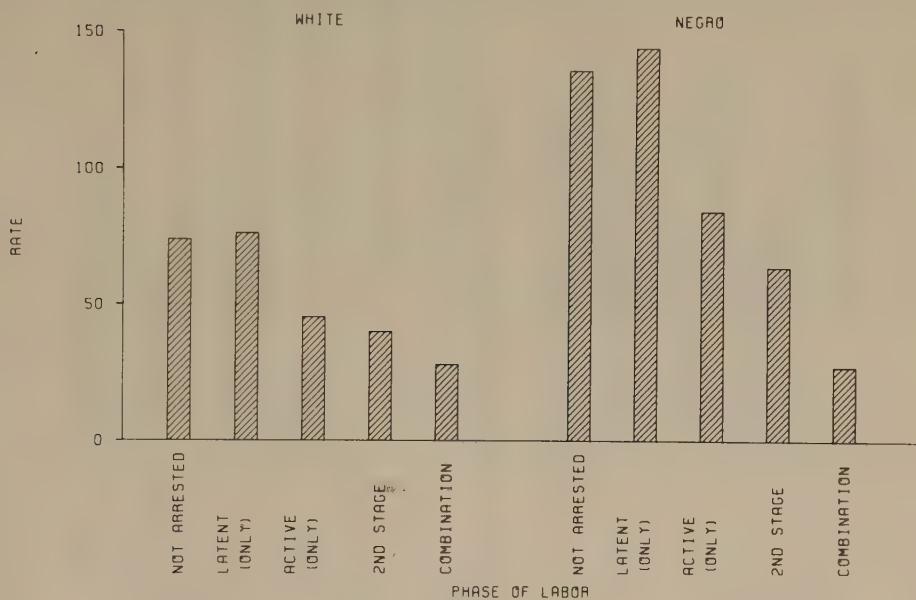
NEONATAL DEATHS BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE



NEONATAL DEATHS BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE

PHASE OF LABOR	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NOT ARRESTED	16468	226	13.72	18193	332	18.25
LATENT (ONLY)	370	3	8.11	279	8	28.67
ACTIVE (ONLY)	774	6	7.75	639	14	21.91
2ND STAGE	276	0	0	143	7	48.95
COMBINATION	145	3	20.69	74	1	13.51
TOTAL	18033	238	13.20	19328	362	18.73
UNKNOWN	600	15	25.00	382	26	68.06
GRAND TOTAL	18633	253	13.58	19710	388	19.69

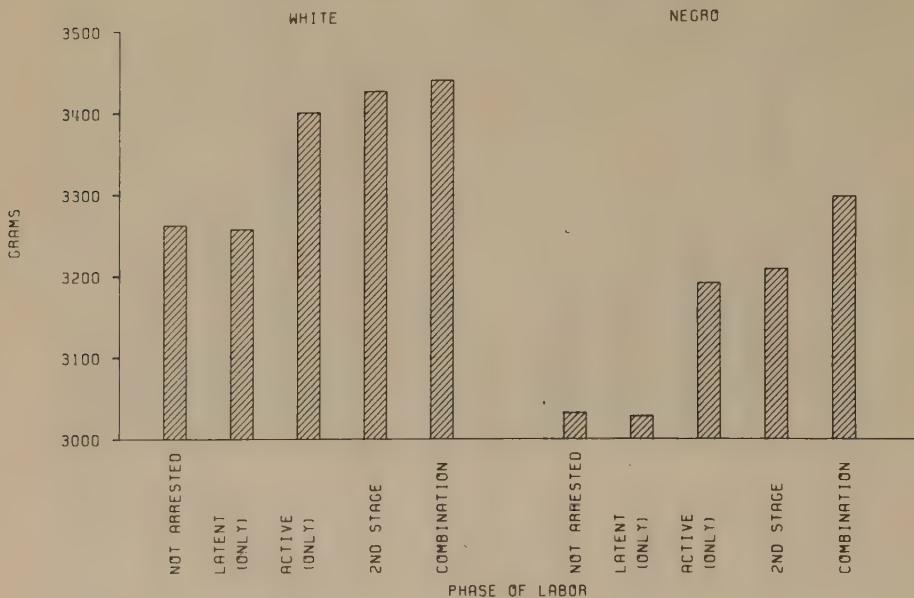
BIRTHWEIGHTS UNDER 2501 GM BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE



BIRTHWEIGHTS UNDER 2501 GM BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE

Phase of Labor	White			Negro		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NOT ARRESTED	16404	1211	73.82	18100	2472	136.57
LATENT (ONLY)	367	28	76.29	276	40	144.93
ACTIVE (ONLY)	772	35	45.34	636	54	84.91
2ND STAGE	275	11	40.00	140	9	64.29
COMBINATION	143	4	27.97	73	2	27.40
TOTAL	17961	1289	71.77	19225	2577	134.04
UNKNOWN	520	30	57.69	279	40	143.37
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

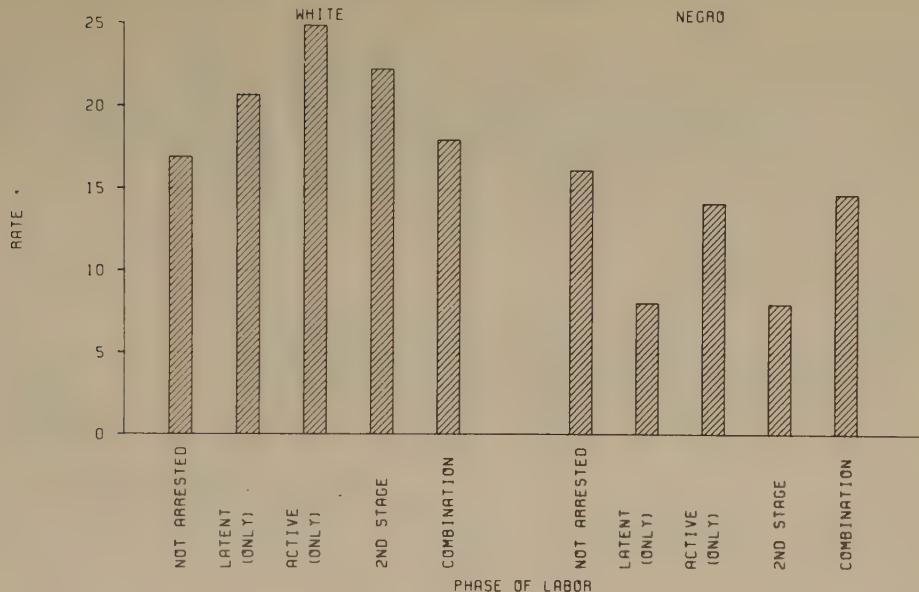
MEAN BIRTHWEIGHT BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE



MEAN BIRTHWEIGHT BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE

Phase of Labor	White		Negro	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NOT ARRESTED	16404	3262	18100	3032
LATENT (ONLY)	367	3257	276	3028
ACTIVE (ONLY)	772	3400	636	3191
2ND STAGE	275	3426	140	3208
COMBINATION	143	3439	73	3296
TOTAL	17961	3272	19225	3040
UNKNOWN	520	3260	279	3004
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY UTERINE DYSFUNCTION
BY PHASE OF LABOR BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY UTERINE DYSFUNCTION BY PHASE OF LABOR BY RACE

Phase of Labor	White			Negro		
	One Year Exams	Abnormals	Rate	One Year Exams	Abnormals	Rate
NOT ARRESTED	13138	222	16.90	15888	257	16.18
LATENT (ONLY)	290	6	20.69	248	2	8.06
ACTIVE (ONLY)	642	16	24.92	565	8	14.16
2ND STAGE	224	5	22.32	125	1	8.00
COMBINATION	111	2	18.02	68	1	14.71
TOTAL	14405	251	17.42	16894	269	15.92
UNKNOWN	257	2	7.78	229	5	21.83
GRAND TOTAL	14662	253	17.26	17123	274	16.00

PREMATURE RUPTURE OF MEMBRANES

Membranes ruptured before the onset of labor in 45 per cent of White and 44 per cent of Negro women whose labor and rupture occurred spontaneously. Among patients with premature rupture of membranes, 78 per cent of White and 65 per cent of Negro patients had onset of labor within twelve hours. Eighty-nine per cent of White women and 79 per cent of Negro women went into labor within 24 hours; a

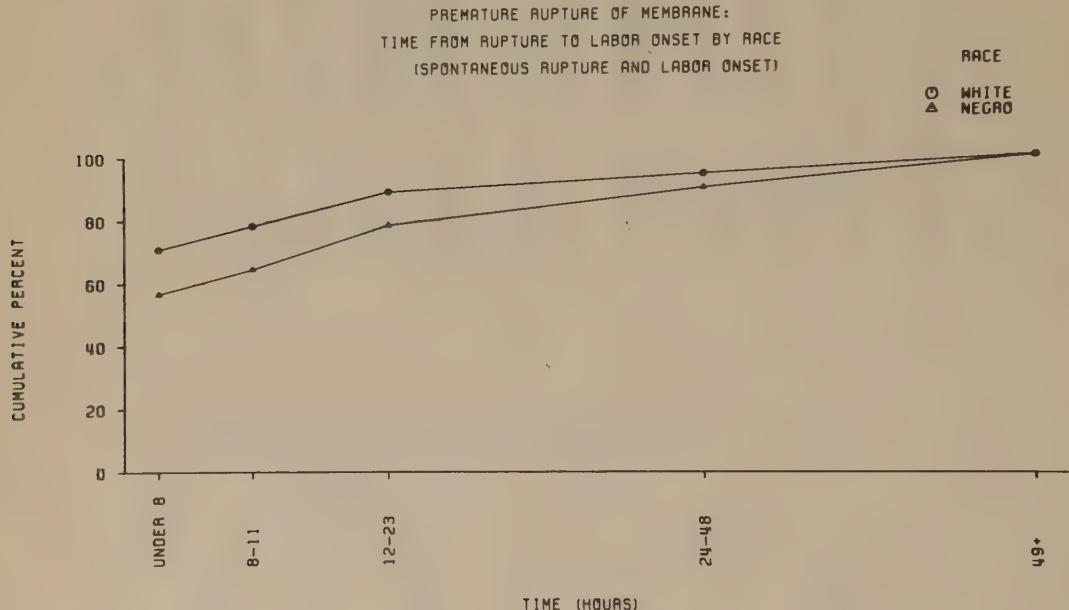
delay in onset of 48 hours or more was noted in only five per cent of White and 10 per cent of Negro patients. There is a marked increase in fetal death and neonatal death rates when the onset of labor was delayed beyond 48 hours.

Birthweight below 2501 grams is associated with prolongation of the time elapsed from membrane rupture to the onset of labor; the rate of low birthweight in each race was about three times greater when the elapsed time was 48 hours or more as compared with 23 hours or less. The mean birthweight decreases and

the rate of neurologic abnormality at one year of age rises as the interval between rupture of the membranes and labor onset increases.

Both birthweight and the interval between rupture of membranes and onset of labor are related to the maturity of the infant. When the membranes rupture close to term, labor tends to begin after a very short interval and the mean birthweights are high. Conversely, when the membranes rupture earlier in gestation,

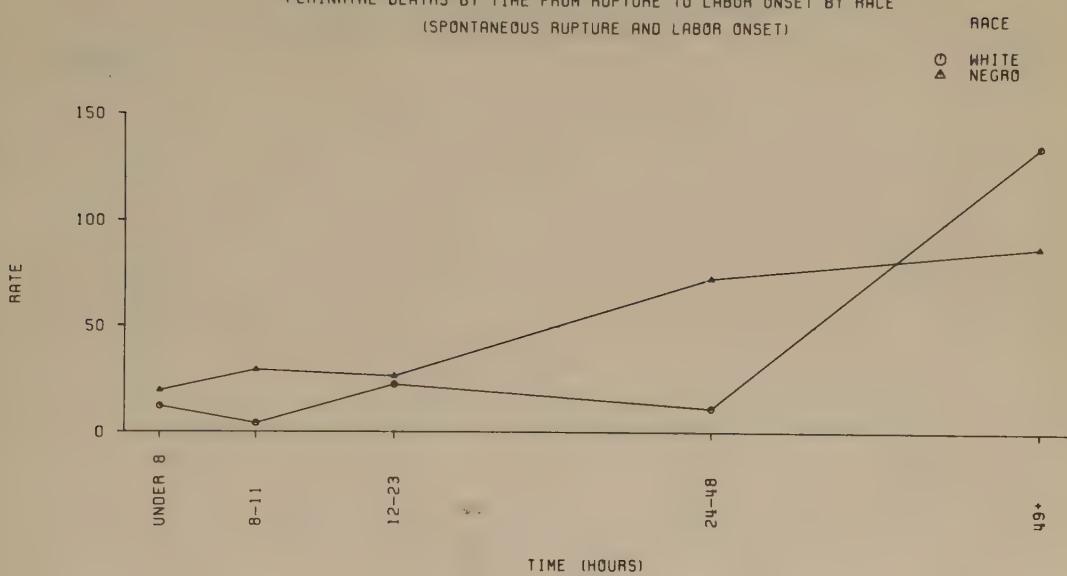
the interval before labor onset is longer and the babies are smaller, reflecting the decreased maturity of the pregnancy. The immaturity and the small size of the infant are in turn associated with the increased risks of perinatal mortality and neurologic abnormality. An additional contributory factor is the increasing likelihood of intrauterine and fetal infection with increasing elapsed time between the rupture of the membranes and the onset of labor.



PREMATURE RUPTURE OF MEMBRANE:
TIME FROM RUPTURE TO LABOR ONSET BY RACE
(SPONTANEOUS RUPTURE AND LABOR ONSET)

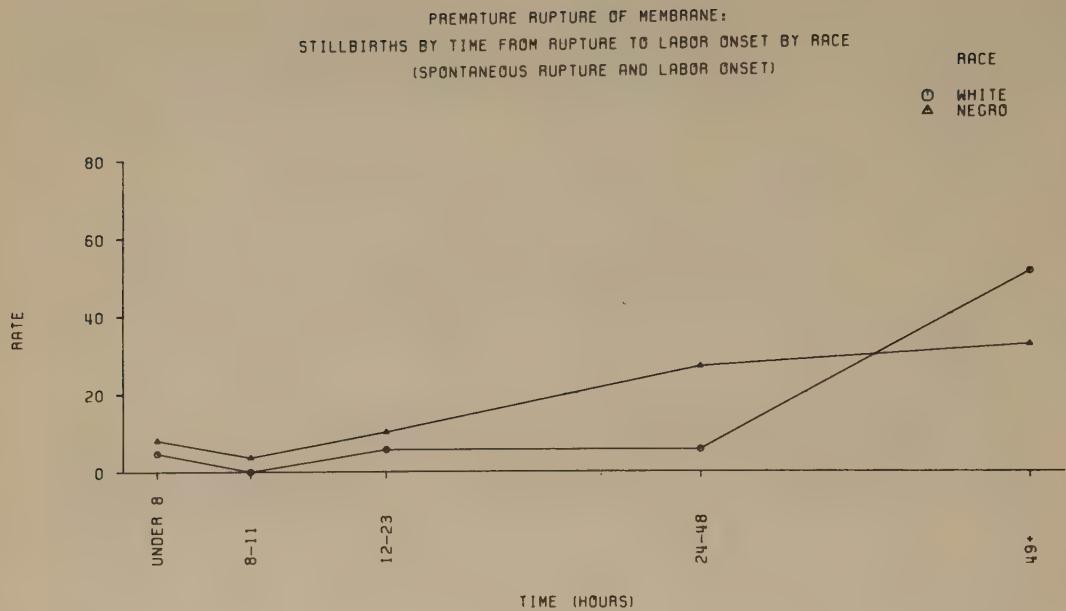
(HOURS)	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
UNDER 8	2331	70.87	70.87	1986	56.73	56.73
8-11	247	7.51	78.38	273	7.80	64.52
12-23	356	10.82	89.21	492	14.05	78.58
24-48	178	5.41	94.62	409	11.68	90.26
49+	177	5.38	100.00	341	9.74	100.00
TOTAL	3289	100.00	100.00	3501	100.00	100.00
 RUPTURED AFTER LABOR ONSET						
RUPTURED AFTER LABOR ONSET	5173	54.94		5931	56.04	
UNKNOWN	953	10.12		1151	10.88	
GRAND TOTAL	9415	100.00		10583	100.00	

PREMATURE RUPTURE OF MEMBRANE:
PERINATAL DEATHS BY TIME FROM RUPTURE TO LABOR ONSET BY RACE
(SPONTANEOUS RUPTURE AND LABOR ONSET)



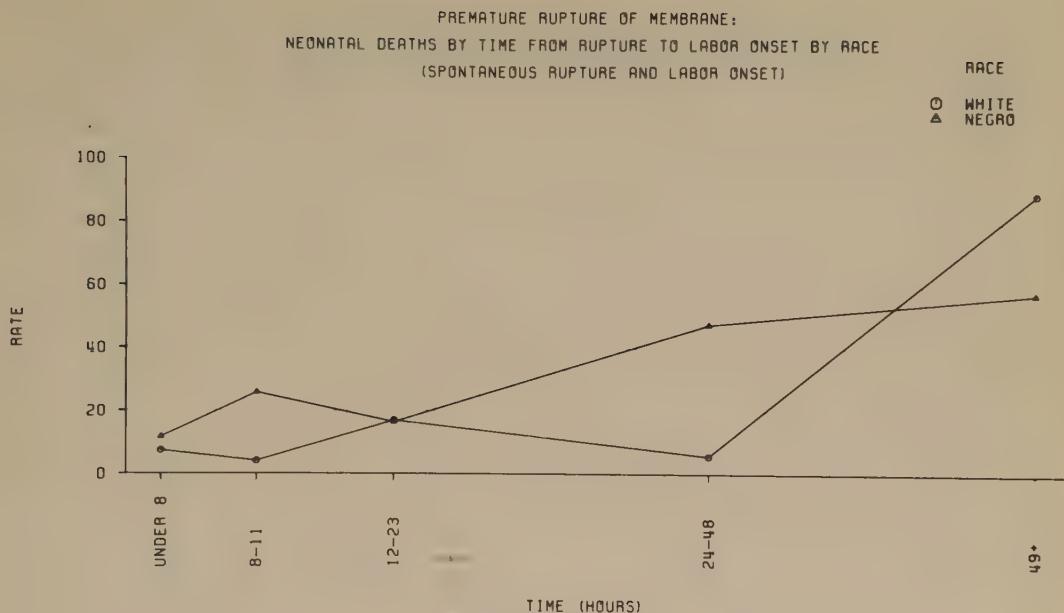
PREMATURE RUPTURE OF MEMBRANE:
PERINATAL DEATHS BY TIME FROM RUPTURE TO LABOR ONSET BY RACE
(SPONTANEOUS RUPTURE AND LABOR ONSET)

(HOURS)	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
UNDER 8	2331	28	12.01	1986	39	19.64
8-11	247	1	4.05	273	8	29.30
12-23	356	8	22.47	492	13	26.42
24-48	178	2	11.24	409	30	73.35
49+	177	24	135.59	341	30	87.98
TOTAL	3289	63	19.15	3501	120	34.28
 RUPTURED AFTER LABOR ONSET						
UNKNOWN	5173	104	20.10	5931	163	27.48
GRAND TOTAL	9415	238	25.28	10583	370	34.96



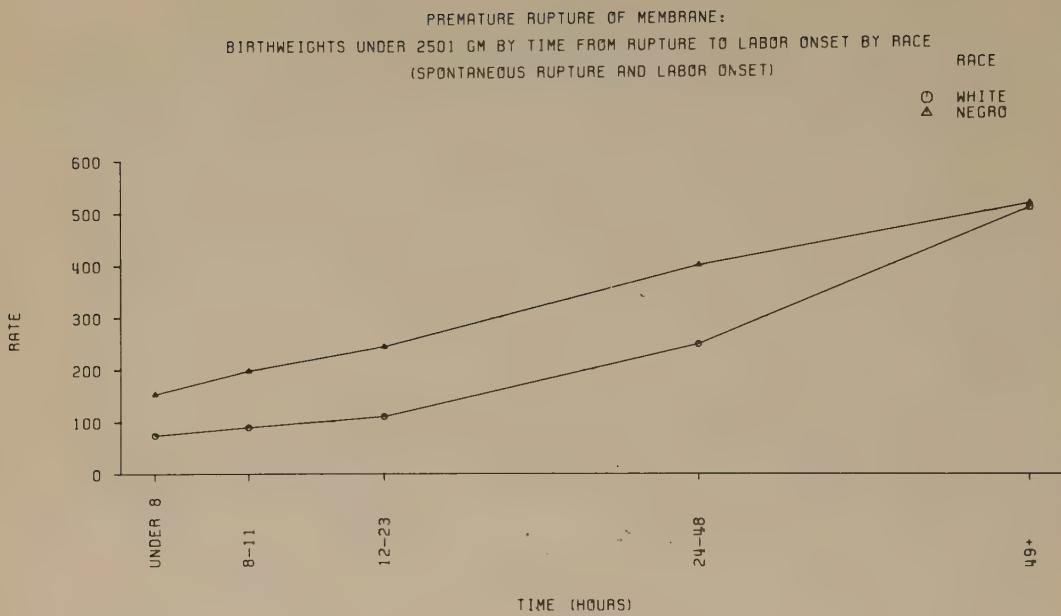
PREMATURE RUPTURE OF MEMBRANE:
STILLBIRTHS BY TIME FROM RUPTURE TO LABOR ONSET BY RACE
(SPONTANEOUS RUPTURE AND LABOR ONSET)

(HOURS)	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
UNDER 8	2331	11	4.72	1986	16	8.06
8-11	247	0	0	273	1	3.66
12-23	356	2	5.62	492	5	10.16
24-48	178	1	5.62	409	11	26.89
49+	177	9	50.85	341	11	32.26
TOTAL	3289	23	6.99	3501	44	12.57
RUPTURED AFTER LABOR ONSET						
UNKNOWN	5173	50	9.67	5931	73	12.31
GRAND TOTAL	9415	112	11.90	10583	168	15.87



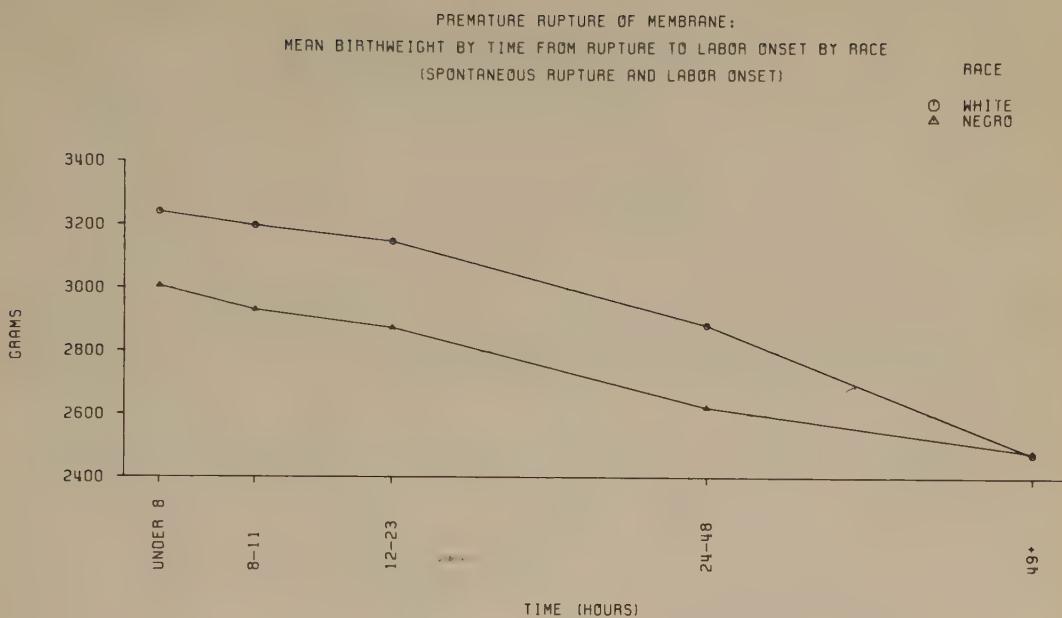
PREMATURE RUPTURE OF MEMBRANE:
NEONATAL DEATHS BY TIME FROM RUPTURE TO LABOR ONSET BY RACE
(SPONTANEOUS RUPTURE AND LABOR ONSET)

(HOURS)	WHITE		NEGRO			
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
UNDER 8	2320	17	7.33	1970	23	11.68
8-11	247	1	4.05	272	7	25.74
12-23	354	6	16.95	487	8	16.43
24-48	177	1	5.65	398	19	47.74
49+	168	15	89.29	330	19	57.58
TOTAL	3266	40	12.25	3457	76	21.98
 RUPTURED AFTER LABOR ONSET						
UNKNOWN	5123	54	10.54	5858	90	15.36
GRAND TOTAL	9303	126	13.54	10415	202	19.40



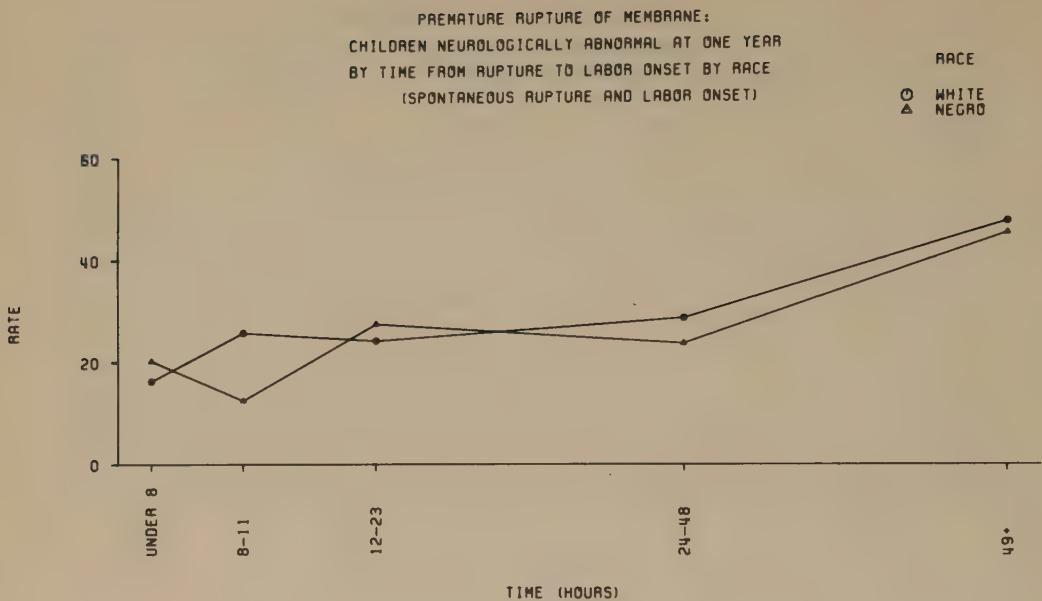
PREMATURE RUPTURE OF MEMBRANE:
BIRTHWEIGHTS UNDER 2501 GM BY TIME FROM RUPTURE TO LABOR ONSET BY RACE
(SPONTANEOUS RUPTURE AND LABOR ONSET)

(HOURS)	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
UNDER 8	2317	170	73.37	1968	302	153.46
8-11	246	22	89.43	272	54	198.53
12-23	353	39	110.48	487	119	244.35
24-48	177	44	248.59	398	159	399.50
49+	166	84	506.02	327	168	513.76
TOTAL	3259	359	110.16	3452	802	232.33
RUPTURED AFTER LABOR ONSET	5118	297	58.03	5853	624	106.61
UNKNOWN	910	133	146.15	1093	230	210.43
GRAND TOTAL	9287	789	84.96	10398	1656	159.26



PREMATURE RUPTURE OF MEMBRANE:
MEAN BIRTHWEIGHT BY TIME FROM RUPTURE TO LABOR ONSET BY RACE
(SPONTANEOUS RUPTURE AND LABOR ONSET)

	WHITE	NEGRO		
(HOURS)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
UNDER 8	2317	3240	1968	3006
8-11	246	3199	272	2931
12-23	353	3151	487	2876
24-48	177	2886	398	2623
49+	166	2475	327	2480
TOTAL	3259	3168	3452	2886
RUPTURED AFTER LABOR ONSET	5118	3303	5853	3073
UNKNOWN	910	3068	1093	2897
GRAND TOTAL	9287	3232	10398	2992



PREMATURE RUPTURE OF MEMBRANE:

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY TIME FROM RUPTURE TO LABOR ONSET BY RACE
(SPONTANEOUS RUPTURE AND LABOR ONSET)

(HOURS)	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 8	1899	31	16.32	1725	35	20.29
8-11	194	5	25.77	239	3	12.55
12-23	289	7	24.22	437	12	27.46
24-48	140	4	28.57	339	8	23.60
49+	127	6	47.24	267	12	44.94
TOTAL	2649	53	20.01	3007	70	23.28
RUPTURED AFTER LABOR ONSET	4039	53	13.12	5136	62	12.07
UNKNOWN	713	18	25.25	950	17	17.89
GRAND TOTAL	7401	124	16.75	9093	149	16.39

PUERPERAL INFECTION

About four per cent of the Negro and White

gravidas in the Study experienced puerperal infection from a variety of causes. The poor perinatal outcomes among these patients are likely a reflection of the frequency of intrauterine infection preceding delivery.

PUERPERAL INFECTION BY RACE

	ALL GRAVIDAS	WITH CONDITION
	NUMBER	PERCENT
WHITE	18698	668
NEGRO	19843	821

3.57
4.14

PREGNANCY OUTCOMES OF GRAVIDAS WITH PUEPERAL INFECTION BY RACE

	BIRTHS	STILLBIRTHS NO.	STILLBIRTHS RATE	LIVEBIRTHS	NEONATAL DEATHS NO.	NEONATAL DEATHS RATE	BIRTHS	PERINATAL DEATHS NO.	PERINATAL DEATHS RATE
WHITE	WITH CONDITION	668	25	37.43	643	18	27.99	668	43
	WITHOUT CONDITION	18030	363	20.13	17667	232	13.13	18030	595
NEGRO	WITH CONDITION	821	31	37.76	790	40	50.63	821	71
	WITHOUT CONDITION	19022	393	20.66	18629	330	17.71	19022	723

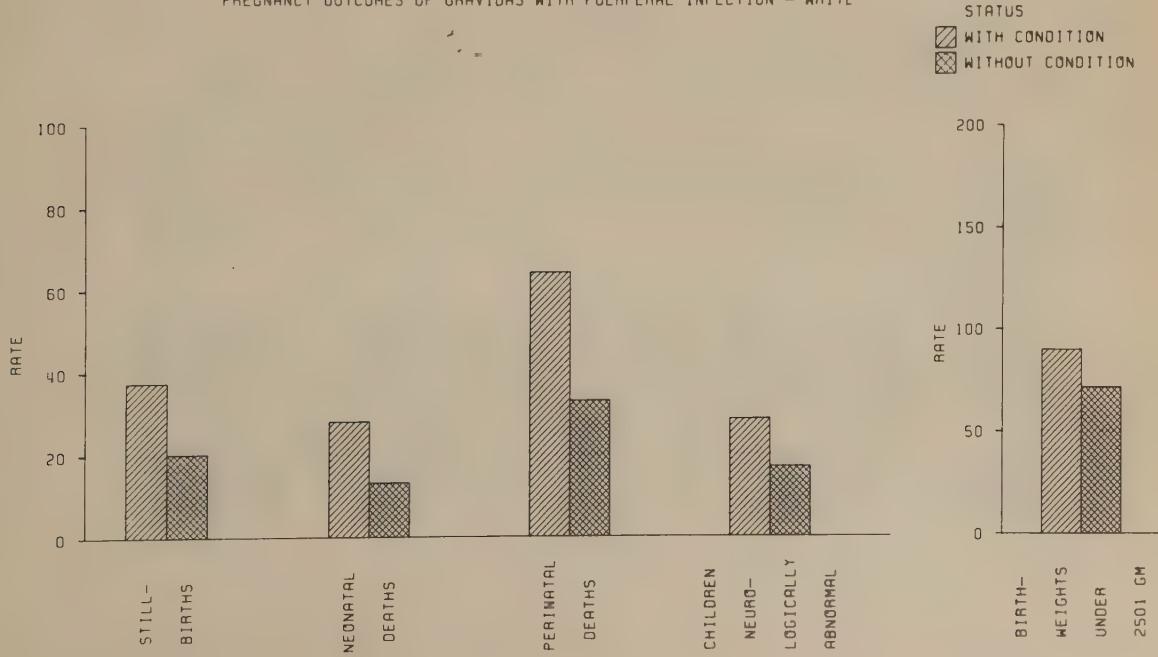
64.37
33.00
86.48
38.01

PREGNANCY OUTCOMES OF GRAVIDAS WITH PUEPERAL INFECTION BY RACE

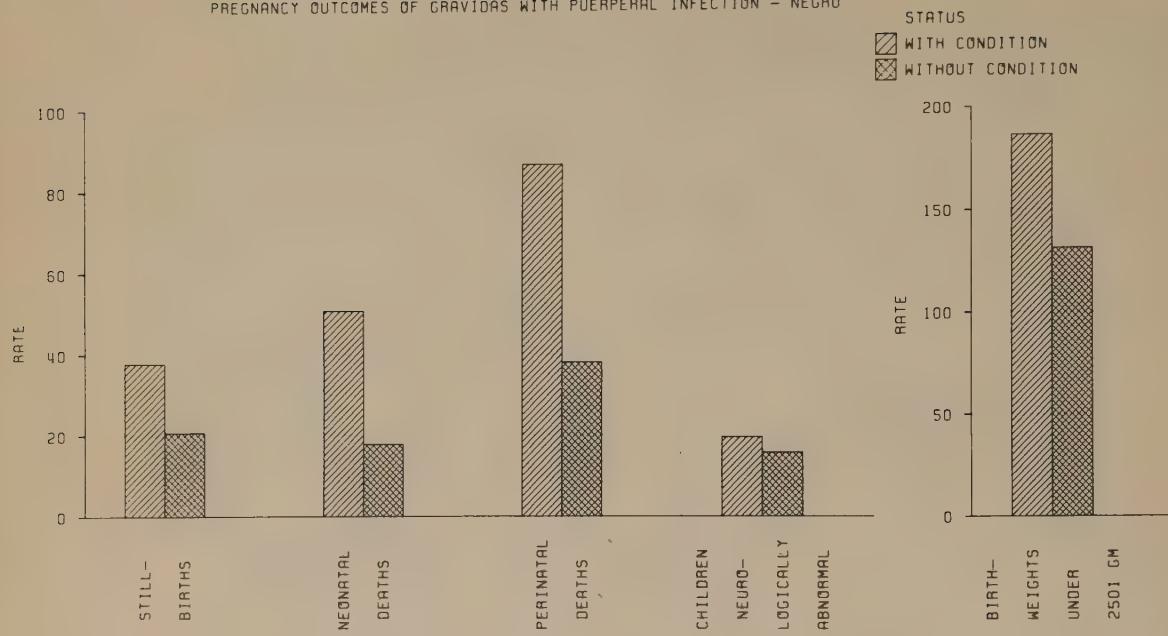
	LIVEBIRTHS	BWT. UNDER 2501 GM. WITH KNOWN BIRTHWEIGHT	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	NEUROLOGICALLY ABNORMAL RATE
	NO.	RATE	MEAN BWT.	NO.	RATE
WHITE	WITH CONDITION	634	57	3255	492
	WITHOUT CONDITION	17575	1254	3271	14056
NEGRO	WITH CONDITION	783	146	186.46	670
	WITHOUT CONDITION	18488	2427	131.27	3044

28.46
16.93
19.40
15.68

PREGNANCY OUTCOMES OF GRAVIDAS WITH PUEPERAL INFECTION - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH PUEPERAL INFECTION - NEGRO



SUMMARY DATA FOR WHITE

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE	MEAN BWT.	
HYPERMESIS GRAVIDARUM	308	1.6	11	35.7	6	19.5	302	5	16.6	300	20	66.7	246	10 40.7 3290
INCOMPETENT CERVIX SURGERY FOR INCOMPETENT CERVIX	65	0.3	21	323.1	4	61.5	61	17	278.7	57	35	614.0	35	0 0 2085
TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING	42	0.2	8	190.5	3	71.4	39	5	128.2	38	19	500.0	27	0 0 2350
NO BLEEDING	13931	74.1	286	20.5	157	11.3	13774	129	9.4	13702	818	59.7	10943	182 16.6 3300
FIRST	2219	11.8	172	77.5	119	53.6	2100	53	25.2	2074	198	95.5	1663	28 16.8 3207
SECOND	877	4.7	113	128.8	74	84.4	803	39	48.6	792	129	162.9	618	16 25.9 3076
THIRD	1772	9.4	79	44.6	50	28.2	1722	29	16.8	1718	168	97.8	1364	26 19.1 3210
HYDRAMNIOS	290	1.5	40	137.9	21	72.4	269	19	70.6	266	23	86.5	209	8 38.3 3425
DEGREE OF PLACENTA PREVIA														
NONE	18304	99.2	479	26.2	255	13.9	18049	224	12.4	17967	1233	68.6	16837	271 16.1 3277
COMPLETE	36	0.2	9	250.0	3	83.3	33	6	181.8	33	13	393.9	14	0 0 2588
PARTIAL	23	0.1	5	217.4	2	87.0	21	3	142.9	21	11	523.8	18	0 0 2534
MARGINAL	23	0.1	5	217.4	2	87.0	21	3	142.9	21	8	381.0	9	0 0 2770
LOW IMPLANTATION	57	0.3	5	87.7	2	35.1	55	3	54.5	54	11	203.7	33	1 30.3 2968
UNCLASSIFIED	3	0.0	1	333.3	1	333.3	2	0	0	2	0	0	2	0 0 3005

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS			PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL			
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	NO.	NO.	RATE	I YR EXAMS	NO.	RATE	MEAN BWT.
HYPERMESIS GRAVIDARUM	141	0.7	5	35.5	2	14.2	139	3	21.6	136	16	117.6	121	1	8.3	3037
INCOMPETENT CERVIX SURGERY FOR INCOMPETENT CERVIX	71	0.4	34	478.9	14	197.2	57	20	350.9	53	36	679.2	30	1	33.3	1963
TRIMESTER OF FIRST OCCURRENCE OF VAGINAL BLEEDING	36	0.2	14	388.9	4	111.1	32	10	312.5	31	18	580.6	20	0	0	2057
NO BLEEDING	14180	71.1	376	26.5	198	14.0	13982	178	12.7	13078	1702	122.6	12258	186	15.2	3062
FIRST	2242	11.2	157	70.0	93	41.5	2149	64	29.8	2117	331	156.4	1856	27	14.5	2995
SECOND	1234	6.2	145	117.5	80	64.8	1154	65	56.3	1129	208	184.2	967	18	18.6	2929
THIRD	2278	11.4	132	57.9	64	28.1	2214	68	30.7	2202	341	154.9	1902	38	20.0	3009
HYDRAMNIOS	252	1.3	25	99.2	13	51.6	239	12	50.2	239	21	87.9	220	4	18.2	3319
DEGREE OF PLACENTA PREVIA																
NONE	19579	99.4	650	33.2	316	16.1	19263	334	17.3	19151	2506	130.9	14405	245	17.0	3044
COMPLETE	19	0.1	2	105.3	0	0	19	2	105.3	18	12	666.7	17	0	0	2396
PARTIAL	23	0.1	4	173.9	2	87.0	21	2	95.2	21	12	571.4	16	2	125.0	2410
MARGINAL	18	0.1	7	388.9	3	166.7	15	4	266.7	15	8	533.3	12	0	0	2321
LOW IMPLANTATION	47	0.2	8	170.2	2	42.6	45	6	133.3	45	20	444.4	47	2	42.6	2603
UNCLASSIFIED	3	0.0	0	0	0	0	3	0	0	3	2	666.7	1	0	0	2703

SUMMARY DATA FOR WHITE

ITEM	BIRTHS			PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL			
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	NO.	NO.	RATE	I YR EXAMS	NO.	RATE	MEAN BWT.
DEGREE OF ABRUPTIO PLACENTAE																
NONE	18177	97.6	434	23.9	220	12.1	17957	214	11.9	17871	1201	67.2	14279	247	17.3	3280
PARTIAL	408	2.2	59	144.6	28	68.6	380	31	81.6	372	95	255.4	305	6	19.7	2909
COMPLETE	29	0.2	25	862.1	23	793.1	6	2	333.3	5	3	600.0	3	0	0	2540
UNSPECIFIED	8	0.0	3	375.0	1	125.0	7	2	285.7	7	3	288.6	5	0	0	2414
DEGREE OF PROLAPSE OF CORD																
NONE	18085	98.9	464	25.7	235	13.0	17850	229	12.8	17781	1263	71.0	14256	245	17.2	3273
OCCULT	122	0.7	7	57.4	5	41.0	117	2	17.1	116	6	51.7	103	4	38.8	3281
OVERT	80	0.4	27	337.5	19	237.5	61	8	131.1	61	15	245.9	43	1	23.3	3009
PHASE OF LABOR WHEN DYSFUNCTION OCCURRED																
NOT ARRESTED	16712	91.4	470	28.1	244	14.6	16468	226	13.7	16404	1211	73.8	13138	222	16.9	3262
LATENT (ONLY)	372	2.0	5	13.4	2	5.4	370	3	8.1	367	28	76.3	290	6	20.7	3257
ACTIVE (ONLY)	785	4.3	17	21.7	11	14.0	774	6	7.8	772	35	45.3	642	16	24.9	3400
2ND STAGE	278	1.5	2	7.2	2	7.2	276	0	0	275	11	40.0	224	5	22.3	3426
COMBINATION	147	0.8	5	34.0	2	13.6	145	3	20.7	143	4	28.0	111	2	18.0	3439
BLOOD TRANSFUSION ADMINISTERED DURING DELIVERY ADMISSION	124	1.2	27	217.7	21	169.4	103	6	58.3	101	16	158.4	74	4	54.1	3101
DELIVERY COMPLICATED BY RUPTURED UTERUS	8	0.1	2	250.0	2	250.0	6	0	0	6	0	0	5	0	0	3553

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS				PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	NO. RATE	MEAN BWT.				
DEGREE OF ABRUPTIO PLACENTAE																		
NONE	19454	98.1	563	28.9	250	12.9	19204	313	16.3	19092	2458	128.7	16797	263	15.7	3048		
PARTIAL	328	1.7	97	295.7	54	164.6	274	43	156.9	265	123	464.2	208	7	33.7	2510		
COMPLETE	46	0.2	38	826.1	31	673.9	15	7	466.7	14	9	642.9	7	0	0	1814		
UNSPECIFIED	3	0.0	1	333.3	1	333.3	2	0	0	2	2	*	2	2	*	1843		
DEGREE OF PROLAPSE OF CORD																		
NONE	19305	99.2	624	32.3	282	14.6	19023	342	18.0	18921	2507	132.5	16624	267	16.1	3043		
OCULT	54	0.3	10	185.2	6	111.1	48	4	83.3	48	7	145.8	40	0	0	2881		
OVERT	97	0.5	35	360.8	23	237.1	74	12	162.2	71	21	295.8	55	0	0	2749		
PHASE OF LABOR WHEN DYSFUNCTION OCCURRED																		
NOT ARRESTED	18483	94.1	622	33.7	290	15.7	18193	332	18.2	18100	2472	136.6	15888	257	16.2	3032		
LATENT (ONLY)	284	1.4	13	45.8	5	17.6	279	8	28.7	276	40	144.9	248	2	8.1	3028		
ACTIVE (ONLY)	655	3.3	30	45.8	16	24.4	639	14	21.9	636	54	84.9	565	8	14.2	3191		
2ND STAGE	147	0.7	11	74.8	4	27.2	143	7	49.0	140	9	64.3	125	1	8.0	3208		
COMBINATION	76	0.4	3	39.5	2	26.3	74	1	13.5	73	2	27.4	68	1	14.7	3296		
BLOOD TRANSFUSION ADMINISTERED DURING DELIVERY																		
ADMISSION	157	1.4	30	191.1	17	108.3	140	13	92.9	139	39	280.6	111	1	9.0	2868		
DELIVERY COMPLICATED BY RUPTURED UTERUS	12	0.1	1	83.3	0	0	12	1	83.3	12	3	250.0	9	0	0	2875		

* RATE IS 1000.0.

SUMMARY DATA FOR WHITE

ITEM	BIRTHS				PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	NO. RATE	MEAN BWT.				
PREGNANCY COMPLICATED BY ANESTHETIC SHOCK																		
BY ANESTHETIC SHOCK	115	0.6	2	17.4	0	0	115	2	17.4	115	7	60.9	89	0	0	3308		
HEMORRHAGIC SHOCK	37	0.2	15	405.4	10	270.3	27	5	185.2	27	7	259.3	17	1	58.8	2841		
SEPTIC SHOCK	2	0.0	2	*	2	*	0	0	-	0	0	-	0	0	-	-		
PREGNANCY COMPLICATED BY ANESTHETIC ACCIDENT																		
ACCIDENT	341	1.8	6	17.6	3	8.8	338	3	8.9	338	24	71.0	270	1	3.7	3285		
PUERPEAL INFECTION	668	3.6	43	64.4	25	37.4	643	18	28.0	634	57	89.9	492	14	28.5	3255		
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.3	3272		

* RATE IS 1000.0.

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS				PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT				NEUROLOGICALLY ABNORMAL			
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	NO. RATE	MEAN BWT.				
PREGNANCY COMPLICATED BY ANESTHETIC SHOCK																		
BY ANESTHETIC SHOCK	186	0.9	1	5.4	0	0	186	1	5.4	186	23	123.7	164	4	24.4	3024		
HEMORRHAGIC SHOCK	39	0.2	22	564.1	16	410.3	23	6	260.9	23	16	695.7	10	0	0	2151		
SEPTIC SHOCK	4	0.0	3	750.0	2	500.0	2	1	500.0	2	0	0	0	0	-	2892		
PREGNANCY COMPLICATED BY ANESTHETIC ACCIDENT																		
ACCIDENT	76	0.4	1	13.2	0	0	76	1	13.2	75	6	80.0	64	0	0	3049		
PUERPEAL INFECTION	821	4.1	71	86.5	31	37.8	790	40	50.6	783	146	186.5	670	13	19.4	2961		
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039		

SUMMARY DATA FOR WHITE

ITEM	PERINATAL				NEONATAL				LIVEBIRTHS WITH				NEUROLOGICALLY			
	BIRTHS	DEATHS	STILLBIRTHS	LIVE-	DEATHS	UNDER 2501 GM.	1 YR	EXAMS	KNOWN BIRTHWEIGHT	ABNORMAL	NO.	NO.	RATE	MEAN	BWT.	
	NO.	%	NO.	RATE	NO.	RATE	BIRTHS	NO.	RATE	NO.	NO.	RATE	NO.	NO.	BWT.	
CORD COMPLICATIONS																
NONE	12371	67.9	391	31.6	190	15.4	12181	201	16.5	12127	895	73.8	9701	154	15.9	3277
LOOPS-NECK, 1	4983	27.4	74	14.9	44	8.8	4939	30	6.1	4928	322	65.3	3986	81	20.3	3261
LOOPS-BODY, 2	426	2.3	12	28.2	10	23.5	416	2	4.8	416	27	64.9	343	9	26.2	3294
TRUE KNOTS, 3	130	0.7	3	23.1	2	15.4	128	1	7.8	127	7	55.1	107	2	18.7	3367
1 PLUS 2	130	0.7	3	23.1	1	7.7	129	2	15.5	127	9	70.9	101	3	29.7	3261
1 PLUS 3	79	0.4	4	50.6	3	38.0	76	1	13.2	76	7	92.1	61	0	0	3254
2 PLUS 3	7	0.0	0	0	0	0	7	0	0	7	1	142.9	6	0	0	3123
1 + 2 + 3	5	0.0	1	200.0	1	200.0	4	0	0	4	0	0	3	0	0	3239
OTHER	78	0.4	8	102.6	7	89.7	71	1	14.1	71	10	140.8	61	1	16.4	3126

SUMMARY DATA FOR NEGRO

ITEM	PERINATAL				NEONATAL				LIVEBIRTHS WITH				NEUROLOGICALLY			
	BIRTHS	DEATHS	STILLBIRTHS	LIVE-	DEATHS	UNDER 2501 GM.	1 YR	EXAMS	KNOWN BIRTHWEIGHT	ABNORMAL	NO.	NO.	RATE	MEAN	BWT.	
	NO.	%	NO.	RATE	NO.	RATE	BIRTHS	NO.	RATE	NO.	NO.	RATE	NO.	NO.	BWT.	
CORD COMPLICATIONS																
NONE	14515	74.9	530	36.5	230	15.8	14285	300	21.0	14202	1971	138.8	12457	206	16.5	3033
LOOPS-NECK, 1	4236	21.9	99	23.4	50	11.8	4186	49	11.7	4177	475	113.7	3678	48	13.1	3073
LOOPS-BODY, 2	316	1.6	14	44.3	9	28.5	307	5	16.3	306	45	147.1	273	10	36.6	2984
TRUE KNOTS, 3	108	0.6	6	55.6	5	46.3	103	1	9.7	103	15	145.6	92	1	10.9	3079
1 PLUS 2	88	0.5	6	68.2	4	45.5	84	2	23.8	83	8	96.4	72	0	0	3020
1 PLUS 3	55	0.3	2	36.4	2	36.4	53	0	0	53	6	113.2	49	2	40.8	3120
2 PLUS 3	7	0.0	0	0	0	0	7	0	0	7	1	142.9	7	0	0	3187
1 + 2 + 3	1	0.0	1	X	1	X	0	0	-	0	0	-	0	0	-	-
OTHER	55	0.3	8	145.5	8	145.5	47	0	0	47	7	148.9	43	0	0	2948

X RATE IS 1000.0.

Chapter 11

PATHOLOGY OF THE PLACENTA AND OF PERINATAL DEATHS

WILLIAM A. BLANC, M.D.

SECTION 1. THE PLACENTA

INTRODUCTION

The Collaborative Study required both a gross and microscopic examination of the placentas for all pregnancies terminating at twenty or more weeks of gestation. The placental observations were made as the women delivered during the period of the Study, 1959 to 1966. The gross and microscopic findings were recorded on Forms PATH-1 and 2. A measure of uniformity in the techniques of inspection and in reporting observations was achieved by use of manuals and appropriate publications;¹ and through workshops and the distribution of sets of slides illustrating common gross and microscopic lesions.

Selected data from the placental reports are included in this section. A more detailed description with relevant clinical correlations is being prepared by a special task force.

¹Benirschke, K. Examination of the Placenta, *Obstet. & Gynec.*, 18:309, 1961.

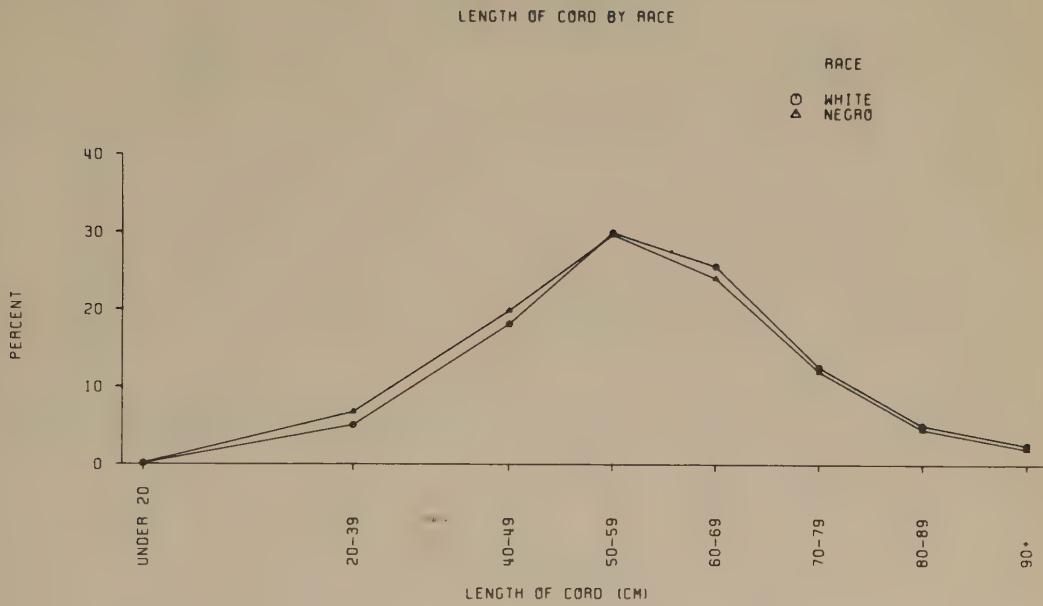
Benirschke, K. Accurate Recording of Twin Placentation, *Obstet. & Gynec.*, 18:334, 1961.

LENGTH OF UMBILICAL CORD

The umbilical cord was measured in the delivery room immediately after delivery for all livebirths. The instructions required measurement of each segment of cord, the piece on the baby and that remaining on the placenta. The total length in centimeters was then recorded on Form PED-1.

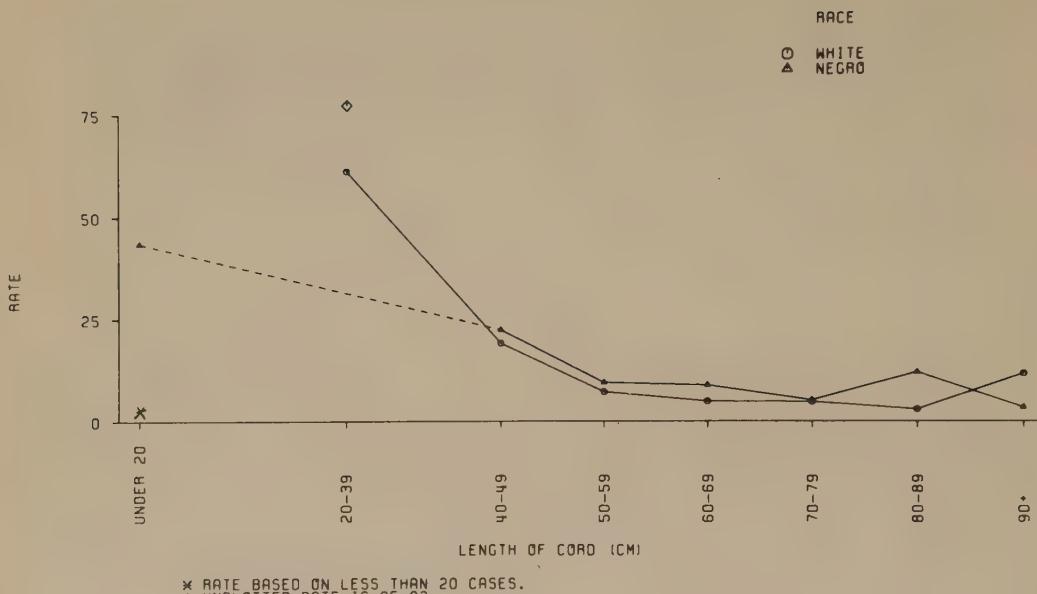
The median length for both White and Negro infants fell in the category 50 to 59 cm. There is a small difference in the distributions, with a longer cord length for Whites as compared to that for Negroes. Within specific cord lengths, Negro babies weigh less than Whites; the mean birthweights of Negroes are some 200 grams less than those of Whites for each cord length.

As might be expected, a strong direct association with birthweight is noted over the entire range of cord lengths. Perhaps as a consequence, there is a similar, strong inverse association with neonatal death and rate of neurologic abnormality rates at one year of age. These associations are strongest for cord lengths below 60 cm.



LENGTH OF CORD (CM)	WHITE		NEGRO			
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	
UNDER 20	16	0.12	0.12	23	0.16	0.16
20-39	684	5.10	5.22	981	6.77	6.93
40-49	2449	18.27	23.49	2895	19.99	26.92
50-59	4051	30.21	53.70	4336	29.94	56.87
60-69	3471	25.89	79.59	3521	24.31	81.18
70-79	1702	12.69	92.28	1756	12.13	93.31
80-89	689	5.14	97.42	669	4.62	97.93
90+	346	2.58	100.00	300	2.07	100.00
TOTAL	13908	100.00	100.00	14481	100.00	100.00
UNKNOWN	5640	29.61		5686	28.19	
GRAND TOTAL	19048	100.00		20167	100.00	

NEONATAL DEATHS BY LENGTH OF CORD BY RACE

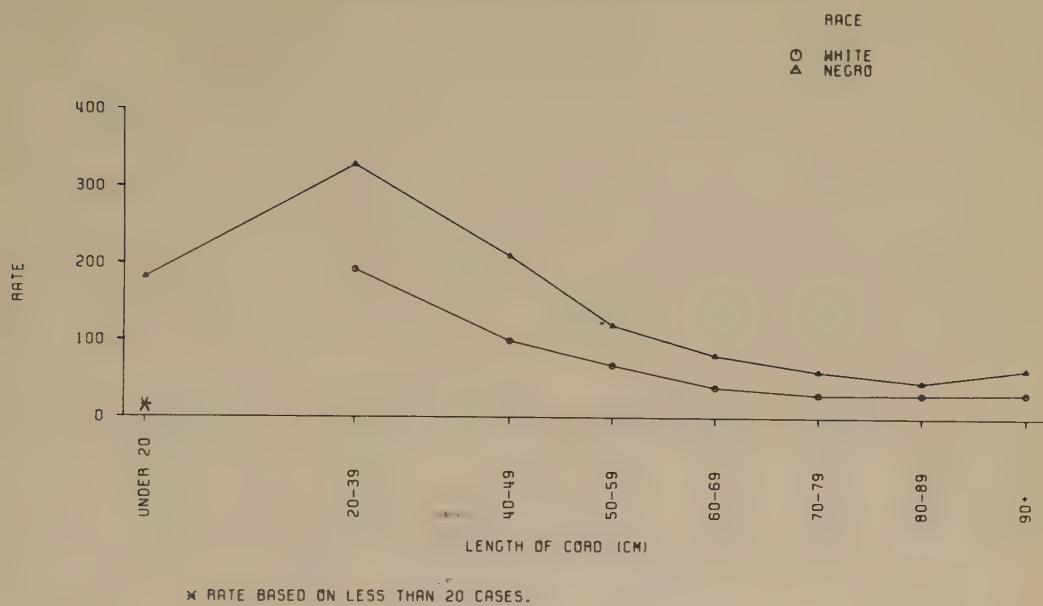


NEONATAL DEATHS BY LENGTH OF CORD BY RACE

LENGTH OF CORD (CM)	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
UNDER 20	16	2	125.00*	23	1	43.48
20-39	684	42	61.40	981	94	95.82
40-49	2449	47	19.19	2895	65	22.45
50-59	4051	29	7.16	4336	41	9.46
60-69	3471	17	4.90	3521	31	8.80
70-79	1701	8	4.70	1756	9	5.13
80-89	689	2	2.90	668	8	11.98
90+	346	4	11.56	300	1	3.33
TOTAL	13407	151	11.26	14480	250	17.27
UNKNOWN	5226	102	19.52	5230	138	26.39
GRAND TOTAL	18633	253	13.58	19710	388	19.69

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY LENGTH OF CORD BY RACE



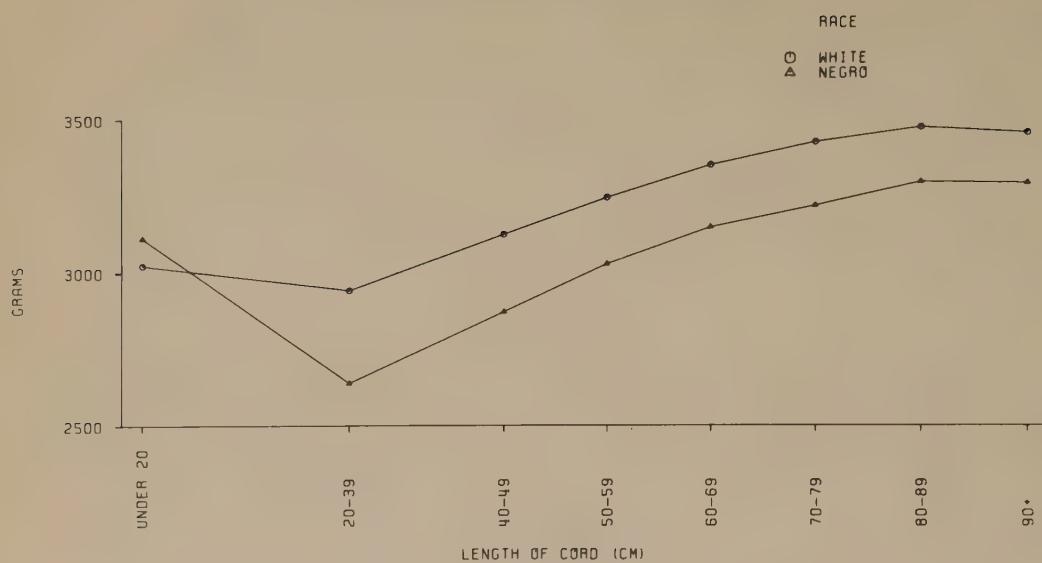
* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. BY LENGTH OF CORD BY RACE

LENGTH OF CORD (CM)	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	
		RATE	RATE		RATE	RATE
UNDER 20	14	3	214.29*	22	4	181.82
20-39	679	131	192.93	964	318	329.88
40-49	2441	244	99.96	2888	610	211.22
50-59	4046	277	68.46	4335	524	120.88
60-69	3465	137	39.54	3517	286	81.32
70-79	1698	51	30.04	1754	106	60.43
80-89	687	21	30.57	664	31	46.69
90+	345	11	31.88	300	19	63.33
TOTAL	13375	875	65.42	14444	1898	131.40
UNKNOWN	5106	444	86.96	5060	719	142.09
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

* RATE BASED ON LESS THAN 20 CASES.

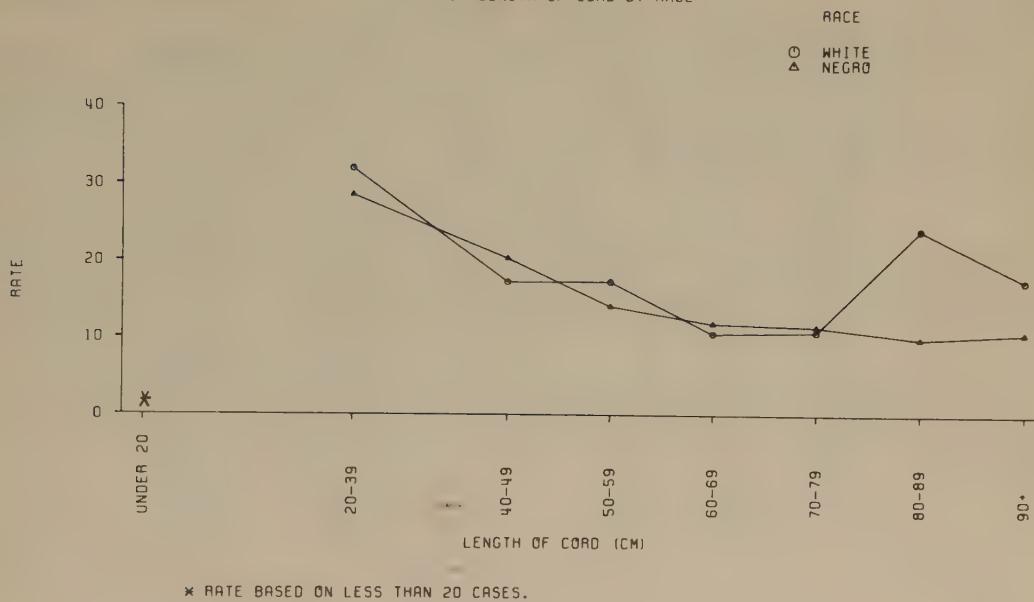
MEAN BIRTHWEIGHT BY LENGTH OF CORD BY RACE



MEAN BIRTHWEIGHT BY LENGTH OF CORD BY RACE

Length of CORD (CM)	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
UNDER 20	14	3023	22	3113
20-39	679	2942	964	2639
40-49	2441	3125	2888	2872
50-59	4046	3243	4335	3027
60-69	3465	3348	3517	3146
70-79	1698	3420	1754	3214
80-89	687	3465	664	3289
90+	345	3446	300	3284
TOTAL	13375	3272	14444	3039
UNKNOWN	5106	3270	5060	3039
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY LENGTH OF CORD BY RACE



* RATE BASED ON LESS THAN 20 CASES.

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY LENGTH OF CORD BY RACE

LENGTH OF CORD (CM)	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
UNDER 20	10	0	0 *	17	1	58.82*
20-39	529	17	32.14	801	23	28.71
40-49	1954	34	17.40	2537	52	20.50
50-59	3323	58	17.45	3872	55	14.20
60-69	2815	30	10.66	3100	37	11.94
70-79	1377	15	10.89	1557	18	11.56
80-89	578	14	24.22	601	6	9.98
90+	285	5	17.54	280	3	10.71
TOTAL	10871	173	15.91	12765	195	15.28
UNKNOWN	3791	80	21.10	4358	79	18.13
GRAND TOTAL	14662	253	17.26	17123	274	16.00

* RATE BASED ON LESS THAN 20 CASES.

SECTION 1. THE PLACENTA (Continued)

PLACENTAL WEIGHT

The placentas, after the cord and membranes were trimmed off, were weighed on calibrated scales shortly after delivery.

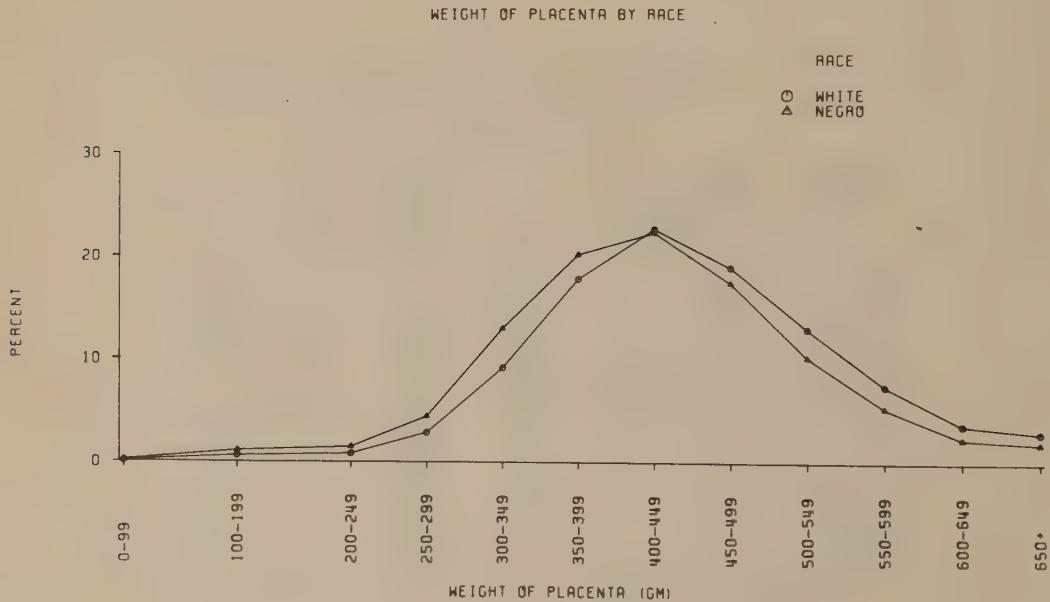
The distribution of placental weights for Whites is different from that for Negroes, with the weights of placentas from Whites being somewhat heavier than those from Negroes. Median placental weights fall in the range 400-449 grams for both races. As expected, birthweight is strongly related to the placental weight for both races, as was reported previously in the Study.

Decreasing placental weight is associated with increasing stillbirth rate. Stillbirths are very high for the White and Negro gravidas with placentas below 300 grams. Stillbirth rates are higher for Whites than

*Sedlis, A., Berendes, H., Kim, H.-S., Stone, D. F., Weiss, W., Deutschberger, J., Jackson, E. "The Placental Weight-Birthweight Relationship," *Developmental Medicine and Child Neurology*, 9:160, 1967.

they are for Negroes in comparable small placental weight subgroups, a surprising finding considering that the mean birthweights of infants of White gravidas with small placental weights is higher than those of Negroes of comparable placental weight. The neonatal mortality rates for Whites and Negroes, as might be expected, are also increased at low placental weights, below 300 grams.

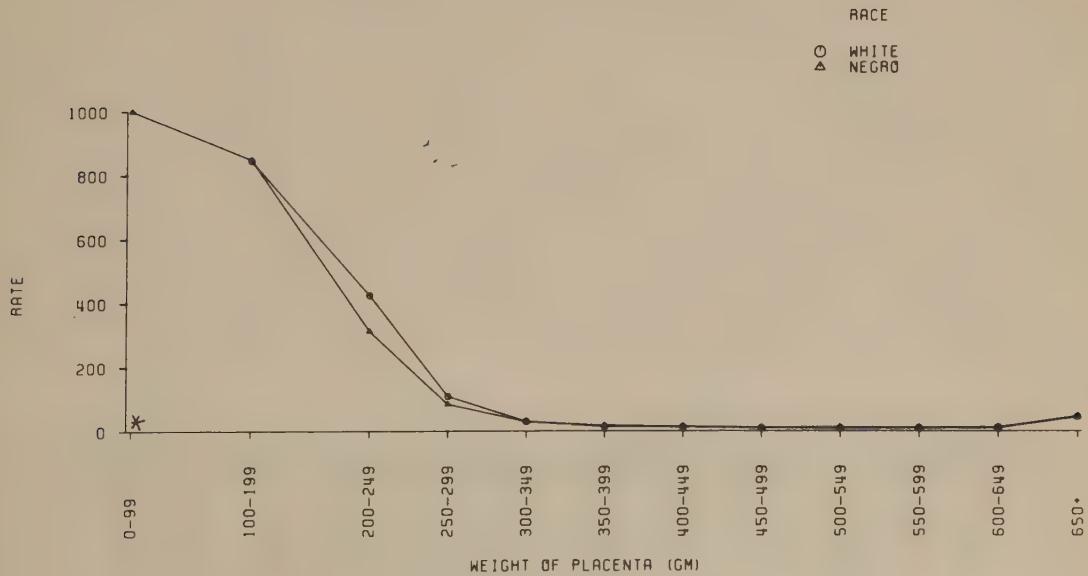
The elucidation of the importance of the variable, placental weight, on fetal mortality and morbidity requires its evaluation in conjunction with birthweight and length of gestational interval. For example, the crossover in the mean birthweight curves of Whites and Negroes, at placental weights of approximately 350 grams, coincides with the crossover of mean birth-weight curves of Whites and Negroes at gestation intervals between 35 and 36 weeks. Unpublished data of Weiss, et al., indicates that the placental weight-birthweight relationship is influenced by other characteristics of the gravida. There is a trend, for example, toward a relatively heavier placental weight (with respect to birthweight) with increasing age of the gravida, and with increasing parity.



WEIGHT OF PLACENTA BY RACE

WEIGHT OF PLACENTA (GM)	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
0-99	8	0.05	0.05	25	0.15	0.15
100-199	98	0.61	0.67	187	1.12	1.27
200-299	129	0.81	1.48	245	1.47	2.75
300-399	456	2.86	4.34	736	4.43	7.18
400-499	1459	9.16	13.50	2157	12.97	20.15
500-599	2841	17.83	31.33	3364	20.23	40.38
600-649	3618	22.70	54.03	3713	22.33	62.71
650+	3017	18.93	72.96	2904	17.46	80.17
TOTAL	15935	100.00	100.00	16629	100.00	100.00
UNKNOWN	3113	16.34		3538	17.54	
GRAND TOTAL	19048	100.00		20167	100.00	

PERINATAL DEATHS BY WEIGHT OF PLACENTA BY RACE



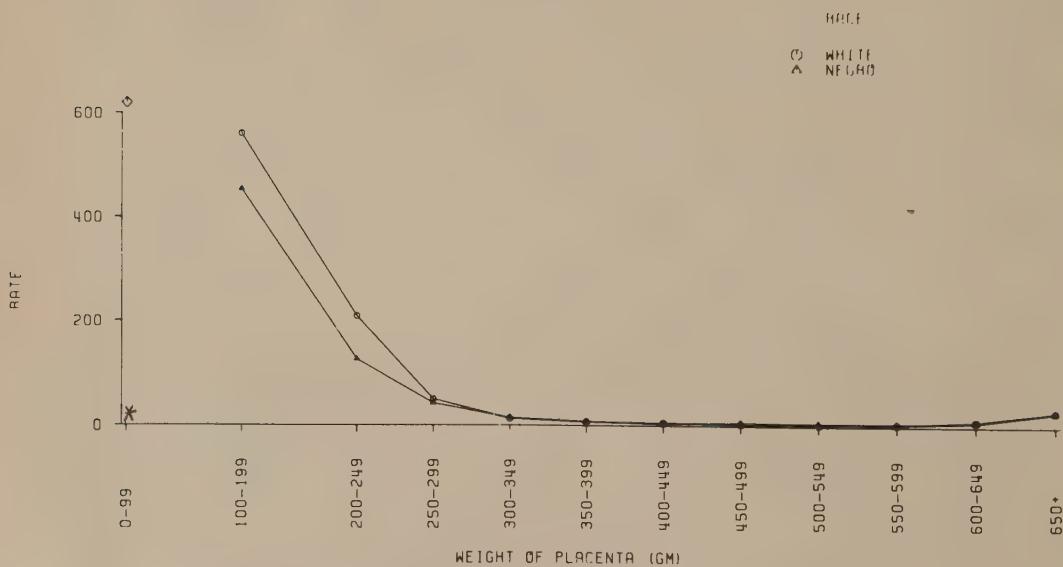
* RATE BASED ON LESS THAN 20 CASES.

PERINATAL DEATHS BY WEIGHT OF PLACENTA BY RACE

WEIGHT OF PLACENTA (GM)	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
0-99	8	8	1000.00*	25	25	1000.00
100-199	98	83	846.94	187	159	850.27
200-249	129	55	426.36	245	77	314.29
250-299	456	50	109.65	736	62	84.24
300-349	1459	44	30.16	2157	63	29.21
350-399	2841	39	13.73	3364	59	17.54
400-449	3618	47	12.99	3713	53	14.27
450-499	3017	28	9.28	2904	30	10.33
500-549	2066	18	8.71	1698	20	11.78
550-599	1186	11	9.27	886	10	11.29
600-649	588	7	11.90	393	4	10.18
650+	469	21	44.78	321	15	46.73
TOTAL	15935	411	25.79	16629	577	34.70
UNKNOWN	3113	257	82.56	3538	268	75.75
GRAND TOTAL	19048	668	35.07	20167	845	41.90

* RATE BASED ON LESS THAN 20 CASES.

STILLBIRTHS BY WEIGHT OF PLACENTA BY RACE



* RATE BASED ON LESS THAN 20 CASES.

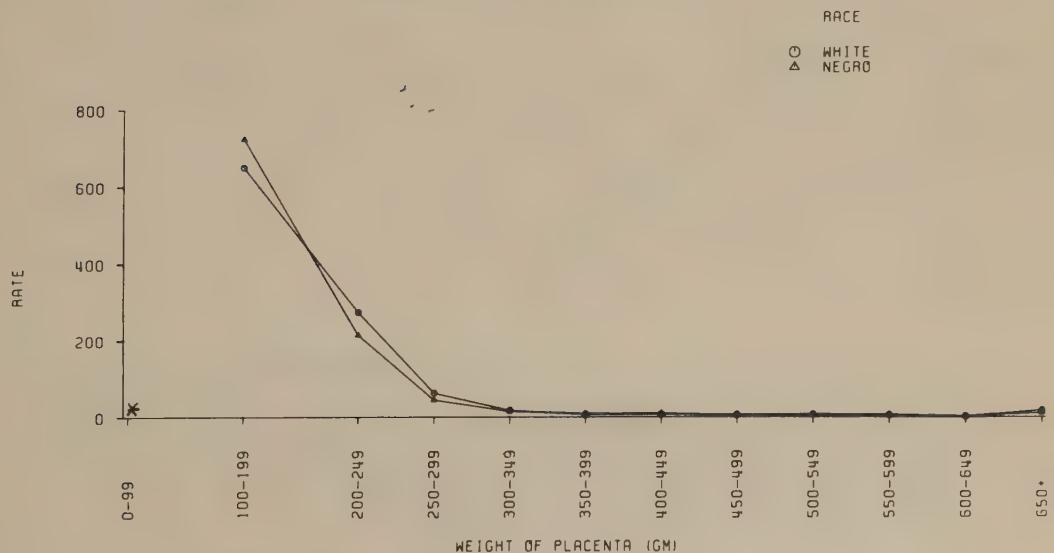
◊ UNPLOTTED RATE IS 800.00.

STILLBIRTHS BY WEIGHT OF PLACENTA BY RACE

WEIGHT OF PLACENTA (GM)	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
0-99	8	8	1000.00*	25	20	800.00
100-199	98	55	561.22	187	85	454.55
200-249	129	27	209.30	245	31	126.53
250-299	456	23	50.44	736	31	42.12
300-349	1459	19	13.02	2157	31	11.37
350-399	2841	20	7.04	3364	27	8.03
400-449	3618	21	5.80	3713	14	3.77
450-499	3017	11	3.65	2904	19	6.54
500-549	2066	4	1.94	1698	10	5.89
550-599	1186	5	4.22	886	5	5.64
600-649	588	6	10.20	393	3	7.63
650+	469	13	27.72	321	9	28.04
TOTAL	15935	212	13.30	16629	285	17.14
UNKNOWN	3113	203	65.21	3538	172	48.62
GRAND TOTAL	19048	415	21.79	20167	457	22.66

* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY WEIGHT OF PLACENTA BY RACE



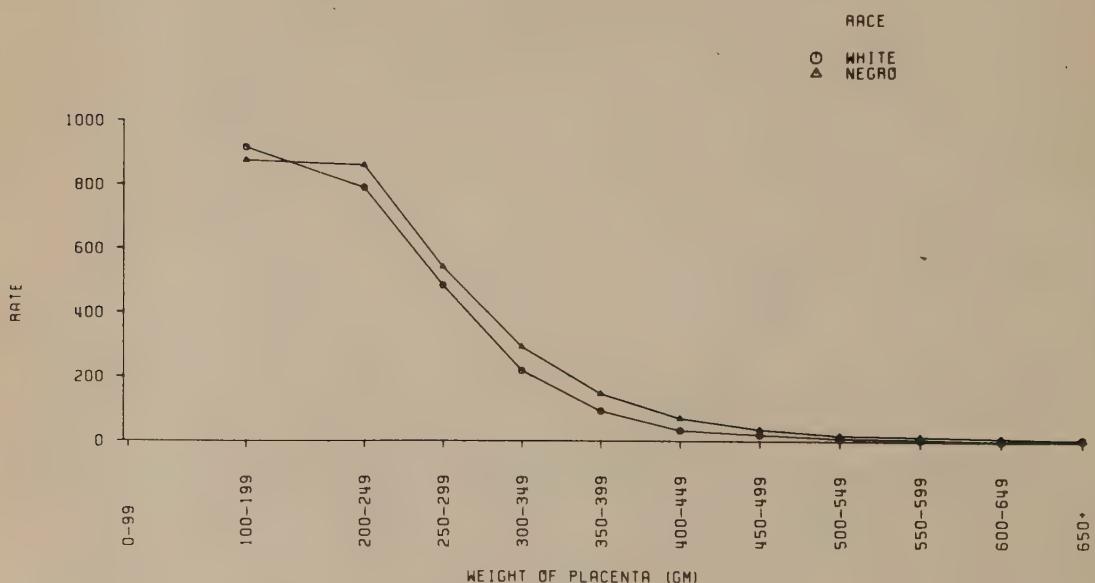
* RATE BASED ON LESS THAN 20 CASES.

NEONATAL DEATHS BY WEIGHT OF PLACENTA BY RACE

WEIGHT OF PLACENTA (GM)	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
0-99	0	0	-	5	5	1000.00*
100-199	43	28	651.16	102	74	725.49
200-249	102	28	274.51	214	46	214.95
250-299	433	27	62.36	705	31	43.97
300-349	1440	25	17.36	2126	32	15.05
350-399	2821	19	6.74	3337	32	9.59
400-449	3597	26	7.23	3699	39	10.54
450-499	3006	17	5.66	2885	11	3.81
500-549	2062	14	6.79	1688	10	5.92
550-599	1181	6	5.08	881	5	5.68
600-649	582	1	1.72	390	1	2.56
650+	456	8	17.54	312	6	19.23
TOTAL	15723	199	12.66	16344	292	17.87
UNKNOWN	2910	54	18.56	3366	96	28.52
GRAND TOTAL	18633	253	13.58	19710	388	19.69

* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM BY WEIGHT OF PLACENTA BY RACE

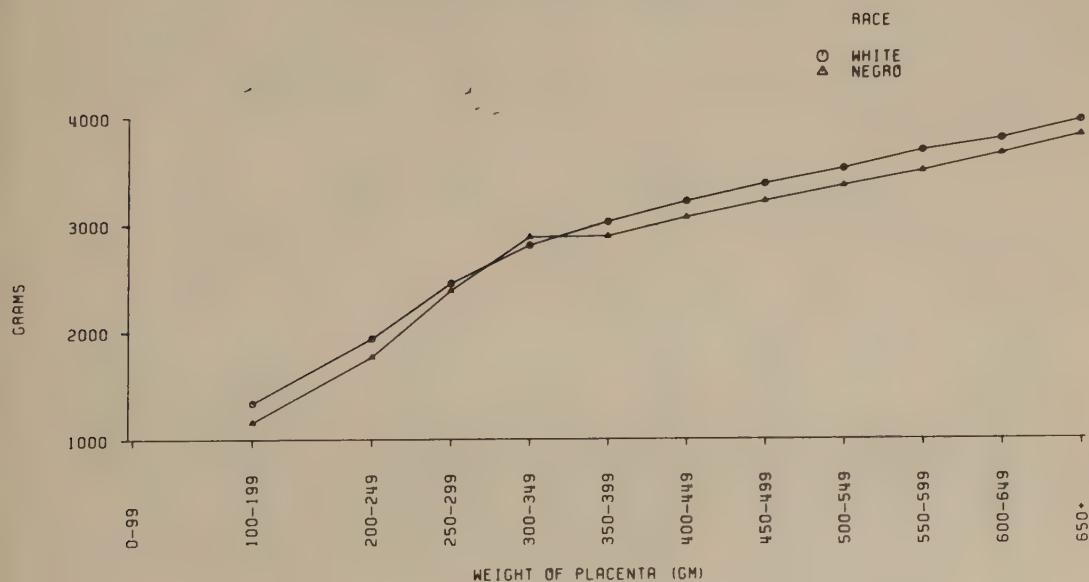


* RATE BASED ON LESS THAN 20 CASES.

BIRTHWEIGHTS UNDER 2501 GM. BY WEIGHT OF PLACENTA BY RACE

WEIGHT OF PLACENTA (GM)	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHT UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHT UNDER 2501 GM.	RATE
0-99	0	0	-	0	0	-
100-199	35	32	914.29	87	76	873.56
200-299	99	78	787.88	212	182	858.49
300-399	430	208	483.72	699	378	540.77
400-499	1438	313	217.66	2117	617	291.45
500-599	2816	260	92.33	3334	487	146.07
600-649	3594	117	32.55	3689	255	69.12
650+	2997	60	20.02	2882	102	35.39
TOTAL	15679	1095	69.84	16287	2144	131.64
UNKNOWN	2802	224	79.94	3217	473	147.03
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18

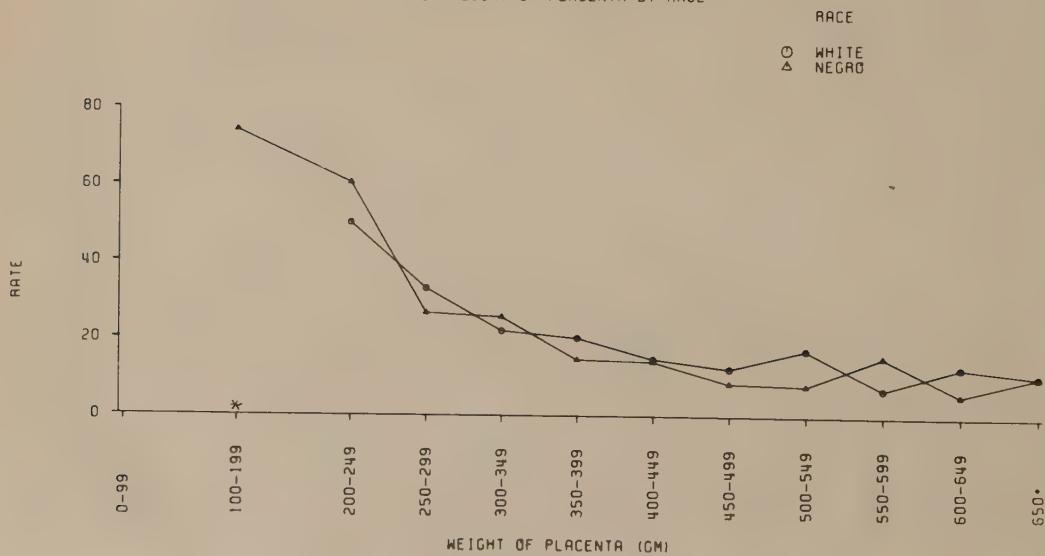
MEAN BIRTHWEIGHT BY WEIGHT OF PLACENTA BY RACE



MEAN BIRTHWEIGHT BY WEIGHT OF PLACENTA BY RACE

WEIGHT OF PLACENTA (GM)	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
0-99	0	-	0	-
100-199	35	1336	87	1160
200-249	99	1943	212	1770
250-299	430	2462	699	2394
300-349	1438	2815	2117	2893
350-399	2816	3038	3334	2902
400-449	3594	3227	3689	3076
450-499	2997	3390	2882	3227
500-549	2057	3530	1687	3371
550-599	1177	3701	879	3507
600-649	582	3810	390	3670
650+	454	3985	311	3844
TOTAL	15679	3272	16287	3044
UNKNOWN	2802	3269	3217	3017
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR
BY WEIGHT OF PLACENTA BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY WEIGHT OF PLACENTA BY RACE

WEIGHT OF PLACENTA (GM)	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
0-99	0	0	-	0	0	-
100-199	13	1	76.92*	27	2	74.07
200-249	60	3	50.00	149	9	60.40
250-299	334	11	32.93	602	16	26.58
300-349	1182	26	22.00	1876	48	25.59
350-399	2278	46	20.19	2937	43	14.64
400-449	2918	43	14.74	3261	46	14.11
450-499	2430	30	12.35	2593	22	8.48
500-549	1686	29	17.20	1496	12	8.02
550-599	982	7	7.13	777	12	15.44
600-649	467	6	12.85	346	2	5.78
650+	375	4	10.67	279	3	10.75
TOTAL	12725	206	16.19	14343	215	14.99
UNKNOWN	1937	47	24.26	2780	59	21.22
GRAND TOTAL	14662	253	17.26	17123	274	16.00

* RATE BASED ON LESS THAN 20 CASES.

SECTION 1. THE PLACENTA (Continued)

ABNORMAL COLORATION OF FETAL SURFACE OF PLACENTA

This category combines cases with various discolorations, presumably related to the presence of different substances or combination of substances in the amniotic cavity: green (meconium), yellow (bilirubin), reddish-brown to ochre (hemolyzed blood from hemorrhage or macerated fetus). Thus it relates to several different pathological conditions. The decision as to abnormality of the color is subjective, and not surprisingly, the proportion reported varies widely from institu-

tution to institution. Overall, abnormal coloration is present in about twelve per cent of the total sample.

The placental surface is likely to be discolored in many stillbirths since macerated fetuses release heme products. Almost half of the stillbirths have a discolored fetal surface of the placenta. The stillbirth rate in the discolored group is eleven-fold that of the non-discolored group in Whites and about six-fold in the Negroes. The neonatal death rate also increases with discoloration; in this group, the color is probably related to meconium release. The increased perinatal death rates are consistent among the institutions.

There are no consistent relationships with birth-weight or with the one-year neurological condition.

ABNORMAL COLORATION OF FETAL SURFACE OF PLACENTA BY INSTITUTION BY RACE

INSTITUTION	WHITE			NEGRO		
	WITH CONDITION			WITH CONDITION		
	ALL GRAVIDAS	NUMBER	PERCENT	ALL GRAVIDAS	NUMBER	PERCENT
BB	6534	950	14.54	797	161	20.20
BU	1759	248	14.10	42	9	21.43
CH	0	0	-	2252	282	12.52
CO	497	87	17.51	697	133	19.08
JH	550	50	9.09	1840	172	9.35
VA	558	47	8.42	1516	171	11.28
MN	2266	251	11.08	13	4	30.77*
NY	222	32	14.41	1260	164	13.02
OR	1576	149	9.45	509	57	11.20
PA	577	59	10.23	5118	466	9.11
PR	1646	193	11.73	477	59	12.37
TN	16	2	12.50*	2635	195	7.40

* PERCENT BASED ON LESS THAN 20 CASES.

ABNORMAL COLORATION OF FETAL SURFACE OF PLACENTA BY RACE

		WITH CONDITION	
		ALL GRAVIDAS	NUMBER
	PERCENT		
WHITE		16201	2068
NEGRO		17156	1873
			12.76
			10.92

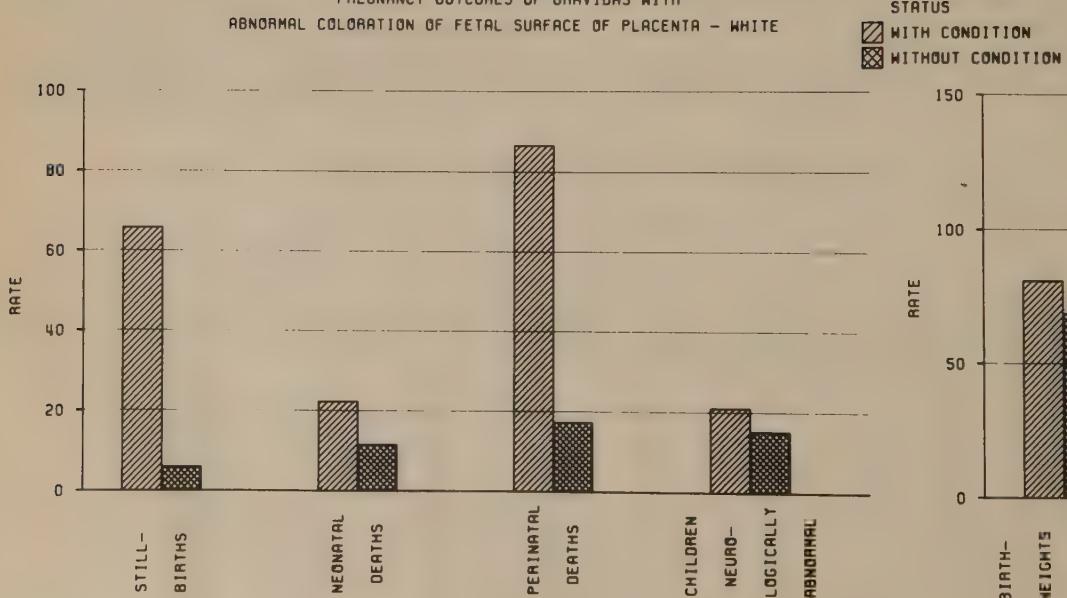
PREGNANCY OUTCOMES OF GRAVIDAS WITH ABNORMAL COLORATION OF FETAL SURFACE OF PLACENTA BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		PERINATAL DEATHS			
		NO.	RATE	LIVEBIRTHS	NO.	RATE	BIRTHS	NO.	RATE
WHITE									
WITH CONDITION	2068	136	65.76	1932	43	22.26	2068	179	86.56
WITHOUT CONDITION	14133	83	5.87	14050	161	11.46	14133	244	17.26
NEGRO									
WITH CONDITION	1873	116	61.93	1757	56	31.87	1873	172	91.83
WITHOUT CONDITION	15283	174	11.39	15109	240	15.88	15283	414	27.09

PREGNANCY OUTCOMES OF GRAVIDAS WITH ABNORMAL COLORATION OF FETAL SURFACE OF PLACENTA BY RACE

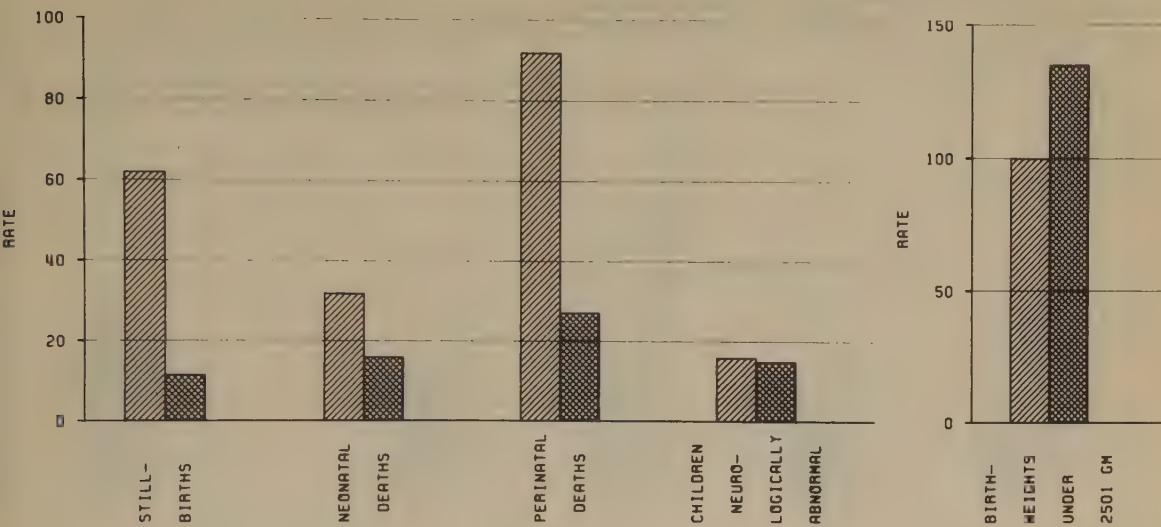
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.		MEAN BIRTHWEIGHT	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL	
		NO.	RATE			NO.	RATE
WHITE							
WITH CONDITION	1920	155	80.73	3351	1569	33	21.03
WITHOUT CONDITION	14106	962	68.20	3261	11335	172	15.17
NEGRO							
WITH CONDITION	1743	174	99.83	3164	1515	24	15.84
WITHOUT CONDITION	15068	2034	134.99	3031	13293	197	14.82

PREGNANCY OUTCOMES OF GRAVIDAS WITH
ABNORMAL COLORATION OF FETAL SURFACE OF PLACENTA - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH
ABNORMAL COLORATION OF FETAL SURFACE OF PLACENTA - NEGRO

STATUS
WITH CONDITION
WITHOUT CONDITION



SECTION 1. THE PLACENTA (Continued)

MACROPHAGES IN AMNION OR CHORION

Particulate matter released in the amniotic cavity, essentially meconium and less commonly blood, are

transported through the amniotic epithelium and phagocytized in the placental membranes. Thus, as expected, these data parallel those reported for abnormal coloration of fetal surface. Macrophages are also present in the chorion next to sub-chorionic thrombi and in other conditions, but these could not be evaluated separately.

MACROPHAGES IN AMNION OR CHORION BY RACE

	ALL GRAVIDAS	WITH CONDITION	PERCENT
WHITE	16246	6004	36.96
NEGRO	17741	6426	36.22

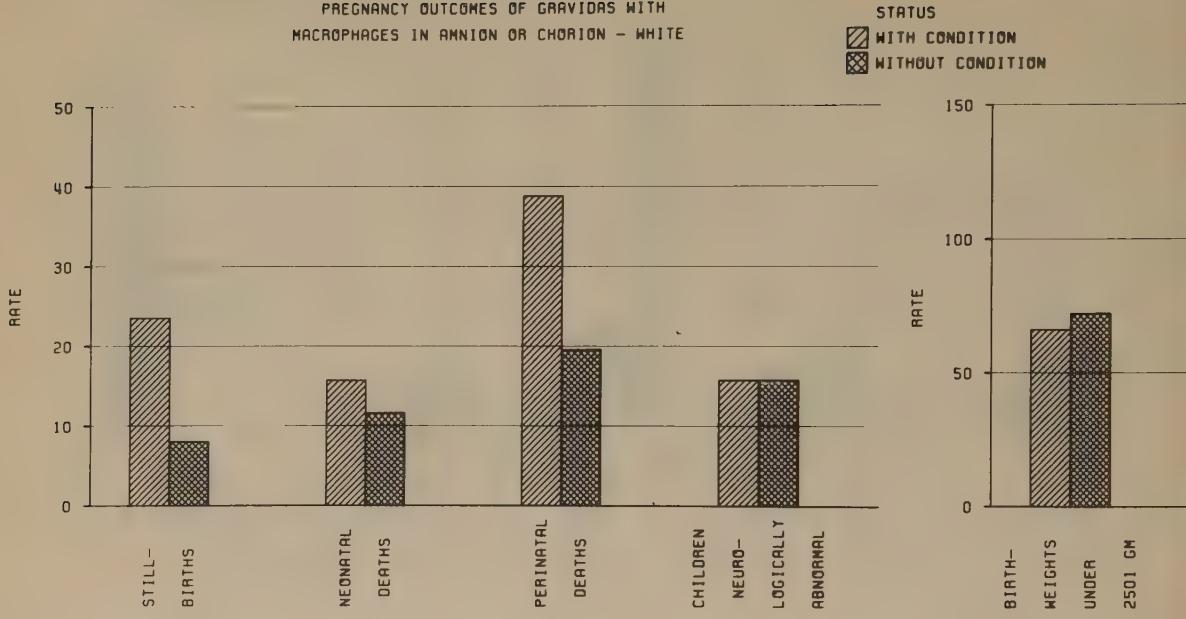
PREGNANCY OUTCOMES OF GRAVIDAS WITH MACROPHAGES IN AMNION OR CHORION BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		PERINATAL DEATHS	
		NO.	RATE	LIVEBIRTHS	NO.	RATE	BIRTHS
WHITE							
WITH CONDITION	6004	141	23.48	5863	92	15.69	6004
WITHOUT CONDITION	10242	82	8.01	10160	118	11.61	10242
NEGRO							
WITH CONDITION	6426	137	21.32	6289	124	19.72	6426
WITHOUT CONDITION	11315	165	14.58	11150	186	16.68	11315

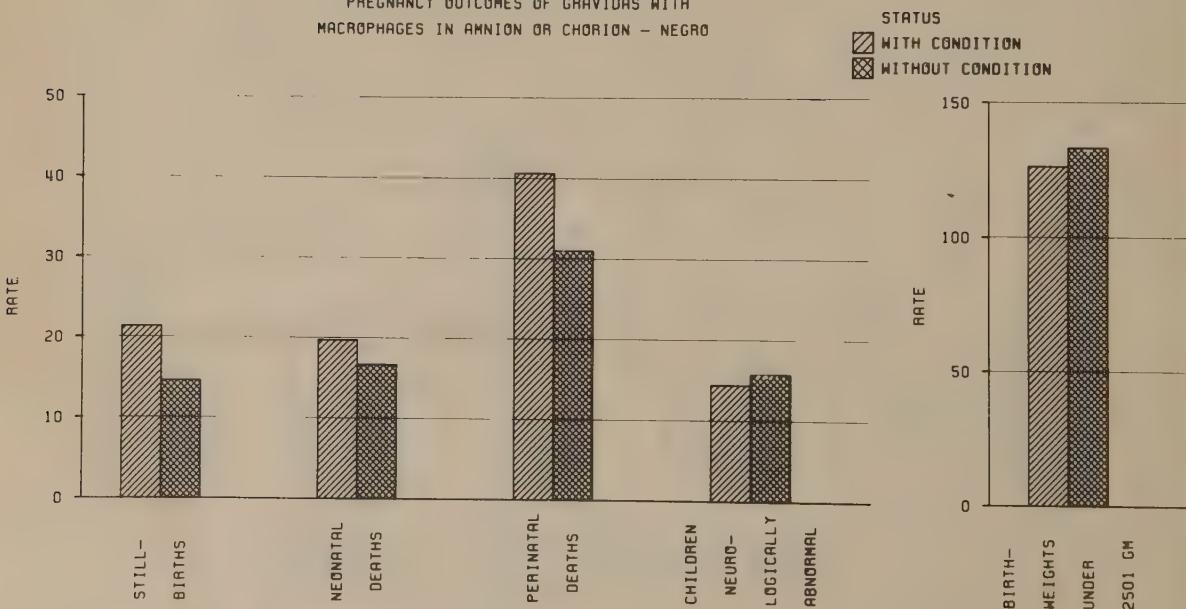
PREGNANCY OUTCOMES OF GRAVIDAS WITH MACROPHAGES IN AMNION OR CHORION BY RACE

	LIVEBIRTHS		BIRTHWEIGHTS		MEAN BIRTHWEIGHT	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL	
	WITH KNOWN BIRTHWEIGHT	NO.	UNDER 2501 GM.	NO.			NO.	RATE
WHITE								
WITH CONDITION	5841	386	66.08	3310	4631	73	15.76	
WITHOUT CONDITION	10133	731	72.14	3229	8310	131	15.76	
NEGRO								
WITH CONDITION	6265	791	126.26	3063	5479	79	14.42	
WITHOUT CONDITION	11116	1480	133.14	3032	9851	155	15.73	

PREGNANCY OUTCOMES OF GRAVIDAS WITH
MACROPHAGES IN AMNION OR CHORION - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH
MACROPHAGES IN AMNION OR CHORION - NEGRO



SECTION 1. THE PLACENTA (Continued)

MACROPHAGES IN PLACENTAL DECIDUA

These are present as evidence of a past intradecidual hemorrhage or are seen in the vicinity of intervillous thrombi and necrotic placental tissue. They are found in about ten per cent of all placentas

but in almost one out of five stillbirths. When macrophages are present, the stillbirth rate climbs from 14 to 29 per 1000; the rate increases more strikingly in Whites than in Negroes. The neonatal death rate increases only slightly when decidual macrophages are present (from fifteen to twenty), but the increase is found entirely in the White group. Other data show no striking differences.

MACROPHAGES IN PLACENTAL DECIDUA BY RACE

	ALL GRAVIDORS	WITH CONDITION	PERCENT
WHITE	16240	1167	7.19
NEGRO	17727	2535	14.30

PREGNANCY OUTCOMES OF GRAVIDAS WITH MACROPHAGES IN PLACENTAL DECIDUA BY RACE

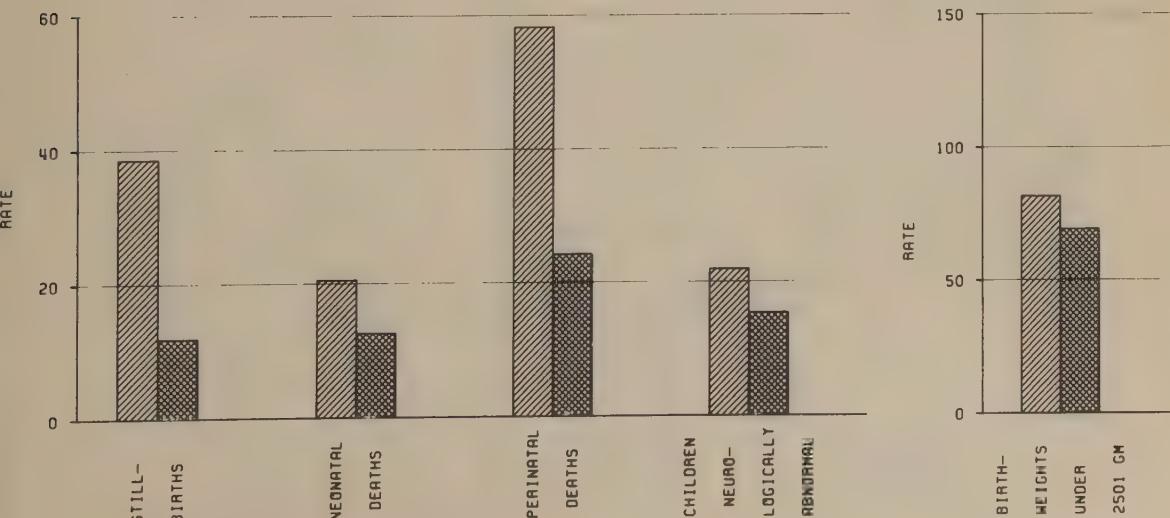
	BIRTHS	STILLBIRTHS NO.	RATE	LIVEBIRTHS	NEONATAL DEATHS NO.	RATE	BIRTHS	PERINATAL DEATHS NO.	RATE
WHITE									
WITH CONDITION	1167	45	38.56	1122	23	20.50	1167	68	58.27
WITHOUT CONDITION	15073	178	11.81	14895	187	12.55	15073	365	24.22
NEGRO									
WITH CONDITION	2535	63	24.85	2472	44	17.80	2535	107	42.21
WITHOUT CONDITION	15192	237	15.60	14955	267	17.85	15192	504	33.18

PREGNANCY OUTCOMES OF GRAVIDAS WITH MACROPHAGES IN PLACENTAL DECIDUA BY RACE

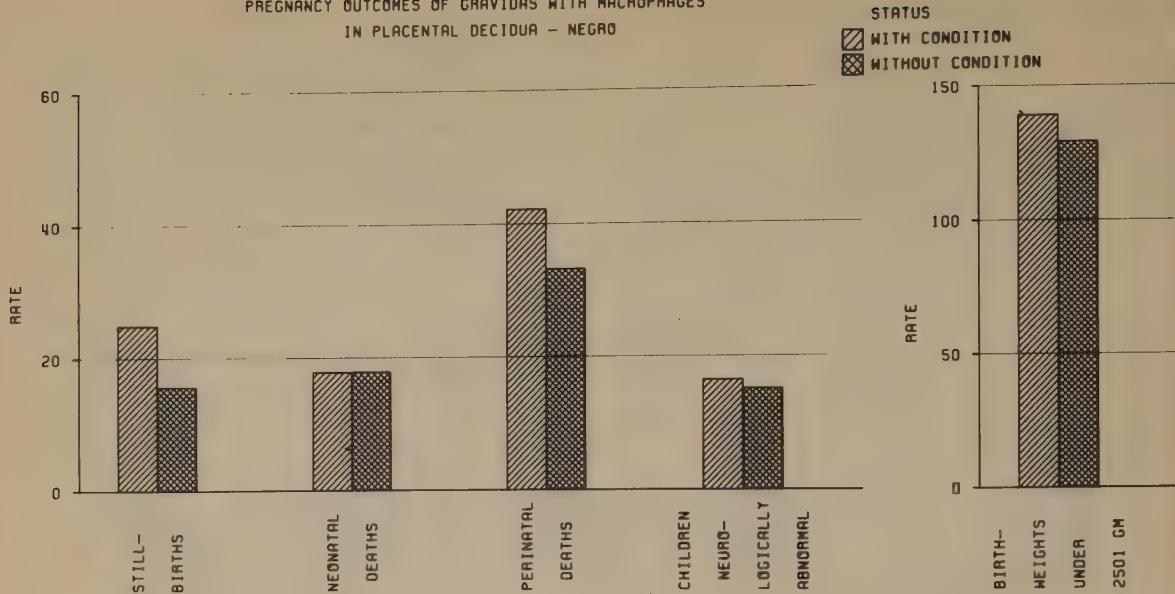
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM. NO.	RATE	MEAN BIRTHWEIGHT	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	RATE
WHITE							
WITH CONDITION	1117	91	81.47	3272	868	19	21.89
WITHOUT CONDITION	14851	1026	69.09	3271	12068	185	15.33
NEGRO							
WITH CONDITION	2466	343	139.09	3042	2191	36	16.43
WITHOUT CONDITION	14903	1927	129.30	3043	13128	198	15.08

PREGNANCY OUTCOMES OF GRAVIDAS WITH MACROPHAGES
IN PLACENTAL DECIDUA - WHITE

STATUS
 WITH CONDITION
 WITHOUT CONDITION



PREGNANCY OUTCOMES OF GRAVIDAS WITH MACROPHAGES
IN PLACENTAL DECIDUA - NEGRO



SECTION 1. THE PLACENTA (Continued)

NEUTROPHILIC INFILTRATION OF AMNION OF MEMBRANE ROLL

This condition reflects the infiltration by maternal leukocytes of the membranes at or near the cervical canal. It is found in more than eight per cent of all placentas. There are considerable institutional differences but, in each institution, the White and Negro rates are fairly consistent; this points to differences in

individual observers, rather than in the population itself. There are more Negro neonatal deaths and stillbirths but, for both races, the proportion of inflamed amnions in stillbirth and neonatal deaths is similar. The stillbirth rate almost quadruples when the condition is present, from 10.5 to 41.7 in Whites and 14.0 to 53.0 in Negroes. The neonatal death rate goes from 11.9 to 29.2 for Whites when the condition is present, and from 15.8 to 50.4 for Negroes. The rate of low birthweight increases from 68 to 109 per 1000 in Whites, and from 126 to 215 in Negroes.

NEUTROPHILIC INFILTRATION OF AMNION OF MEMBRANE ROLL BY RACE

	ALL GRAVIDAS	WITH CONDITION
	NUMBER	PERCENT
WHITE	15476	1392
NEGRO	16783	1321

PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION

OF AMNION OF MEMBRANE ROLL BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		PERINATAL DEATHS			
		NO.	RATE	NO.	RATE	NO.	RATE		
WHITE									
WITH CONDITION	1392	58	41.67	1334	39	29.24	1392	97	69.68
WITHOUT CONDITION	14084	148	10.51	13936	166	11.91	14084	314	22.29
NEGRO									
WITH CONDITION	1321	70	52.99	1251	63	50.36	1321	133	100.68
WITHOUT CONDITION	15462	217	14.03	15245	241	15.81	15462	458	29.62

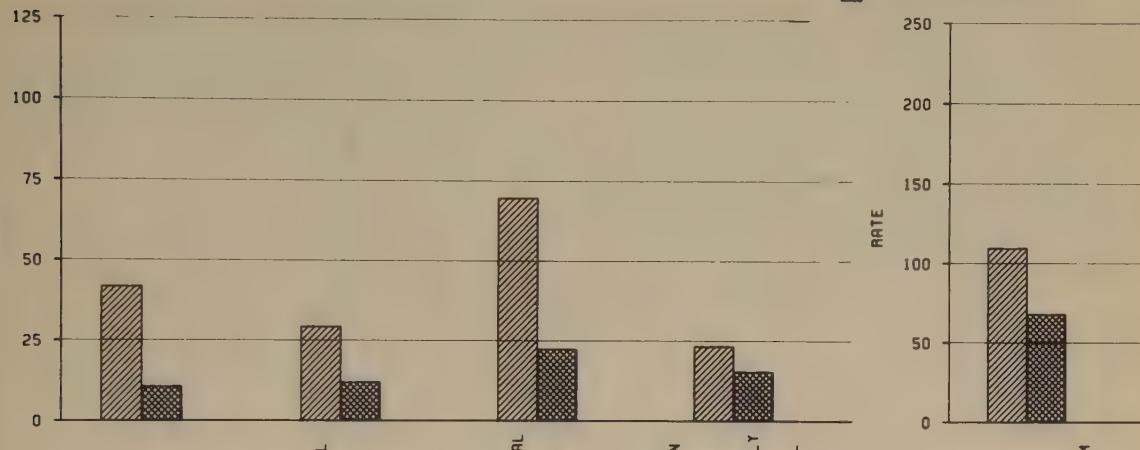
PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION

OF AMNION OF MEMBRANE ROLL BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.		MEAN BIRTHWEIGHT	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL	
		NO.	RATE			NO.	RATE
WHITE							
WITH CONDITION	1325	145	109.43	3230	1035	24	23.19
WITHOUT CONDITION	13898	942	67.78	3271	11310	173	15.30
NEGRO							
WITH CONDITION	1238	266	214.86	2918	1069	20	18.71
WITHOUT CONDITION	15204	1922	126.41	3049	13430	204	15.19

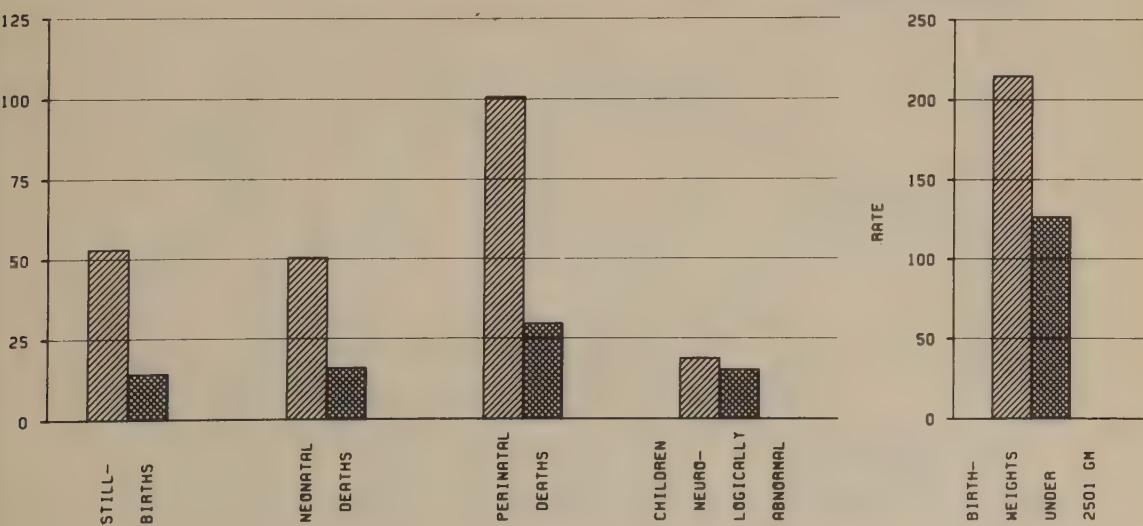
PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION
OF AMNION OR MEMBRANE ROLL - WHITE

STATUS
WITH CONDITION
WITHOUT CONDITION



PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION
OF AMNION OR MEMBRANE ROLL - NEGRO

STATUS
WITH CONDITION
WITHOUT CONDITION



SECTION 1. THE PLACENTA (Continued)

NEUTROPHILIC INFILTRATION OF AMNION OF PLACENTAL SURFACE

This finding ("amnionitis") reflects the response of both maternal neutrophiles (from the intervillous space) and fetal neutrophiles (from chorionic vessels on the fetal surface of the placenta) and their migration towards the amniotic cavity. It is seen in about six per cent of all cases. When neutrophilic infiltration is present, the stillbirth rate increases for both races. The increase is much greater in Negroes (from 15 to 57 per 1000) than in Whites (from 12 to 37 per 1000). The neonatal death rate also increases markedly with

amnionitis, more frequently found in Negroes (16 to 68 per 1000) than Whites (12 to 43 per 1000).

The low birthweight rate almost doubles in the amnionitis group, in both races. Ten per cent of placentas of low birthweight babies have amnionitis as compared with 5.6 per cent in the whole population. Other data show little meaningful difference.

A much higher incidence of chorio-amnionitis in Negroes and in poor Whites has been recently described.⁶ This work suggests that infection might be a causative factor in premature labor, which would explain the high incidence of amnionitis in the low birthweight group.

⁶Naeye, R. L., Blanc, W. A. "Relation of Poverty and Race to Antenatal Infection," *New England J. Med.*, 283:555, 1970, and unpublished data.

NEUTROPHILIC INFILTRATION OF AMNION OF PLACENTAL SURFACE BY RACE

	ALL GRAVIDAS	WITH CONDITION	
	NUMBER	PERCENT	
WHITE	15035	957	6.37
NEGRO	16205	920	5.68

PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION

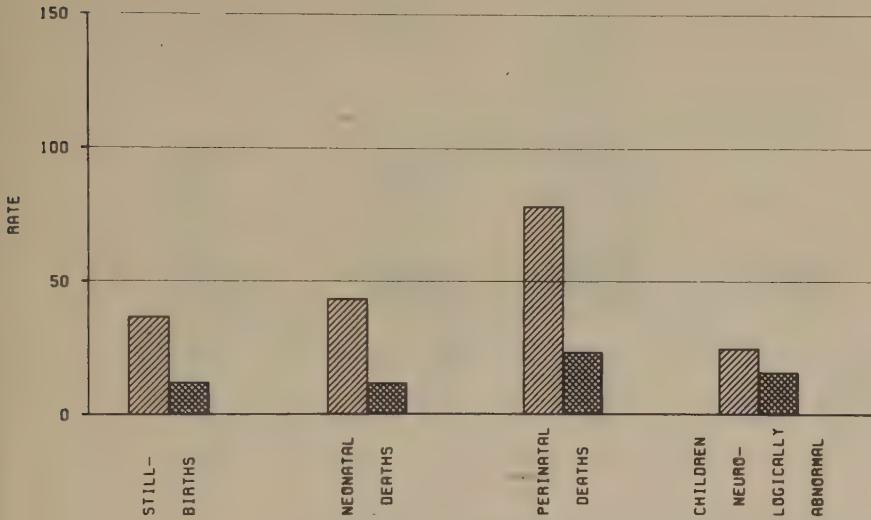
		STILLBIRTHS		NEONATAL DEATHS		PERINATAL DEATHS			
	BIRTHS	NO.	RATE	LIVEBIRTHS	NO.	RATE	BIRTHS	NO.	RATE
WHITE									
WITH CONDITION	957	35	36.57	922	40	43.38	957	75	78.37
WITHOUT CONDITION	14078	165	11.72	13913	161	11.57	14078	326	23.16
NEGRO									
WITH CONDITION	920	52	56.52	868	59	67.97	920	111	120.65
WITHOUT CONDITION	15285	233	15.24	15052	237	15.75	15285	470	30.75

PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION

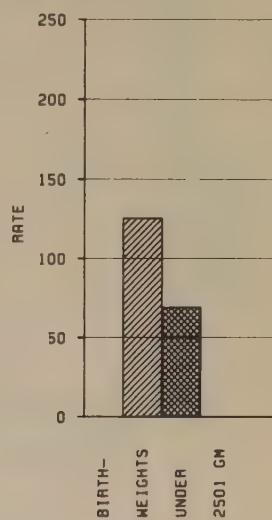
OF AMNION OF PLACENTAL SURFACE BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM. NO.	MEAN BIRTHWEIGHT RATE	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	NEUROLOGICALLY ABNORMAL RATE	
WHITE							
WITH CONDITION	917	115	125.41	3175	692	17	24.57
WITHOUT CONDITION	13873	957	68.98	3271	11289	177	15.66
NEGRO							
WITH CONDITION	853	209	245.02	2849	730	14	19.18
WITHOUT CONDITION	15016	1919	127.80	3047	13276	205	15.44

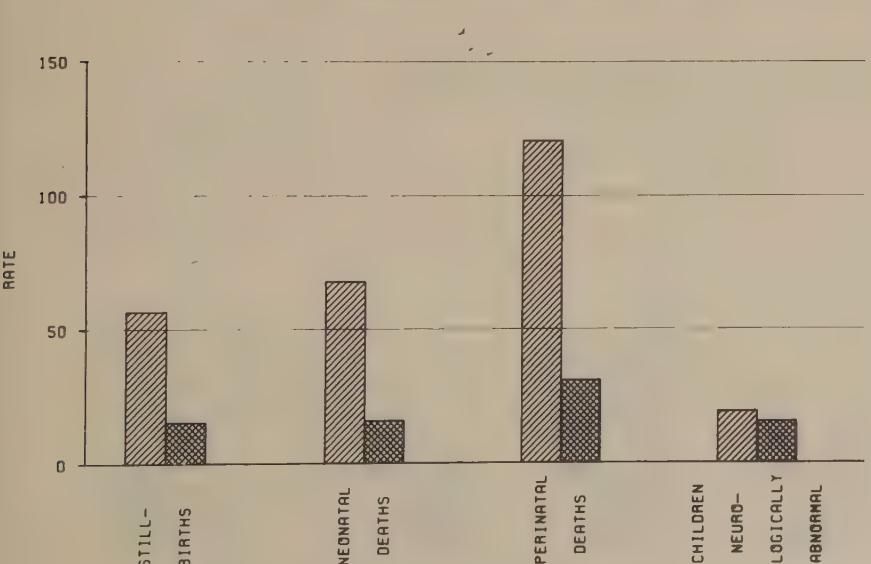
PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION
OF AMNION OF PLACENTAL SURFACE - WHITE



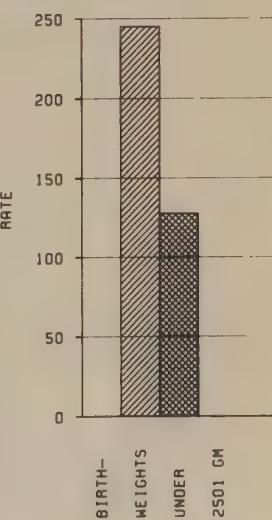
STATUS
WITH CONDITION
WITHOUT CONDITION



PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION
OF AMNION OF PLACENTAL SURFACE - NEGRO



STATUS
WITH CONDITION
WITHOUT CONDITION



SECTION 1. THE PLACENTA (Continued)

NEUTROPHILIC INFILTRATION OF CHORION OF MEMBRANE ROLL

The characteristics of this condition are similar to

those of infiltration of amnion or membrane roll. The proportion of cases with this condition is higher since the neutrophiles migrate through the chorion to reach the amnion; 13.1 per cent of Whites and 15.6 per cent of the Negroes are reported to have this infiltration present.

NEUTROPHILIC INFILTRATION OF CHORION OF MEMBRANE ROLL BY RACE

	ALL GRAVIDAS	WITH CONDITION
	NUMBER	PERCENT
WHITE	16208	2120
NEGRO	17660	2762

13.08
15.64

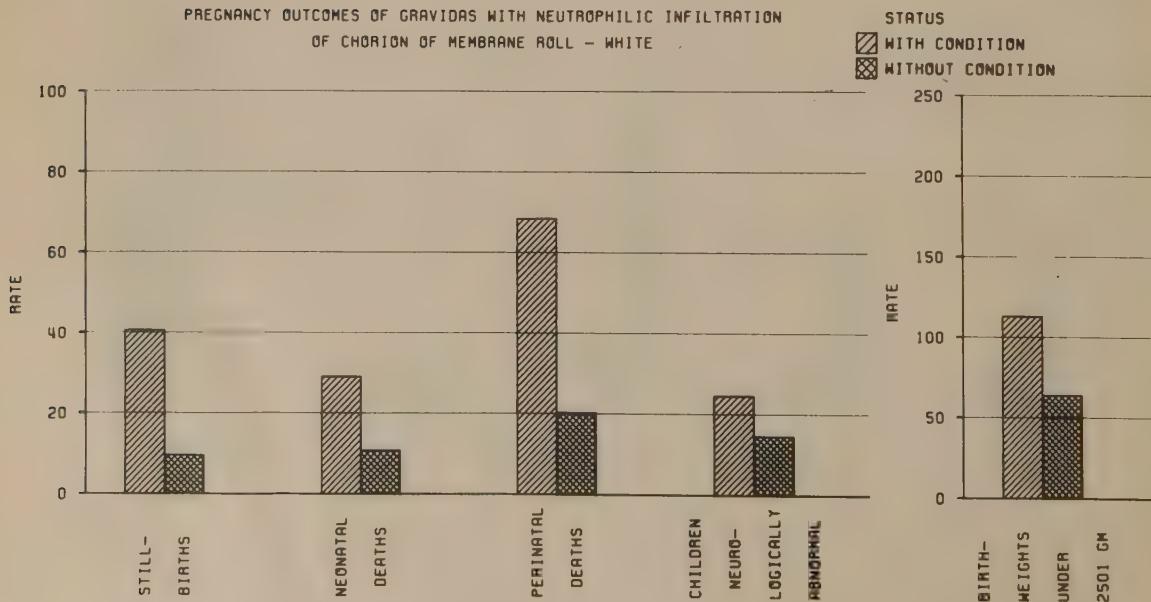
PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS	DEATHS RATE	
		NO.	RATE	NO.	RATE				
WHITE	2120	86	40.57	2034	59	29.01	2120	145	68.40
	14088	134	9.51	13954	150	10.75	14088	284	20.16
NEGRO	2762	119	43.08	2643	111	42.00	2762	230	83.27
	14898	178	11.95	14720	196	13.32	14898	374	25.10

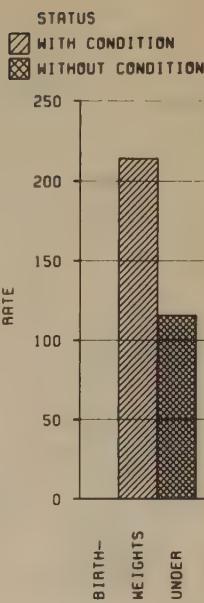
PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION

	LIVEBIRTHS	BIRTHWEIGHTS		MEAN BIRTHWEIGHT	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	RATE
		WITH KNOWN BIRTHWEIGHT	UNDER 2501 GM.				
WHITE	2020	228	112.87	3224	1589	39	24.54
	13919	887	63.73	3279	11324	164	14.46
NEGRO	2616	560	214.07	2918	2271	39	17.17
	14690	1699	115.66	3066	12994	193	14.85

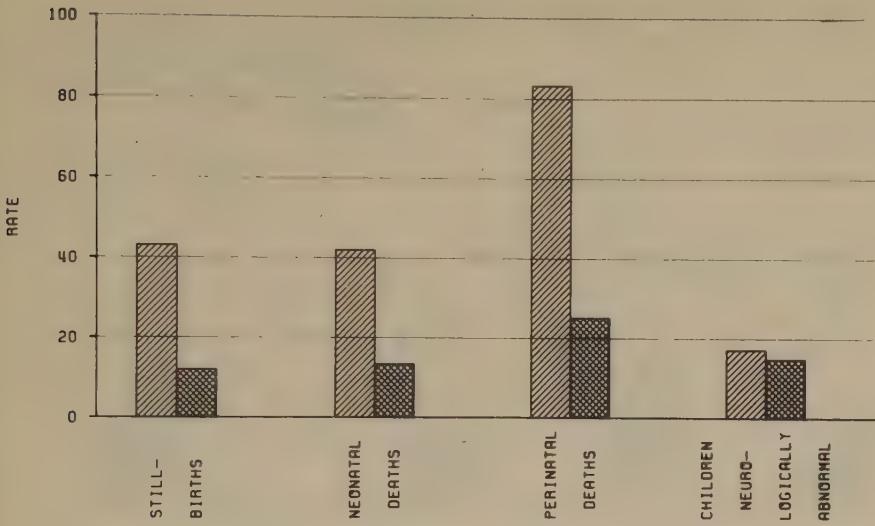
PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION OF CHORION OF MEMBRANE ROLL - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION
OF CHORION OR MEMBRANE ROLL - NEGRO



RATE



SECTION 1. THE PLACENTA (Continued)

NEUTROPHILIC INFILTRATION OF UMBILICAL VEIN

This condition (also called umbilical cord phlebitis) expresses the response of fetal leukocytes to a leukotactic stimulus. It is found in 14.6 per cent of White cases and 7.5 per cent of Negro cases; its incidence shows considerable institutional variability. About

fourteen per cent of White and seventeen per cent of Negro stillbirths have cords with phlebitis. The stillbirth rate shows little change with phlebitis in Whites but rises from 15 to 37 per 1000 in Negroes. The neonatal death rate increases from 11 to 23 per 1000 among Whites, and strikingly more so among Negroes (14 to 58). Low birthweight rates increase from 121 to 255 per 1000 among Negroes when phlebitis is found. The comments made about amnionitis are also applicable to umbilical phlebitis as far as perinatal mortality and low birthweight are concerned.

NEUTROPHILIC INFILTRATION OF UMBILICAL VEIN BY RACE

	ALL GRAVIDS		WITH CONDITION	
	NUMBER	PERCENT	NUMBER	PERCENT
WHITE	16207	2360	14.56	
NEGRO	17662	1329	7.52	

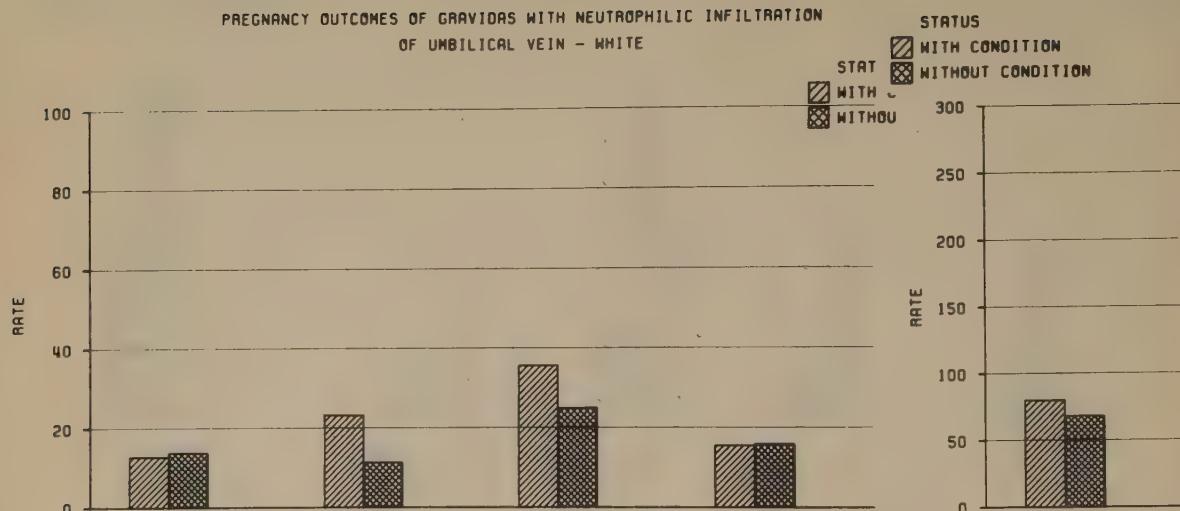
PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION OF UMBILICAL VEIN BY RACE

	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		PERINATAL DEATHS		DEATHS
		NO.	RATE	NO.	RATE	BIRTHS	NO.	
WHITE								
WITH CONDITION	2360	30	12.71	2330	54	23.18	2360	84
WITHOUT CONDITION	13847	191	13.79	13656	154	11.28	13847	345
NEGRO								
WITH CONDITION	1329	50	37.62	1279	75	58.64	1329	125
WITHOUT CONDITION	16333	247	15.12	16086	234	14.55	16333	481

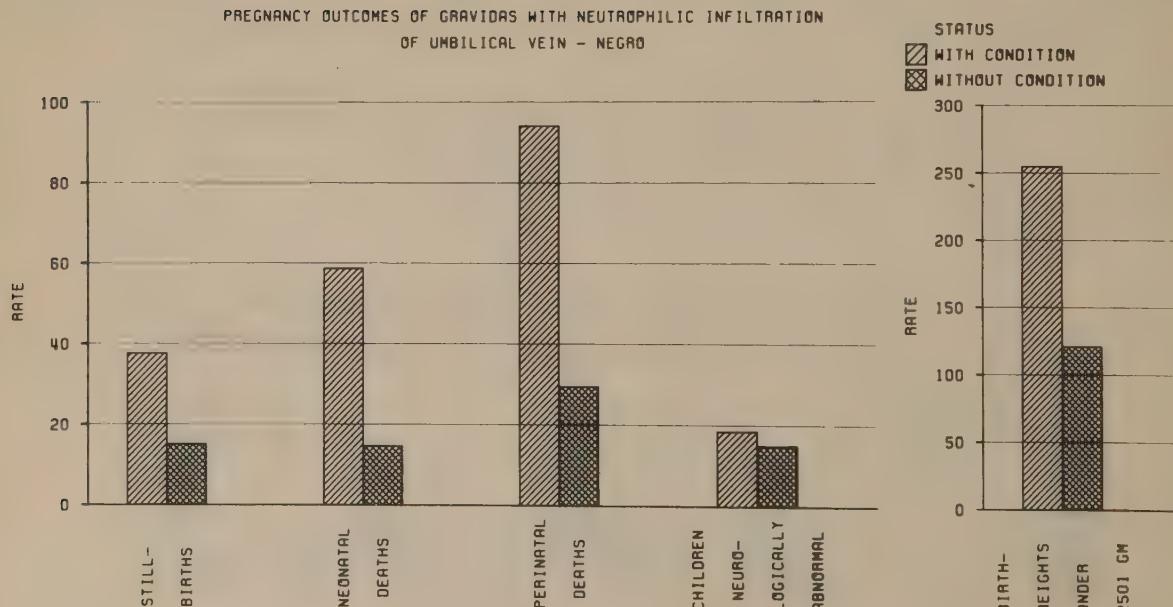
PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION OF UMBILICAL VEIN BY RACE

	LIVEBIRTHS		BIRTHWEIGHTS		NEUROLOGICALLY		
	WITH KNOWN	BIRTHWEIGHT	UNDER 2501 GM.	MEAN	ONE YEAR	ABNORMAL	RATE
	NO.	NO.	NO.	BIRTHWEIGHT	EXAMS	NO.	
WHITE							
WITH CONDITION	2321	185	79.71	3307	1876	29	15.46
WITHOUT CONDITION	13616	927	68.08	3266	11036	175	15.86
NEGRO							
WITH CONDITION	1268	323	254.73	2852	1081	20	18.50
WITHOUT CONDITION	16039	1938	120.83	3059	14184	211	14.88

PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION
OF UMBILICAL VEIN - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH NEUTROPHILIC INFILTRATION
OF UMBILICAL VEIN - NEGRO



SECTION 1. THE PLACENTA (Continued)

CORD WITH MEMBRANOUS INSERTION

This condition is found in only 1.6 per cent of the cases. No strong associations with the outcomes were observed.

MEMBRANOUS INSERTION OF UMBILICAL CORD BY RACE

	ALL GRAVIDAS	WITH CONDITION	NUMBER	PERCENT
WHITE	17535		326	1.86
NEGRO	17689		225	1.27

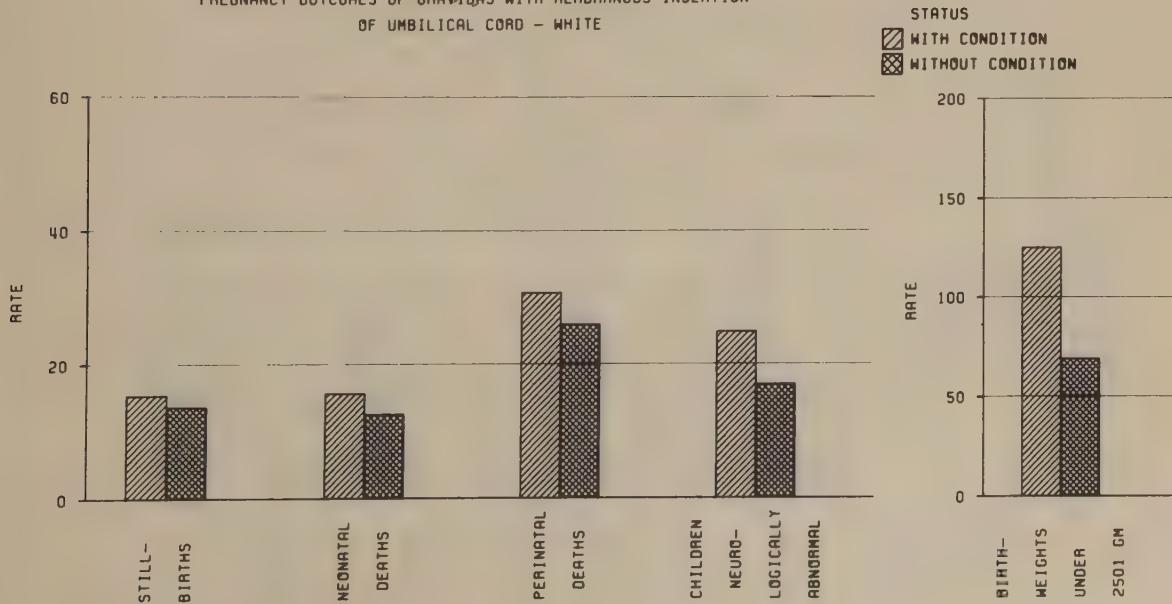
PREGNANCY OUTCOMES OF GRAVIDAS WITH MEMBRANOUS INSERTION OF UMBILICAL CORD BY RACE

	BIRTHS	STILLBIRTHS NO.	STILLBIRTHS RATE	LIVEBIRTHS	NEONATAL DEATHS NO.	NEONATAL DEATHS RATE	BIRTHS	PERINATAL DEATHS NO.	PERINATAL DEATHS RATE
WHITE	326	5	15.34	321	5	15.58	326	10	30.67
	17209	234	13.80	16975	212	12.49	17209	446	25.92
NEGRO	225	4	17.78	221	5	22.62	225	9	40.00
	17464	290	16.61	17174	310	18.05	17464	600	34.36

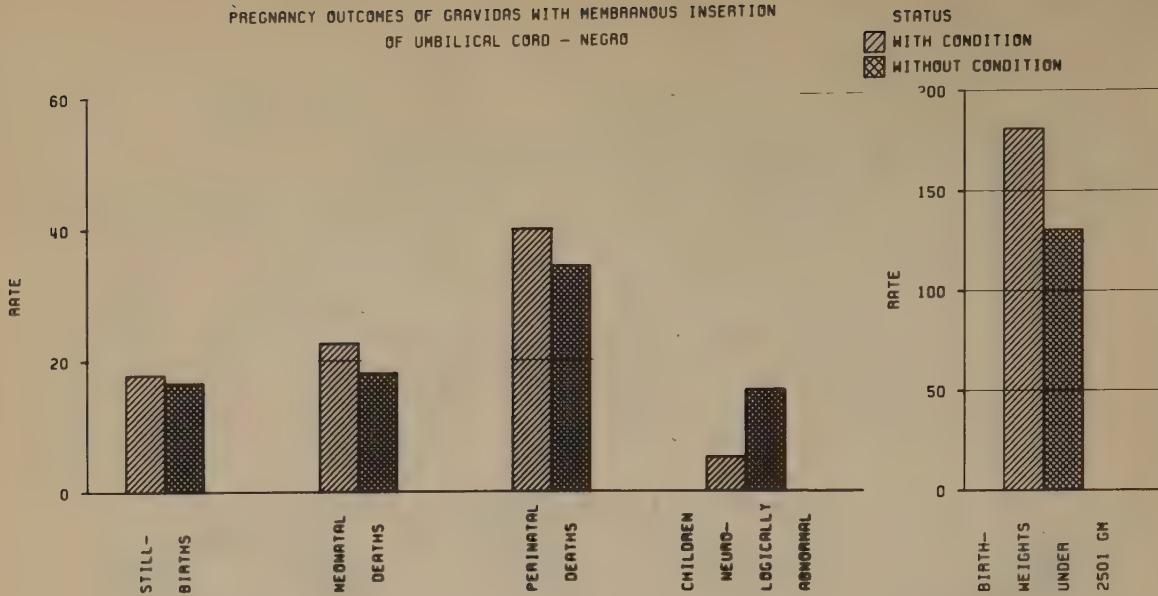
PREGNANCY OUTCOMES OF GRAVIDAS WITH MEMBRANOUS INSERTION OF UMBILICAL CORD BY RACE

	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM. NO.	BIRTHWEIGHTS RATE	MEAN BIRTHWEIGHT	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL NO.	NEUROLOGICALLY ABNORMAL RATE
WHITE	320	40	125.00	3098	242	6	24.79
	16927	1165	68.82	3279	13730	233	16.97
NEGRO	221	40	181.00	2965	194	1	5.15
	17104	2232	130.50	3046	15035	231	15.36

PREGNANCY OUTCOMES OF GRAVIDAS WITH MEMBRANOUS INSERTION OF UMBILICAL CORD - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH MEMBRANOUS INSERTION
OF UMBILICAL CORD - NEGRO



SECTION 1. THE PLACENTA (Continued)

UMBILICAL CORD WITH ONE UMBILICAL ARTERY

The relative frequency of the single artery based on microscopic examination, was 0.5 per cent in Negroes and 1 per cent in Whites.

From a total of 270 cases, 25 were stillborn and 9 were neonatal deaths, with 188 infants tested at one year. Of the stillborn infants, 4.5 per cent had only one artery. The stillbirth rate increased from 15 to 93 per 1000 in the presence of a single artery. The increase is much less striking among the neonatal deaths (15 to 37

per 1000). The low birthweight rate doubled for cases with the single umbilical artery.

This condition has been analyzed in the first 26,539 placentas.⁶ This study found (1) although the condition is less common in Negroes, the incidence of severe, minor, and borderline associated anomalies was higher (42 per cent for Negroes and 23 per cent for Whites); (2) severe malformations were found in 9 of 20 stillbirths, 4 of 6 neonatal deaths, but only 7 of 174 survivors; (3) maternal diabetes was much more common than in cases with two umbilical arteries.

⁶Froehlich, Luz A., and Fujikura, Toshio. "Significance of a Single Umbilical Artery," *Am. J. Obst. & Gynec.*, 94:274, 1966.

UMBILICAL CORD WITH ONE UMBILICAL ARTERY - MICROSCOPIC EXAMINATION BY RACE

	ALL GRAVIDAS	WITH CONDITION	
		NUMBER	PERCENT
WHITE	17642	178	1.01
NEGRO	18268	92	0.50

PREGNANCY OUTCOMES OF GRAVIDAS WITH UMBILICAL CORD WITH ONE UMBILICAL ARTERY -

MICROSCOPIC EXAMINATION BY RACE

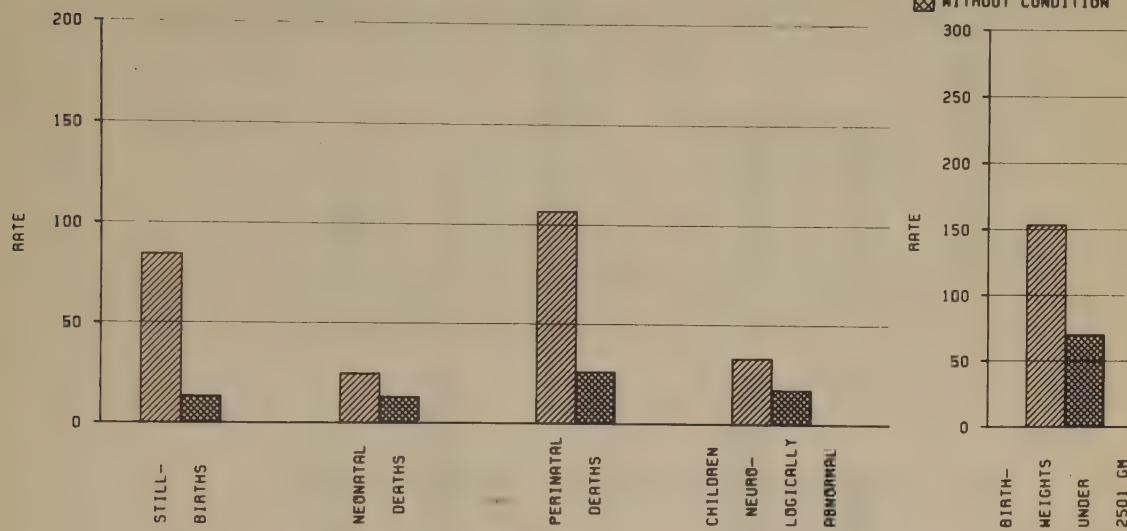
	BIRTHS	STILLBIRTHS		NEONATAL DEATHS		BIRTHS	PERINATAL DEATHS	
		NO.	RATE	NO.	RATE		NO.	RATE
WHITE								
WITH CONDITION	178	15	84.27	163	4	24.54	178	19
WITHOUT CONDITION	17464	231	13.23	17233	221	12.82	17464	452
NEGRO								
WITH CONDITION	92	10	108.70	82	5	60.98	92	15
WITHOUT CONDITION	18176	299	16.45	17877	321	17.96	18176	620

PREGNANCY OUTCOMES OF GRAVIDAS WITH UMBILICAL CORD WITH ONE UMBILICAL ARTERY -

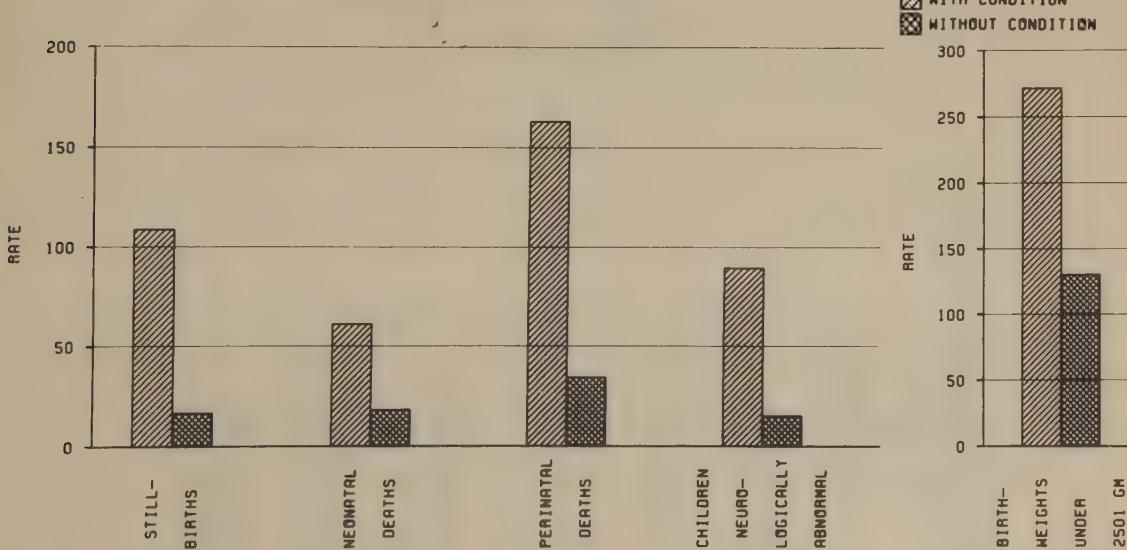
MICROSCOPIC EXAMINATION BY RACE

	LIVEBIRTHS		BIRTHWEIGHTS		MEAN BIRTHWEIGHT	ONE YEAR EXAMS	NEUROLOGICALLY ABNORMAL	
	WITH KNOWN BIRTHWEIGHT	NO.	UNDER 2501 GM.	RATE			NO.	RATE
WHITE								
WITH CONDITION	163	25	153.37		3045	121	4	33.06
WITHOUT CONDITION	17182	1200	69.84		3276	13925	240	17.2%
NEGRO								
WITH CONDITION	81	22	271.60		2872	67	6	89.55
WITHOUT CONDITION	17805	2321	130.36		3045	15683	236	15.05

PREGNANCY OUTCOMES OF GRAVIDAS WITH UMBILICAL CORD WITH ONE UMBILICAL ARTERY -
MICROSCOPIC EXAMINATION - WHITE



PREGNANCY OUTCOMES OF GRAVIDAS WITH UMBILICAL CORD WITH ONE UMBILICAL ARTERY -
MICROSCOPIC EXAMINATION - NEGRO

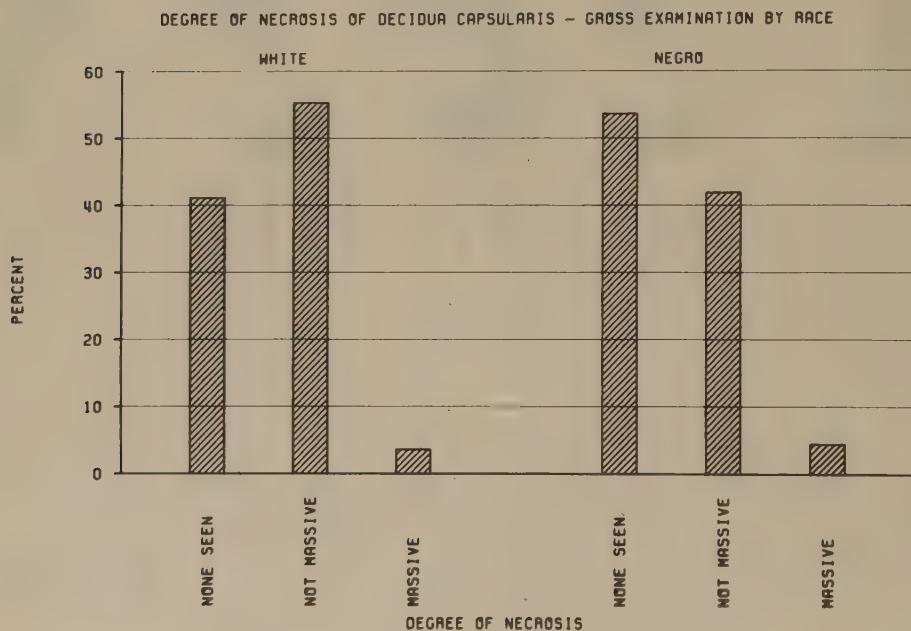


SECTION 1. THE PLACENTA (Continued)

DEGREE OF NECROSIS OF DECIDUA CAPSULARIS (GROSS EXAMINATION)

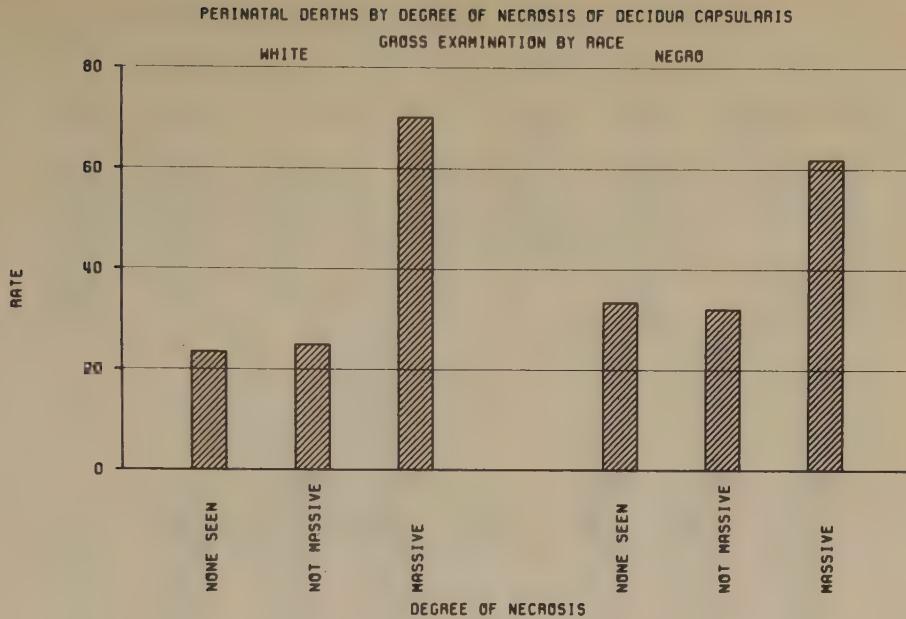
A massive degree of necrosis was found in 3.6 per cent of Whites and 4.4 per cent of Negroes. There was a greater than two-fold rise in stillbirth rates in the

presence of massive necrosis. A large increase in neonatal death rates was observed for Whites with the condition, but not for Negroes. The pathogenesis and etiology of this peculiar form of coagulation necrosis of the decidua are unknown. The increased stillbirth and neonatal death rates suggest that decidual necrosis expresses an acute disturbance of utero-placental functional relationship.



DEGREE OF NECROSIS OF DECIDUA CAPSULARIS - GROSS EXAMINATION - BY RACE

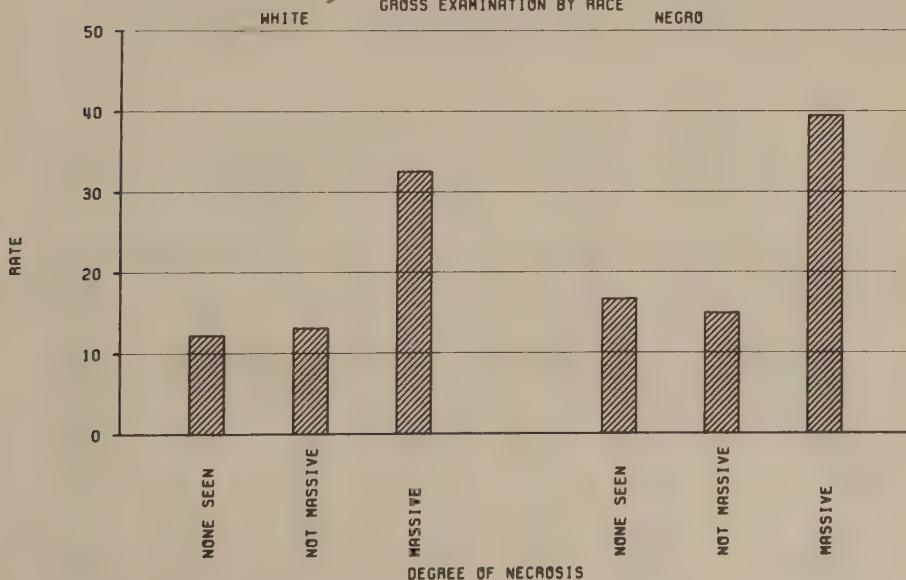
Degree of Necrosis	White			Negro		
	Number	Percent	Cumulative Percent	Number	Percent	Cumulative Percent
NONE SEEN	6639	41.09	41.09	9182	53.67	53.67
NOT MASSIVE	8934	55.29	96.39	7166	41.89	95.56
MASSIVE	584	3.61	100.00	760	4.44	100.00
TOTAL	16157	100.00	100.00	17108	100.00	100.00
UNKNOWN	2891	15.18		3059	15.17	
GRAND TOTAL	19048	100.00		20167	100.00	



PERINATAL DEATHS BY DEGREE OF NECROSIS OF DECIDUA CAPSULARIS - GROSS EXAMINATION - BY RACE

DEGREE OF NECROSIS	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NONE SEEN	6639	156	23.50	9182	307	33.43
NOT MASSIVE	8934	223	24.96	7166	230	32.10
MASSIVE	584	41	70.21	760	47	61.84
TOTAL	16157	420	25.99	17108	584	34.14
UNKNOWN	2891	248	85.78	3059	261	85.32
GRAND TOTAL	19048	668	35.07	20167	845	41.90

STILLBIRTHS BY DEGREE OF NECROSIS OF DECIDUA CAPSULARIS
GROSS EXAMINATION BY RACE

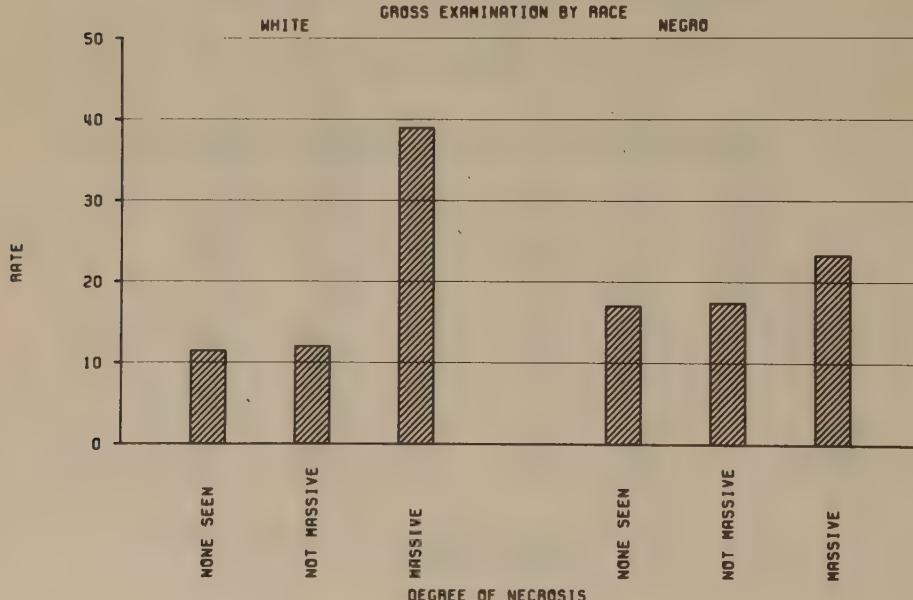


STILLBIRTHS BY DEGREE OF NECROSIS OF DECIDUA CAPSULARIS - GROSS EXAMINATION - BY RACE

DEGREE OF NECROSIS	WHITE			NEGRO		
	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NONE SEEN	6639	81	12.20	9182	153	16.66
NOT MASSIVE	8934	117	13.10	7166	107	14.93
MASSIVE	584	19	32.53	760	30	39.47
TOTAL	16157	217	13.43	17108	290	16.95
UNKNOWN	2891	198	68.49	3059	167	54.59
GRAND TOTAL	19048	415	21.79	20167	457	22.66

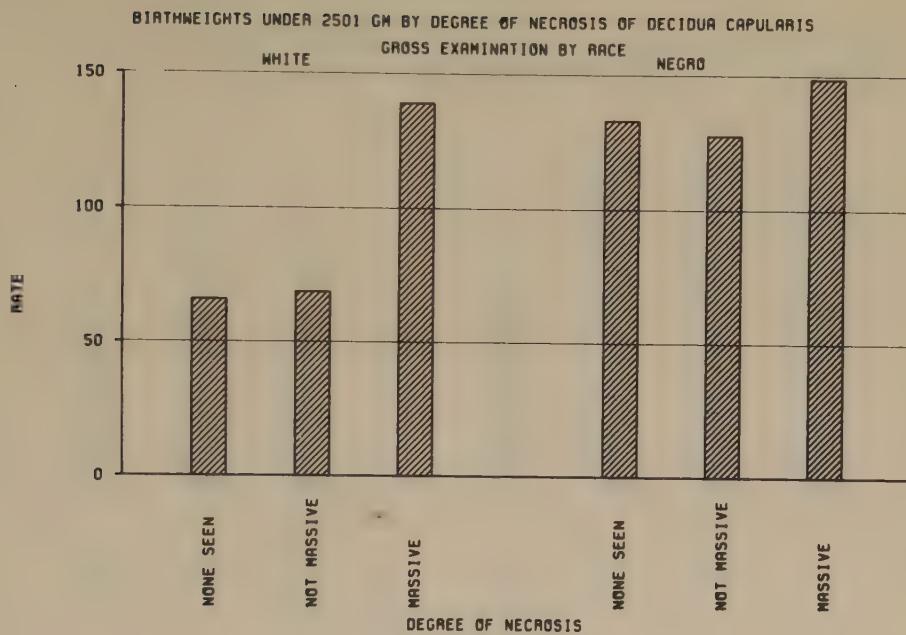
NEONATAL DEATHS BY DEGREE OF NECROSIS OF DECIDUA CAPSULARIS

GROSS EXAMINATION BY RACE



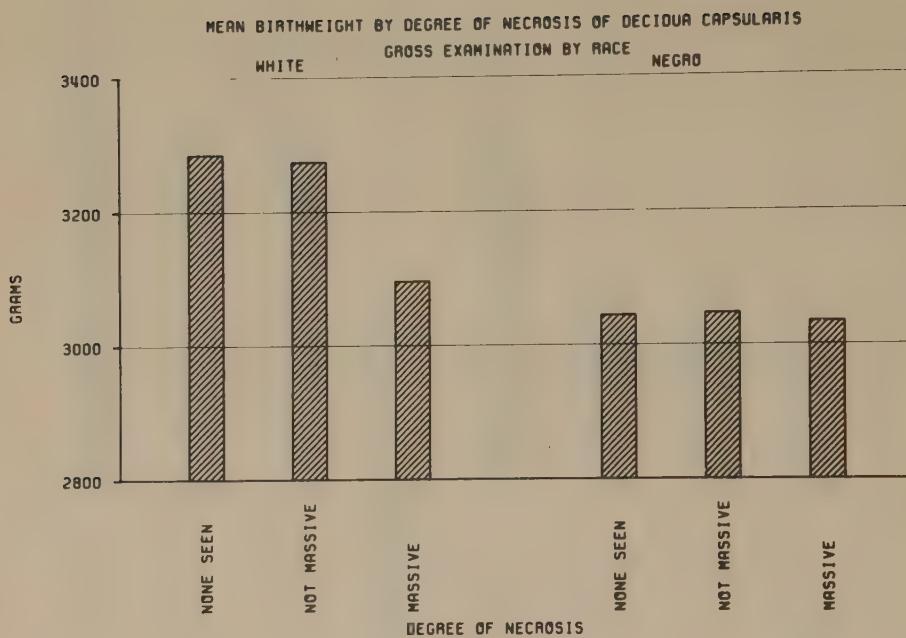
NEONATAL DEATHS BY DEGREE OF NECROSIS OF DECIDUA CAPSULARIS - GROSS EXAMINATION - BY RACE

DEGREE OF NECROSIS	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NONE SEEN	6558	75	11.44	9029	154	17.06
NOT MASSIVE	8817	106	12.02	7059	123	17.42
MASSIVE	565	22	38.94	730	17	23.29
TOTAL	15940	203	12.74	16818	294	17.48
UNKNOWN	2693	50	18.57	2892	94	32.50
GRAND TOTAL	18633	253	13.58	19710	388	19.69



BIRTHWEIGHTS UNDER 2501 GM BY DEGREE OF NECROSIS OF DECIDUA CAPSULARIS -
GROSS EXAMINATION - BY RACE

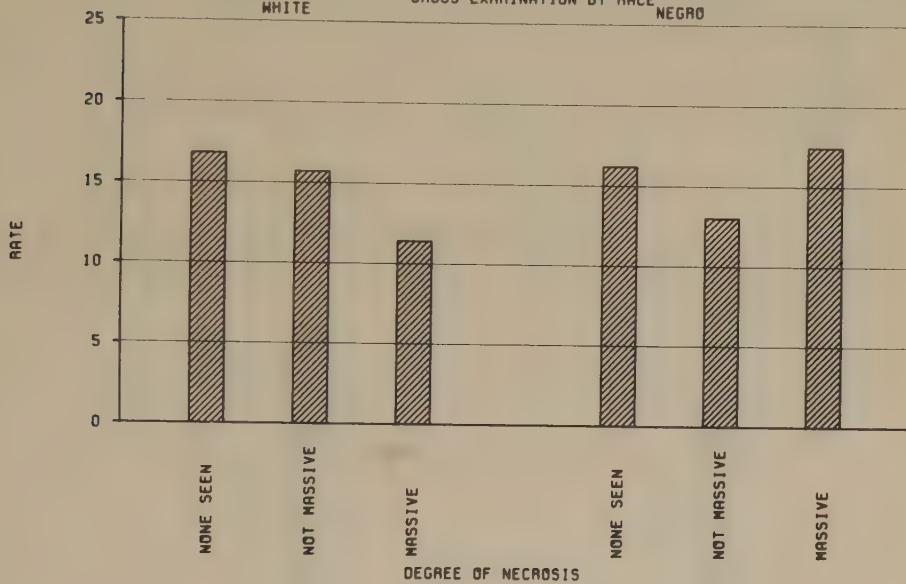
Degree of Necrosis	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NONE SEEN	6543	431	65.87	8998	1197	133.03
NOT MASSIVE	8791	604	68.71	7036	898	127.63
MASSIVE	561	78	139.04	726	108	148.76
TOTAL	15895	1113	70.02	16760	2203	131.44
UNKNOWN	2586	206	79.66	2744	414	150.87
GRAND TOTAL	18481	1319	71.37	19504	2617	131.18



MEAN BIRTHWEIGHT BY DEGREE OF NECROSIS OF DECIDUA CAPSULARIS - GROSS EXAMINATION - BY RACE

DEGREE OF NECROSIS	WHITE		NEGRO	
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NONE SEEN	6543	3285	8998	3044
NOT MASSIVE	8791	3274	7036	3047
MASSIVE	561	3096	726	3034
TOTAL	15895	3272	16760	3045
UNKNOWN	2586	3269	2744	3004
GRAND TOTAL	18481	3272	19504	3039

CHILDREN NEUROLOGICAL ABNORMAL BY DEGREE OF NECROSIS OF DECIDUA CAPSULARIS
GROSS EXAMINATION BY RACE



CHILDREN NEUROLOGICALLY ABNORMAL BY DEGREE OF NECROSIS OF DECIDUA -

GROSS EXAMINATION - BY RACE

DEGREE OF NECROSIS	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
NONE SEEN	5235	88	16.81	8079	131	16.21
NOT MASSIVE	7194	113	15.71	6062	79	13.03
MASSIVE	438	5	11.42	631	11	17.13
TOTAL	12867	206	16.01	14772	221	14.96
UNKNOWN	1795	47	26.18	2351	53	22.54
GRAND TOTAL	14662	253	17.26	17123	271	16.00

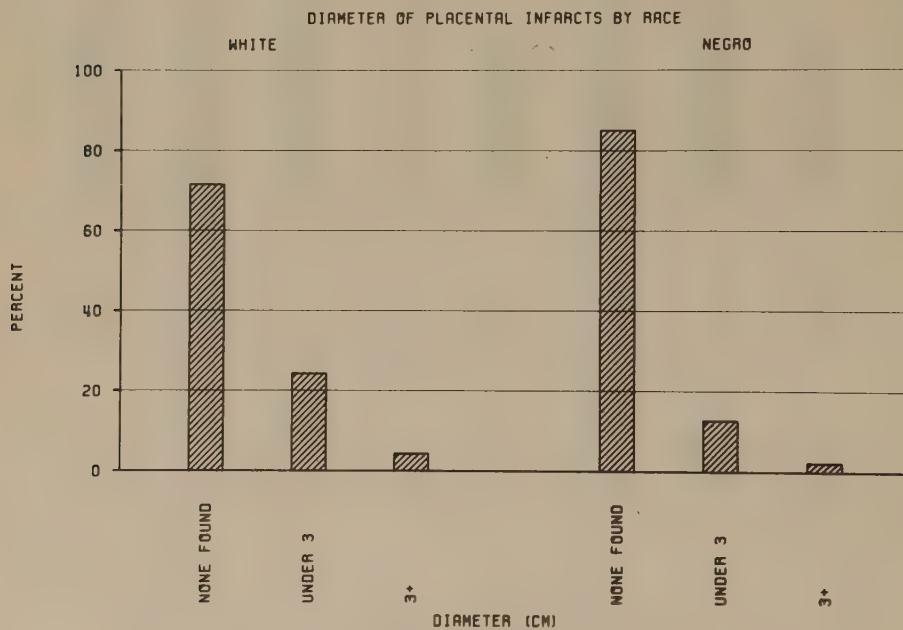
SECTION 1. THE PLACENTA (Continued)

DIAMETER OF PLACENTAL INFARCTS

Small infarcts were present in eighteen per cent and large infarcts in three per cent of the total population. Small infarcts were found twice as frequently in

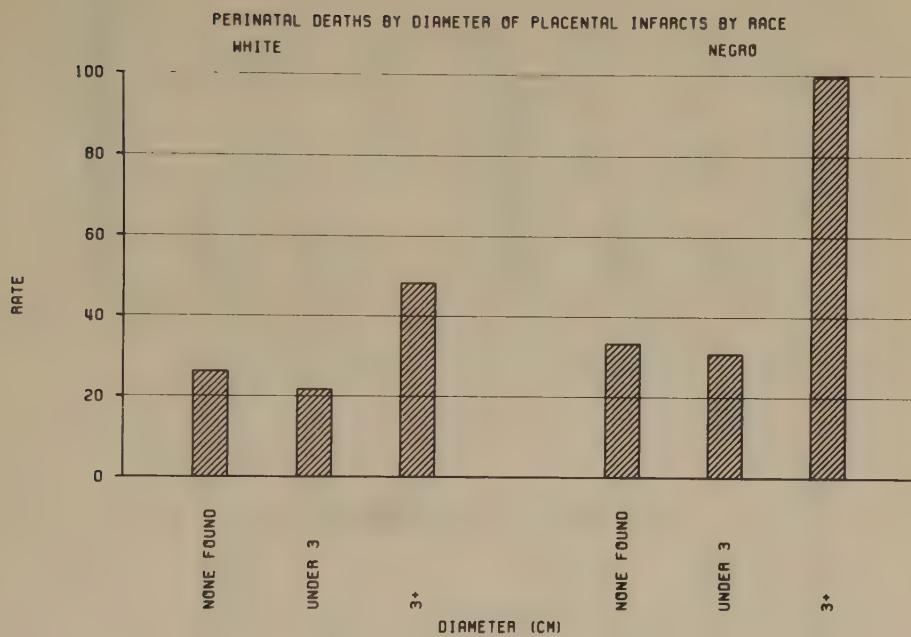
Whites (four per cent) as in Negroes (two per cent); large infarcts were also found at approximately twice the rates in Whites as in Negroes (24 per cent vs. 13 per cent).

The stillbirth rate was not affected by small infarcts but increased sharply with large ones, as one would expect from a decrease in functional placental volume.



DIAMETER OF PLACENTAL INFARCTS BY RACE

DIAMETER (CM)	WHITE			NEGRO		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
NONE FOUND	11568	71.51	71.51	11535	85.00	85.00
UNDER 3	3924	24.26	95.77	2172	12.70	97.71
3+	684	4.23	100.00	392	2.29	100.00
TOTAL	16176	100.00	100.00	17099	100.00	100.00
UNKNOWN	2872	15.08		3068	15.21	
GRAND TOTAL	19048	100.00		20167	100.00	



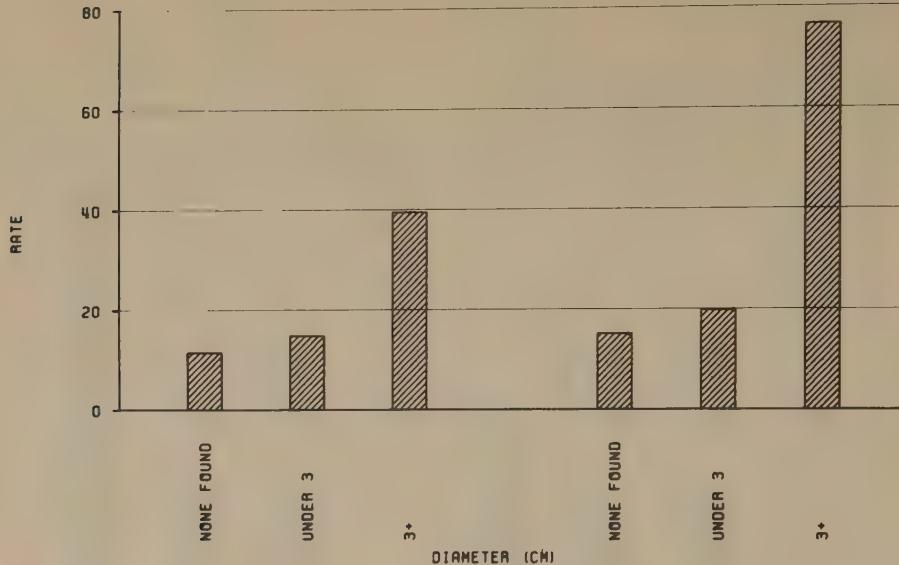
PERINATAL DEATHS BY DIAMETER OF PLACENTAL INFARCTS BY RACE

DIAMETER (CM)	WHITE			NEGRO		
	BIRTHS	PERINATAL DEATHS	RATE	BIRTHS	PERINATAL DEATHS	RATE
NONE FOUND	11568	303	26.19	14535	485	33.37
UNDER 3	3924	85	21.66	2172	67	30.85
3+	684	33	48.25	392	39	99.49
TOTAL	16176	421	26.03	17099	591	34.56
UNKNOWN	2872	247	86.00	3068	254	82.79
GRAND TOTAL	19048	668	35.07	20167	845	41.90

STILLBIRTHS BY DIAMETER OF PLACENTAL INFARCTS BY RACE

WHITE

NEGRO



STILLBIRTHS BY DIAMETER OF PLACENTAL INFARCTS BY RACE

WHITE

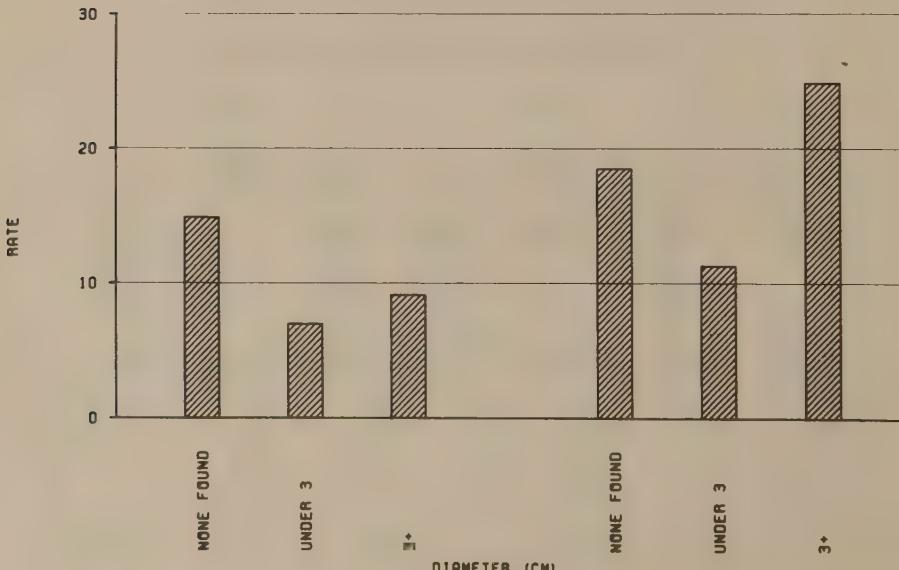
NEGRO

DIAMETER (CM)	BIRTHS	STILLBIRTHS	RATE	BIRTHS	STILLBIRTHS	RATE
NONE FOUND	11568	133	11.50	14535	220	15.14
UNDER 3	3924	58	14.78	2172	43	19.80
3+	684	27	39.47	392	30	76.53
TOTAL	16176	218	13.48	17099	293	17.14
UNKNOWN	2872	197	68.59	3068	164	53.46
GRAND TOTAL	19048	415	21.79	20167	457	22.66

NEONATAL DEATHS BY DIAMETER OF PLACENTAL INFARCTS BY RACE

WHITE

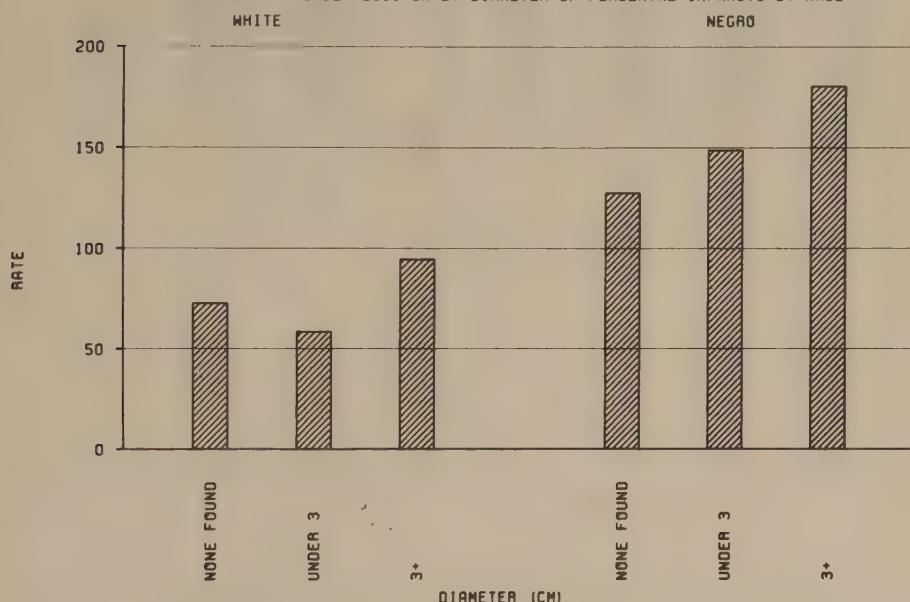
NEGRO



NEONATAL DEATHS BY DIAMETER OF PLACENTAL INFARCTS BY RACE

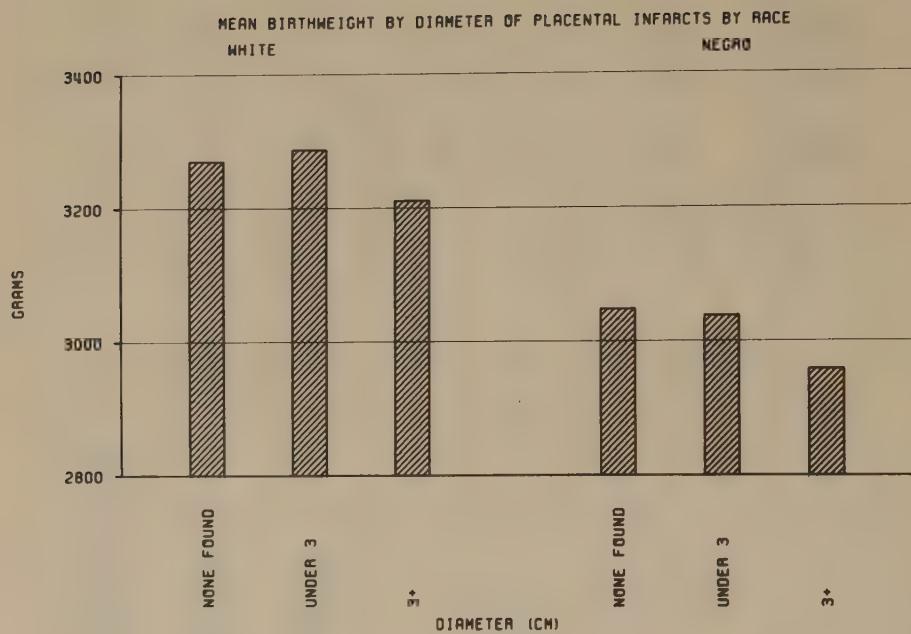
DIAMETER (CM)	WHITE			NEGRO		
	LIVEBIRTHS	NEONATAL DEATHS	RATE	LIVEBIRTHS	NEONATAL DEATHS	RATE
NONE FOUND	11435	170	14.87	14315	285	18.51
UNDER 3	3866	27	6.98	2129	24	11.27
3+	657	6	9.13	362	9	24.86
TOTAL	15958	203	12.72	16806	298	17.73
UNKNOWN	2675	50	18.69	2904	90	30.99
GRAND TOTAL	18633	253	13.58	19710	388	19.69

BIRTHWEIGHTS UNDER 2501 GM BY DIAMETER OF PLACENTAL INFARCTS BY RACE



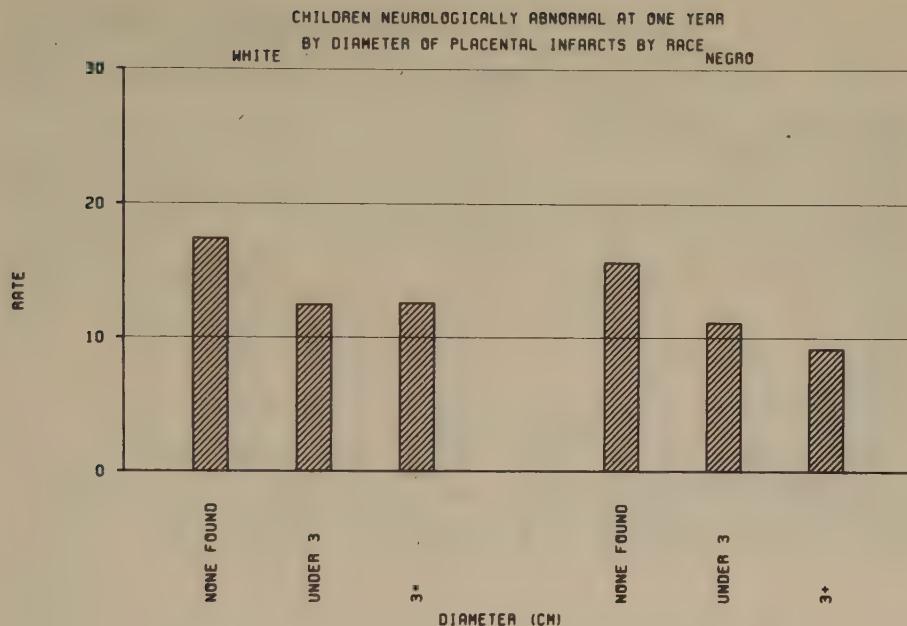
BIRTHWEIGHTS UNDER 2501 GM BY DIAMETER OF PLACENTAL INFARCTS BY RACE

DIAMETER (CM)	WHITE			NEGRO		
	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	BIRTHWEIGHTS UNDER 2501 GM.	RATE
NONE FOUND	11398	828	72.64	14267	1818	127.43
UNDER 3	3860	226	58.55	2123	316	148.85
3+	656	62	94.51	360	65	180.56
TOTAL	15914	1116	70.13	16750	2199	131.28
UNKNOWN	2567	203	79.08	2754	418	151.78
GRAND TOTAL	18481	1319	71.37	19504	2617	134.18



MEAN BIRTHWEIGHT BY DIAMETER OF PLACENTAL INFARCTS BY RACE

	WHITE		NEGRO	
DIAMETER (CM)	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT	LIVEBIRTHS WITH KNOWN BIRTHWEIGHT	MEAN BIRTHWEIGHT
NONE FOUND	11398	3270	14267	3048
UNDER 3	3860	3287	2123	3038
3+	656	3211	360	2958
TOTAL	15914	3272	16750	3045
UNKNOWN	2567	3272	2754	3006
GRAND TOTAL	18481	3272	19504	3039



CHILDREN NEUROLOGICALLY ABNORMAL AT ONE YEAR BY DIAMETER OF PLACENTAL INFARCTS BY RACE

DIAMETER (CM)	WHITE			NEGRO		
	ONE YEAR EXAMS	ABNORMALS	RATE	ONE YEAR EXAMS	ABNORMALS	RATE
NONE FOUND	9193	160	17.40	12540	196	15.63
UNDER 3	3135	39	12.44	1888	21	11.12
3+	557	7	12.57	327	3	9.17
TOTAL	12885	206	15.99	14755	220	14.91
UNKNOWN	1777	47	26.45	2368	54	22.80
GRAND TOTAL	14662	253	17.26	17123	274	16.00

SUMMARY DATA FOR WHITE

ITEM	BIRTHS			PERINATAL DEATHS			STILLBIRTHS			NEONATAL DEATHS			LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	NO.	RATE	LIVE-BIRTHS	NO.	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	NO.	RATE	MEAN BWT.	
PLACENTA WITH ABNORMAL COLORATION OF FETAL SURFACE																		
MACROPHAGES IN AMNION OR CHORION	2068	12.8	179	86.6	136	65.8	1932	43	22.3	1920	155	80.7	1569	33	21.0	3351		
MACROPHAGES IN PLACENTAL DECIDUA	6004	37.0	233	38.8	141	23.5	5863	92	15.7	5841	386	66.1	4631	73	15.8	3310		
NEUTROPHILIC INFILTRATION OF AMNION OF MEMBRANE	1167	7.2	68	58.3	45	38.6	1122	23	20.5	1117	91	81.5	868	19	21.9	3272		
ROLL	1392	9.0	97	69.7	58	41.7	1334	39	29.2	1325	145	109.4	1035	24	23.2	3230		
NEUTROPHILIC INFILTRATION OF AMNION OF PLACENTAL SURFACE	957	6.4	75	78.4	35	36.6	922	40	43.4	917	115	125.4	692	17	24.6	3175		
NEUTROPHILIC INFILTRATION OF CHORION OF MEMBRANE	2120	13.1	145	68.4	86	40.6	2034	59	29.0	2020	228	112.9	1589	39	24.5	3224		
NEUTROPHILIC INFILTRATION OF UMBILICAL VEIN	2360	14.6	84	35.6	30	12.7	2330	54	23.2	2321	185	79.7	1876	29	15.5	3307		
CORD WITH MEMBRANOUS INSERTION	326	1.9	10	30.7	5	15.3	321	5	15.6	320	40	125.0	242	6	24.8	3098		
UMBILICAL CORD WITH ONE UMBILICAL ARTERY	198	1.0	19	106.7	15	84.3	163	4	24.5	163	25	153.4	121	4	33.1	3045		

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS			PERINATAL DEATHS			STILLBIRTHS			NEONATAL DEATHS			LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	NO.	RATE	LIVE-BIRTHS	NO.	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	NO.	RATE	MEAN BWT.	
PLACENTA WITH ABNORMAL COLORATION OF FETAL SURFACE																		
MACROPHAGES IN AMNION OR CHORION	1873	10.9	172	91.8	116	61.9	1757	56	31.9	1743	174	99.8	1515	24	15.8	3164		
MACROPHAGES IN PLACENTAL DECIDUA	6426	36.2	261	40.6	137	21.3	6265	124	19.7	6265	791	126.3	5479	79	14.4	3063		
NEUTROPHILIC INFILTRATION OF AMNION OF MEMBRANE	2535	14.3	107	42.2	63	24.9	2472	44	17.8	2466	343	139.1	2191	36	16.4	3042		
ROLL	1321	7.9	133	100.7	70	53.0	1251	63	50.4	1238	266	214.9	1069	20	18.7	2918		
NEUTROPHILIC INFILTRATION OF AMNION OF PLACENTAL SURFACE	920	5.7	111	120.7	52	56.5	868	59	68.0	853	209	245.0	730	14	19.2	2849		
NEUTROPHILIC INFILTRATION OF CHORION OF MEMBRANE	2762	15.6	230	83.3	119	43.1	2643	111	42.0	2616	560	214.1	2271	39	17.2	2918		
NEUTROPHILIC INFILTRATION OF UMBILICAL VEIN	1329	7.5	125	94.1	50	37.6	1279	75	58.6	1268	323	254.7	1081	20	18.5	2852		
CORD WITH MEMBRANOUS INSERTION	225	1.3	9	40.0	4	17.8	221	5	22.6	221	40	181.0	194	1	5.2	2965		
UMBILICAL CORD WITH ONE UMBILICAL ARTERY	92	0.5	15	163.0	10	108.7	82	5	61.0	81	22	271.6	67	6	89.6	2872		

SUMMARY DATA FOR WHITE

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL			MEAN BWT.	
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE			
NECROSIS DECIDUA																
CAPSULARIS																
NONE SEEN	6639	41.1	156	23.5	81	12.2	6538	75	11.4	6543	431	65.9	5235	88	16.8	3285
NOT MASSIVE	8934	55.3	223	25.0	117	13.1	8817	106	12.0	8791	604	68.7	7194	113	15.7	3274
MASSIVE	584	3.6	41	70.2	19	32.5	565	22	38.9	561	78	139.0	438	5	11.4	3096
DIAMETER OF PLACENTAL INFARCTS																
NONE FOUND	11568	71.5	303	26.2	133	11.5	11435	170	14.9	11398	828	72.6	9193	160	17.4	3270
UNDER 3 CM	3924	24.3	85	21.7	58	14.8	3866	27	7.0	3860	226	58.5	3135	39	12.4	3287
3+ CM	684	4.2	33	48.2	27	39.5	657	6	9.1	656	62	94.5	557	7	12.6	3211
TYPE OF INSERTION OF PLACENTAL MEMBRANES																
MARGINAL	12198	69.5	334	27.4	181	14.8	12017	153	12.7	11984	828	69.1	9812	183	18.7	3278
CIRCUMMARGINATE	993	5.7	18	18.1	9	9.1	984	9	9.1	980	78	79.6	708	10	14.1	3270
CIRCUMVALLATE	574	3.3	23	40.1	7	12.2	567	16	28.2	565	71	125.7	454	12	26.4	3150
PARTIAL	3669	19.8	74	21.3	38	11.0	3431	36	10.5	3423	208	60.8	2762	30	10.9	3291
OTHER COMBINATIONS	320	1.8	5	15.6	1	3.1	319	4	12.5	318	27	84.9	259	6	23.2	3226
ALL STUDY CASES	19048	100.0	668	35.1	415	21.8	18633	253	13.6	18481	1319	71.4	14662	253	17.0	3272

SUMMARY DATA FOR NEGRO

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL			MEAN BWT.	
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	I YR EXAMS	NO.	RATE			
NECROSIS DECIDUA																
CAPSULARIS																
NONE SEEN	9182	53.7	307	33.4	153	16.7	9029	154	17.1	8998	1197	133.0	8079	131	16.2	3044
NOT MASSIVE	7166	41.9	230	32.1	107	14.9	7059	123	17.4	7036	898	127.6	6062	79	13.0	3047
MASSIVE	760	4.4	47	61.8	30	39.5	730	17	23.3	726	108	148.8	631	11	17.4	3034
DIAMETER OF PLACENTAL INFARCTS																
NONE FOUND	14535	85.0	485	33.4	220	15.1	14315	265	18.5	14267	1818	127.4	12540	196	15.6	3048
UNDER 3 CM	2172	12.7	67	30.8	43	19.8	2129	24	11.3	2123	316	148.8	1888	21	11.1	3038
3+ CM	392	2.3	39	99.5	30	76.5	362	9	24.9	360	65	180.6	327	3	9.2	2958
TYPE OF INSERTION OF PLACENTAL MEMBRANES																
MARGINAL	15256	86.1	522	34.2	256	16.8	15000	266	17.7	14933	1975	132.3	13132	196	14.9	3043
CIRCUMMARGINATE	732	4.1	21	28.7	12	16.4	720	9	12.5	718	99	137.9	619	11	17.8	3005
CIRCUMVALLATE	305	1.7	15	49.2	5	16.4	300	10	33.3	300	44	146.7	268	3	11.2	3019
PARTIAL	1348	7.6	43	31.9	20	14.8	1328	23	17.3	1326	141	106.3	1182	20	16.9	3114
OTHER COMBINATIONS	82	0.5	5	61.0	0	0	82	5	61.0	81	19	234.6	66	2	30.3	2918
ALL STUDY CASES	20167	100.0	845	41.9	457	22.7	19710	388	19.7	19504	2617	134.2	17123	274	16.0	3039

SECTION 2. PERINATAL DEATHS—SELECTED AUTOPSY FINDINGS

The participants in the Collaborative Perinatal Study made special efforts to obtain post-mortem examinations on all perinatal deaths. A total of 1094 autopsies were performed in 1513 perinatal deaths (72.3 per cent). All autopsies were performed according to a structured protocol (PATH-3) by the pathologist at each Collaborating Center. Neuropathological specimens were centrally collected and are in the process of review.

The frequency distributions for selected autopsy findings are presented to permit comparison with other published data. The relative frequencies of these selected autopsy findings in the first table below

closely parallel those published in specialized textbooks and articles (British Perinatal Survey). They show a lower relative frequency of congenital malformations and erythroblastosis in Negroes. Of interest is the finding of a higher relative frequency of pneumonia and sepsis in perinatal deaths in the Negro. The remaining two tables show selected autopsy findings of Whites and Negroes for birthweights below 2500 grams and above 2500 grams.

A higher rate of inflammatory disease in Negroes is found consistently in stillbirths and neonatal deaths, the greatest difference being observed in the group under 2501 grams. This is in keeping with recently published data relating race and poverty to antenatal infection.⁹

⁹ Naeye, R. L., Blanc, W. A. "Relation of poverty and race to antenatal infection," *New England J. Med.*, 283:555, 1970.

SELECTED AUTOPSY FINDINGS IN PERINATAL DEATHS, BY RACE

DIAGNOSIS	WHITE						NEGRO					
	STILLBIRTHS			NEONATAL DEATHS		PERINATAL DEATHS		STILLBIRTHS			NEONATAL DEATHS	
	MACERATED	FRESH	TOTAL	NO.	%*	MACERATED	FRESH	TOTAL	NO.	%		
BIRTH INJURIES	2	5	7	17	24	5.2	0	7	7	35	42	6.6
SEPSIS	2	0	2	5	7	1.5	1	2	3	18	21	3.3
PNEUMONIA	1	8	9	43	52	11.3	8	10	18	97	115	18.2
HYALINE MEMBRANE	0	0	0	61	61	13.2	0	0	0	88	88	13.9
ERYTHROBLASTOSIS	26	2	28	13	41	8.9	4	1	5	2	7	1.1
PULMONARY HEMORRHAGE	3	5	8	24	32	6.9	3	6	9	38	47	7.4
SUBARACHNOID HEMORRHAGE	1	1	2	19	21	4.6	4	5	9	30	39	6.2
CONGENITAL MALFORMATIONS	31	33	64	74	138	29.9	20	25	45	74	119	18.8
ASPIRATION OF AMNIOTIC FLUID	44	49	93	84	177	38.4	49	58	107	128	235	37.1
TOTAL	156	89	245	216	461	-	164	122	286	347	633	-

* THESE DIAGNOSES ARE NOT MUTUALLY EXCLUSIVE.

SELECTED AUTOPSY FINDINGS IN WHITE PERINATAL DEATHS, BY BIRTHWEIGHT

DIAGNOSIS	UNDER 2501 GMS.**						OVER 2500 GMS.**					
	STILLBIRTHS			NEONATAL DEATHS		PERINATAL DEATHS		STILLBIRTHS			NEONATAL DEATHS	
	MACERATED	FRESH	TOTAL	NO.	%*	MACERATED	FRESH	TOTAL	NO.	%		
BIRTH INJURIES	2	4	6	10	16	5.1	0	1	1	7	8	5.4
SEPSIS	2	0	2	3	5	1.6	0	0	0	2	2	1.3
PNEUMONIA	0	3	3	22	25	8.0	1	5	6	21	27	18.1
HYALINE MEMBRANE	0	0	0	46	46	14.7	0	0	0	15	15	10.1
ERYTHROBLASTOSIS	18	1	19	9	28	9.0	8	1	9	4	13	8.7
PULMONARY HEMORRHAGE	3	1	4	13	17	5.4	0	4	4	11	15	10.1
SUBARACHNOID HEMORRHAGE	1	0	1	13	14	4.5	0	1	1	6	7	4.7
CONGENITAL MALFORMATIONS	22	16	38	38	76	24.4	9	17	26	36	62	41.6
ASPIRATION OF AMNIOTIC FLUID	28	28	56	56	112	35.9	16	21	37	28	65	43.6
TOTAL	115	52	167	145	312	-	41	37	78	71	149	-

* THESE DIAGNOSES ARE NOT MUTUALLY EXCLUSIVE.

** INCLUDES CASES FOR WHICH BIRTHWEIGHT WAS PREVIOUSLY REPORTED AS UNKNOWN.

SELECTED AUTOPSY FINDINGS IN NEGRO PERINATAL DEATHS, BY BIRTHWEIGHT

DIAGNOSIS	UNDER 2501 GMS. ^{XX}						OVER 2500 GMS. ^{XX}					
	STILLBIRTHS			NEONATAL DEATHS		PERINATAL DEATHS	STILLBIRTHS			NEONATAL DEATHS		PERINATAL DEATHS
	MACERATED	FRESH	TOTAL	NO.	%		MACERATED	FRESH	TOTAL	NO.	%	
BIRTH INJURIES	0	3	3	24	27	6.0	0	4	4	11	15	8.1
SEPSIS	0	2	2	12	14	3.1	1	0	1	6	7	3.8
PNEUMONIA	4	6	10	61	71	15.9	4	4	8	36	44	23.7
HYALINE MEMBRANE	0	0	0	76	76	17.0	0	0	0	12	12	6.5
ERYTHROBLASTOSIS	3	1	4	2	6	1.3	1	0	1	0	1	0.5
PULMONARY HEMORRHAGE	1	3	4	21	25	5.6	2	3	5	17	22	11.8
SUBARACHNOID HEMORRHAGE	4	4	8	22	30	6.7	0	1	1	8	9	4.8
CONGENITAL MALFORMATIONS	15	16	31	36	67	15.0	5	9	14	38	52	28.0
ASPIRATION OF AMNIOTIC FLUID	26	37	63	93	156	34.9	23	21	44	35	79	42.5
TOTAL	113	81	194	253	447	-	51	41	92	94	186	-

^X THESE DIAGNOSES ARE NOT MUTUALLY EXCLUSIVE.^{XX} INCLUDES CASES FOR WHICH BIRTHWEIGHT WAS PREVIOUSLY REPORTED AS UNKNOWN.

Appendix A

PARTICIPANTS IN THE COLLABORATIVE PERINATAL STUDY AT EACH COLLABORATING CENTER

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**CHILD DEVELOPMENT STUDY
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Appendix B

SELECTION CRITERIA FOR THE SAMPLE FRAME, THE CHARACTERISTICS OF THE FRAME, AND THE SAMPLING METHOD BY COLLABORATING CENTER

SUMMARY OF CASE SELECTION BY INSTITUTION

INSTITUTION	REGISTRATION		NUMBER OF CASES IN SAMPLING FRAME	NUMBER OF CASES SELECTED CORE STUDY	AVERAGE SAMPLING RATIO
	FROM	TO			
BO	1/02/59	12/31/65	13,137	13,137	1:1.0
BU	10/07/60	12/31/65	2,964	2,964	1:1.0
CH	3/15/60	12/31/65	18,890	2,590	1:7.3
CO	1/16/59	4/30/63	9,852	2,235	1:4.4
JH	1/06/59	12/31/64	8,573	3,774	1:2.3
VA	1/02/59	12/31/65	4,660	3,250	1:1.4
MN	1/20/59	12/31/65	3,468	3,275	1:1.1
NY	2/02/59	12/31/65	27,380	4,709	1:5.8
OR	3/02/59	12/31/65	6,327	3,255	1:1.9
PA	1/05/59	12/31/65	10,457	10,315	1:1.0
PR	3/02/60	12/31/65	6,300	2,851	1:2.2
TN	10/16/59	12/31/65	20,552	3,553	1:5.8
TOTAL	1/02/59	12/31/65	132,560	55,908	1:2.4

STUDY SELECTION PROCEDURES AT BOSTON LYING-IN HOSPITAL

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
JANUARY 1959	ALL CLINIC PA- TIENTS ADMITTED	UNMED REFERRALS FROM FLORENCE CRITTENDEN HOME	NONE	2000	50% USING Hos- PITAL UNIT NUMBER	NONE
MARCH 1959	-	-	-	-	100%	-
MAY 1960	-	AS ABOVE AND WALK-INS	-	-	-	-
DECEMBER 1960	-	AS ABOVE AND UNMED MOTHERS WHO PLAN TO GIVE UP THEIR BABIES	-	-	-	-
JUNE 1962	-	-	-	-	-	DIABETIC MOTHERS WHO MADE WEEKLY VISITS TO JOSLIN CLINIC

STUDY SELECTION PROCEDURES
AT
CHILDREN'S HOSPITAL - BUFFALO

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
OCTOBER 1960	PRIVATE PATIENTS SEEN BY 13 PARTICIPATING OBSTETRICIANS	WALK-INS, WOMEN WHO DO NOT INTEND TO DELIVER AT CHILDREN'S HOSPITAL OR WHO PLAN TO MOVE OUT OF AREA	NONE	UNKNOWN	AVERAGE OF TWO PATIENTS PER MONTH, RANDOMLY SELECTED, PER PARTICIPATING OBSTETRICIAN	COURTESY CASES AT REQUEST OF PARTICIPATING OBSTETRICIANS
AUGUST 1961	PRIVATE PATIENTS SEEN BY 12 PARTICIPATING OBSTETRICIANS				AVERAGE OF TWO PATIENTS PER MONTH, RANDOMLY SELECTED, PER PARTICIPATING OBSTETRICIAN	
NOVEMBER 1961	PRIVATE PATIENTS SEEN BY 4 PARTICIPATING OBSTETRICIANS				100% OF ELIGIBLE WOMEN SEEN BY 3 OBSTETRICIANS & 50% OF THOSE SEEN BY THE REMAINING OBSTETRICIAN	NONE
MAY 1962		PATIENTS WHO TERMINATE PREGNANCY WITHIN 7 DAYS OF INITIAL VISIT DEFINED AS WALK-INS				
DECEMBER 1963					100% OF ELIGIBLE WOMEN SEEN BY 4 OBSTETRICIANS	
JANUARY 1964	PRIVATE PATIENTS SEEN BY 6 PARTICIPATING OBSTETRICIANS				100% OF ELIGIBLE WOMEN SEEN BY 6 OBSTETRICIANS	

STUDY SELECTION PROCEDURES
AT
CHARITY HOSPITAL

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
MARCH 1960	ALL NEGRO PATIENTS RESIDING IN ORLEANS PARISH AND ASSIGNED TO CHARITY HOSPITAL SERVICES OF TULANE OR LSU	NONE	NONE	4300	10% SYSTEMATIC; ALL OPD NUMBERS ENDING IN ZERO	NONE
MAY 1960		WALK-INS				
APRIL 1963				3800	1 OUT OF EACH 8 PATIENTS	
JULY 1963				3000	1 OUT OF EACH 6 PATIENTS	

* OUT-PATIENT DEPARTMENT.

STUDY SELECTION PROCEDURES
AT
COLUMBIA PRESBYTERIAN HOSPITAL

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
JANUARY 1959	ALL CLINIC PATIENTS ADMITTED	NONE	NONE	3000	EVERY SIXTH CASE	NONE
APRIL 1, 1960	ALL CLINIC PATIENTS ADMITTED	*	*	*	EVERY FIFTH CASE	*
APRIL 14, 1960	*	*	*	3600	EVERY SIXTH CASE	*
MAY 1960		WALK-INS	*	*	*	*
APRIL 1962	CLINIC PATIENTS ADMITTED RESIDING IN MANHATTAN AND THE BRONX ONLY	*	*	2500	EVERY FIFTH CASE	*
APRIL 1963						

CASE SELECTION TERMINATED -

STUDY SELECTION PROCEDURES
AT
JOHNS HOPKINS HOSPITAL

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
JANUARY 1959	ALL CLINIC PATIENTS WHO LIVE WITHIN METROPOLITAN BALTIMORE (APPROX. 25 MILE RADIUS)	TRANSIENTS AND PATIENTS ADMITTED WHO ARE REFERRED TO COUNTY CLINICS FOR OBSTETRICAL CARE	NONE	1000	20% OF GRAVIDA BASED ON HISTORY NUMBERS ENDING IN 5 OR 8	NON-SELECTED WOMEN WHO: 1. ARE 15 YRS. OR UNDER 2. ARE 40 YRS. OR OVER 3. ARE DIABETIC AT REGISTRATION 4. HAVE HISTORY OF 4 OR MORE FETAL LOSSES 5. HAVE HISTORY OF MALFORMED CHILD
SEPTEMBER 1959				1600	30% OF GRAVIDA BASED ON HISTORY NUMBERS ENDING IN 5, 6, OR 8	NON-SELECTED WOMEN WHO: 1. ARE 15 YRS. OR UNDER 2. ARE 40 YRS. OR OVER 3. ARE DIABETIC AT REGISTRATION 4. HAVE HISTORY OF 3 OR MORE FETAL LOSSES 5. HAVE HISTORY OF MALFORMED CHILD
MAY 1960		AS ABOVE AND WALK-INS				
APRIL 1962				1400	40% OF GRAVIDA BASED ON HISTORY NUMBERS ENDING IN 5, 6, 8 OR 9	
JANUARY 1964					100% OF GRAVIDA IN SAMPLING FRAME	
DECEMBER 1964		CASE SELECTION TERMINATED -				

STUDY SELECTION PROCEDURES
AT
MEDICAL COLLEGE OF VIRGINIA

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
JANUARY 1959	CLINIC PATIENTS RESIDING WITHIN A 50-MILE RADIUS OF RICHMOND, VIRGINIA	1. WHITE WELFARE CASES 2. ANY WOMAN WHO INDICATES THAT HER CHILD IS UP FOR ADOPTION	OCCASIONALLY EXCLUDE PATIENTS WHO REFUSE TO ENTER THE STUDY FOR PERSONAL OR OTHER REASONS	1200	EVERY FOURTH NEGRO PATIENT, ALL WHITE PATIENTS.	NON-SELECTED WOMEN IN THE FIRST TRIMESTER OF PREGNANCY
MAY 1960		WALK-INS				
SEPTEMBER 1960	CLINICS PATIENTS RESIDING IN THE CITY OF RICHMOND AND THE SURROUNDING COUNTIES OF CHESTERFIELD, HANOVER AND HENRICO	1. WARDS OF THE STATE WHO ARE IN CORRECTIONAL INSTITUTIONS 2. PATIENTS WHO PLAN TO PUT THEIR CHILDREN UP FOR ADOPTION		950	EVERY SECOND NEGRO PATIENT, ALL WHITE PATIENTS	
JANUARY 1962	CLINIC PATIENTS RESIDING IN THE CITY OF RICHMOND ONLY		NONE	1200		
AUGUST 1962	CLINIC PATIENTS WHO ARE "CITY RESIDENTS" OF THE CITY OF RICHMOND			780	2 OF EVERY 3 NEGRO PATIENTS, ALL WHITE PATIENTS	
OCTOBER 1962				500	100%	NONE

STUDY SELECTION PROCEDURES
AT
UNIVERSITY OF MINNESOTA

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
JANUARY 1959	ALL CLINIC PATIENTS ADMITTED	1. WOMEN WHO WERE NEVER MARRIED 2. THOSE DIVORCED, WIDOWED, OR SEPARATED BEFORE THE START OF THE CURRENT PREGNANCY 3. THOSE REGISTERED FOR THE FIRST TIME AFTER 26 DAYS OF PREGNANCY (AS DETERMINED BY THE OBSTETRICIAN)	OCCASIONAL PATIENT BECAUSE OF A LONG-URGE DIFFICULTY	300	100%	NONE
OCTOBER 1959		ELIMINATED #3 EXCEPT THAT WALK-INS ARE STILL EXCLUDED		330	100%	
DECEMBER 1959		ELIMINATED #1 AND #2 THEREFORE WALK-INS ONLY EXCLUSIONS		500	100%	

STUDY SELECTION PROCEDURES
AT
NEW YORK MEDICAL COLLEGE

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
FEBRUARY 1959	ALL CLINIC PATIENTS ADMITTED	PATIENTS ADMITTED FOR DELIVERY ONLY	OCCASIONAL REFUSAL TO ENTER PROGRAM	5000	10 CASES PER WEEK	NONE
JANUARY 1960	-	-	-	-	EVERY NINTH CASE	-
MARCH 1960	-	-	-	-	EVERY EIGHTH CASE	-
MAY 1960	-	WALK-INS (ALSO SEE ABOVE)	-	-	-	-
JUNE 1960	-	-	-	-	EVERY SEVENTH CASE	-
JANUARY 1961	-	-	-	-	EVERY SIXTH CASE	-

STUDY SELECTION PROCEDURES
AT
UNIVERSITY OF OREGON

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
MARCH 1959	ALL CLINIC PATIENTS ADMITTED	NONE	NONE	1500	EVERY THIRD CASE	NON-SELECTED REPEATERS
JUNE 1959	ALL CLINIC PATIENTS ADMITTED WHO RESIDE WITHIN PORTLAND MAILING AREA	SPECIAL CLINIC: 1. CLIENTS OF PRIVATE ADOPTION AGENCIES 2. MEDICAL STUDENTS' WIVES	-	1500	EVERY THIRD CASE	-
MARCH 1960	ALL CLINIC PATIENTS ADMITTED WHO RESIDE WITHIN MULTNOMAH COUNTY WEST OF 122ND STREET	-	-	750	TWO OF EVERY THREE CASES	-
MAY 1960	-	AS ABOVE AND WALK-INS	-	-	-	NON-SELECTED REPEATERS AND SAMPLE OF NON-FRAME WALK-INS
JULY 1960	-	-	-	1000	EVERY OTHER CASE	-
APRIL 1961	ALL CLINIC PATIENTS ADMITTED WHO RESIDE WITHIN MULTNOMAH COUNTY WEST OF 122ND STREET. NO RESIDENCE REQUIREMENTS FOR PATIENTS ADMITTED FOR REPEAT STUDY PRENANCIES	-	-	-	42% OF GRAVIDIA BASED ON MONTH OF BIRTH.	NONE
JANUARY 1962	-	-	-	-	5% OF GRAVIDIA BASED ON BIRTH ON 000 NUMBERED DAYS	-
JANUARY 1964	-	AS ABOVE AND JUVENILE DETENTION HOME, BALLINGTON HOME AND JAIL PATIENTS	REPEAT CASES WHO REFUSE WILL BE EXCLUDED FROM SAMPLING FRAME	1000	-	FIRST TRIMESTER REGISTRANTS NOT SELECTED AS STUDY CASES

STUDY SELECTION PROCEDURES
AT
PENNSYLVANIA HOSPITAL

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
JANUARY 1959	ALL CLINIC PATIENTS ADMITTED	UNREGISTERED EMERGENCY DELIVERY	NONE	1200	100%	NONE
AUGUST 1959	-	UNREGISTERED EMERGENCY DELIVERIES AND PATIENTS WHO, AT INITIAL CONTRACT, STATE THEY WILL DELIVER ELSEWHERE	-	-	-	-
MAY 1960	-	WALK-INS (ALSO SEE ABOVE)	-	1500	100%	-

STUDY SELECTION PROCEDURES
AT
PROVIDENCE LYING-IN HOSPITAL

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
MARCH 1960	ALL CLINIC PATIENTS ADMITTED	NONE	NONE	1100	A VARYING PROPORTION OF ACTUAL CLINIC TOTAL WILL BE SELECTED SO AS TO OBTAIN A FIXED NUMBER OF NEW CASES EACH WEEK. AVERAGE CLINIC LOAD PER DAY FOR THE PAST 3 WEEKS IS USED IN DETERMINING THE SAMPLING LEVEL FOR THE FOLLOWING WEEK.	NONE
MAY 1960		WALK-INS				
JULY 1960					50%	

STUDY SELECTION PROCEDURES
AT
UNIVERSITY OF TENNESSEE

DATE INITIATED	SAMPLING FRAME CRITERIA	EXCLUSIONS FROM SAMPLING FRAME	SPECIAL EXCLUSIONS FROM SAMPLE	FRAME SIZE	ANNUAL SAMPLING METHOD	SPECIAL STUDIES
OCTOBER 1959	ALL CLINIC PATIENTS ADMITTED WHO RESIDE WITHIN THE CITY LIMITS OF MEMPHIS, TENNESSEE	NONE	NONE	6000	10%	NONE
MARCH 1960				4200	EVERY SEVENTH CASE	
MAY 1960		WALK-INS				

Appendix C

PROCEDURE MANUAL AND STUDY FORMS

COLLABORATIVE PROJECT

PROCEDURE MANUAL FOR OBSTETRIC PHASE

I. Introduction

Collaborative research necessitates delineating the procedures essential to insure uniformity of data collection. The Procedure Manual for the Obstetric Phase and the Instruction Manual for Obstetric Forms are provided to assist in the uniform collection of data.

The Procedure Manual is intended for the use of the Obstetric Coordinator and all other supervisory personnel and is a statement of principles.

The Instruction Manual provides specific instructions for proper completion of forms and is intended for the use of those who collect and process data locally (physicians, nurses, interviewers, observers and editors).

A. Purposes of the Manual

1. To provide direction and requirements for the collection, editing, and submission of data on Study patients.
2. To provide procedures for the uniform use of Study forms and other data collection methods.
3. To provide a manual for training Study personnel.

B. Project Administration

1. The procedural guides presented in this manual are for use with all Collaborative Study patients. If certain procedures cannot be followed, then it is the responsibility of that institution to notify the Perinatal Research Branch and to satisfy the Executive Committee of the Project Directors and Principle Investigators that a suitable substitute has been found, so that approval may be obtained for use of the alternate procedure.
2. Responsibility for the collection of maternal data on Study patients rests with the Obstetric Coordinator, the Project Director, the Head of the Department of Obstetrics, and ultimately the Principle Investigator. The support and backing of the Chairman of the Department of Obstetrics are vital to the success of the obstetric phase.

The Obstetric Coordinator must:

- a. Have a thorough understanding of Study objectives and requirements, and utilize this knowledge in close supervision of data collection and editing in all areas.
- b. Devote sufficient time to the Core Study to carry out adequately the responsibilities of his position.
- c. Have adequate authority over persons collecting data for Study purposes to insure adherence to the Study objectives and requirements.
- d. Personally review a portion of Study records to maintain awareness of the quality of data and the degree of conformity to protocol.
- e. Indoctrinate, train, and supervise house staff and Study personnel within each institution so that effective performance is assured. This is a prime responsibility of the Obstetric Coordinator.
3. It is desirable that data collection personnel attend local, regional, or national workshops and appropriate NIH meetings.
4. Provision for local control of the quality of data collected is essential — the following steps are recommended:
 - a. Immediate review of records in areas where data collection occurs, in order to insure on-the-spot collection of missing information and/or clarification of data.
 - b. Lay editing as soon as possible after data collection, with attempts to secure missing information or clarification from the person who furnished inadequate data.
 - c. Medical editing for the resolution of inconsistencies and/or clarification of the record.
 - d. Medical editing and record review of at least a portion of the record by the Obstetric Coordinator and, if possible, by the Project Director.
 - e. Review of errata sheets by medical editors and Obstetric Coordinator, with integration of alterations in a local program for continual training of personnel.

Collaborative Project Procedure Manual for Obstetric Phase

C. Definitions

1. Study Facility: Areas of the Study hospital where data collection and observations required by protocol are carried out by Study personnel. These include the prenatal clinic, labor and delivery area, and obstetric wards.
2. Non-Study Facility of Study Hospital: Areas of the Study hospital where data collection and observation by Study personnel are not routinely performed. These include general emergency room, non-obstetric outpatient areas, and other non-obstetric services such as general operating room, medical and surgical wards.
3. Consultation: An evaluation of the patient by direct examination and/or case review by a Board-qualified obstetrician or by a non-obstetric specialist at resident level or higher.

D. Qualifications of Personnel

All obstetric examinations and procedures and the completion of the appropriate forms on Study patients are done under the supervision of personnel of at least the training of first-year assistant resident.

E. Retrospective Data

(Data which should have been collected prospectively or under observation but which is obtained by history or from other records)

Retrospective data is abstracted onto Project forms by lay and medical editors, code clerks, outpatient obstetricians, Project obstetricians, or the Obstetric Coordinator. The source of the data is noted on the forms. These forms are stamped "Not According to Protocol" when they are totally completed by abstraction.

1. All information abstracted from records of non-Study facilities of Study hospital need not be accompanied by supporting data.
2. All information from other non-Study sources is accompanied by supporting data such as summaries, photostatic copies of records, laboratory reports, etc.
3. All forms are submitted as required, even if no data are obtainable. The blank form is labeled "No Data" and the reason for not submitting data is written on the form.

F. Supplementary, Corrected, or Revised Data

If necessary to correct, revise, or supplement data already at PRB, submit an identical form with the necessary information entered in the appropriate box or boxes and label the form "Corrected Copy."

G. Time Table for Submission of Forms to PRB

1. Submitted Immediately upon Completion
 - a. AR-1 (mailed within 7 days of date of registration)
2. Submitted According to Pediatric Manuals and Requirements
 - a. PED-1
 - b. PED-4
3. Submitted as Soon as Possible but Before Date of Termination plus 6 Months
 - a. OB-2 through OB-7, inclusive
 - b. OB-8
 - c. OB-32, OB-33
 - d. OB-40 Series (excluding OB-40)
 - e. OB-50 Series
 - f. OB-60
 - g. CP-5 supplementing appropriate forms
 - h. CP-1

If possible these forms should be submitted as a package in numerical order. Attach any CP-5 to the form which it supplements.

II. Study Procedures, Routine

A. Prenatal Phase

1. Registration of the Patient
 - a. Sampling Frame — Case Selection. At the time the patient registers in the Prenatal Clinic, if she meets the requirements and the criteria of the sampling frame, she is selected as a Study patient.

Collaborative Project Procedure Manual for Obstetric Phase

- b. An AR-1, Obstetrical Administrative Record, is completed.
- c. Orientation of the Patient. The patient is indoctrinated in the aims and purposes of the Study, the importance and advantages of the Study to her child, the importance of prenatal visits, and the importance of keeping all appointments.

2. Initial Prenatal Visit Procedures

a. Responsibilities of the Interviewer

- (1) OB-3, History Since Last Menstrual Period. This form is completed prior to the first physician interview and examination, and should be available to the physician for review with the patient.
- (2) OB-2, Reproductive History, OB-4, Gynecological History, OB-5, Recent Medical History, OB-6, Past Medical History, and OB-7, Infectious Disease and System Review, are completed at the initial visit or as soon thereafter as possible.
- (3) Family Health History 1 and 3, and Genetics 5, 6, 7, 8 are completed at the initial visit or as soon thereafter as possible.

b. Responsibilities of the Physician

- (1) To review and to supplement by interview the data on OB-2 and OB-4, or to complete OB-40 or its equivalent. In either case OB-2 and OB-4 are the official forms and accordingly are medically edited.
- (2) To review OB-3, History Since Last Menstrual Period.
- (3) To complete OB-42, Past Medical History. In completing this form the physician may feel free to review and use any information that has been obtained by the interviewer.
- (4) To complete OB-43, Initial Prenatal Examination, pages one and two.
- (5) To initiate OB-44, Prenatal Observations.

(6) To summarize the pregnancy to date on OB-46, Physician's Clinic Record.

(7) To request consultations whenever he considers it necessary.

c. Laboratory Studies

Certain laboratory studies are required for all Study patients. Others are recommended. All are reported on OB-45, Laboratory Record, or (if necessary) on CP-5.

- (1) Required
 - (a) Virology: See "Reference to Study Procedures."
 - (b) Specific Serology Test for Syphilis: Once during pregnancy. If not obtained during pregnancy, then in the immediate postpartum period.
 - (c) Blood Grouping and Typing: Determined once during pregnancy. If not obtained during pregnancy, then in the immediate postpartum period.
 - (d) Tests for the Detection of Rh Iso-immunization: If the gravida is Rh negative, at least once during pregnancy, preferably after the thirty-second week.
 - (e) Urinalysis: Minimal requirements consist of determinations for presence of albumin and glucose. If microscopic is done, specify if urine was obtained by "clean catch" or catheter, or was a voided specimen.
 - (f) Hematocrit: An initial determination, repeated between thirty-two weeks and delivery.
- (2) Recommended: All laboratory studies which contribute to the establishment or validation of any diagnosis or to the elimination of a diagnostic impression.
- (3) Reporting of Normal Values
 - (a) Tests infrequently performed: In the patient's record, report not only the test result and specific procedure but also the range of values considered normal for that procedure.

Collaborative Project Procedure Manual for Obstetric Phase

- (b) Tests frequently performed:
Notify the Perinatal Research Branch of the specific procedures used and the values considered normal. Re-submit this information annually and also whenever laboratory procedures are altered.

3. Repeat Prenatal Visit Procedures

a. Responsibilities of the Interviewer

An OB-8, Repeat Prenatal History, is completed on each Project patient. This will be made available to the physician for review in the presence of the patient, and for recording of his evaluation on OB-44 and OB-46.

b. Responsibilities of the Physician

- (1) To review OB-8, Repeat Prenatal Visit.
- (2) To complete OB-44 for the particular prenatal visit.
- (3) To continue the notes required on OB-46, Physician's Clinic Record.
- (4) To record the date and to list the diagnoses of consultations on OB-46.
- (5) To record on OB-46 the date and list the diagnoses of any non-Study prenatal care that comes to his attention.

c. Laboratory Procedures

- (1) Albumin and glucose. At each prenatal visit the presence or absence of albumin and glucose is marked on OB-44, Prenatal Observations.
- (2) Virology. Blood specimens for virology are taken according to "Reference to Study Procedures."
- (3) A repeat hematocrit is taken at thirty-two weeks (preferably) or between thirty-two weeks and term.
- (4) All laboratory studies are reported on OB-45, Laboratory Record.

4. Virology

A schedule of blood virology specimens due from each patient is made out according to "Reference to Study Procedures."

B. Labor and Delivery Phase (See Flow Chart)

1. Admission Procedure

- a. Whenever a Study patient is admitted to a Study facility, an OB-8 is completed by interviewer or observer unless previously completed within forty-eight hours of admission.
- b. The physician completes an admission history and physical examination. These are recorded on OB-50, Admission History; OB-51, Admission Examination Part I; and OB-52, Admission Examination, Part II.
- c. Admission laboratory data may optionally be recorded on OB-52, but must be recorded on OB-45 used specifically for this admission.

2. Labor Procedure

- a. OB-32, Observer's Record of Labor. This form is completed according to the Instruction Manual. It is important that continuous observations begin as early in labor and be as complete as possible.
- b. Special procedures such as x-ray examinations during labor, consultations during labor, examinations in delivery rooms, etc. are recorded on OB-32, Observer's Record of Labor. The results from these examinations or procedures, other than brief consultations, are recorded on OB-45 or (if necessary) on a CP-5.

3. Delivery Observations

OB-33, Observer's Record of Delivery, is completed in accordance with the Instruction Manual. Accurate timing is most essential.

4. Summary of Labor Delivery

- a. OB-55, Delivery Report, and OB-56, Obstetric Summary, are completed by or under the direct supervision of personnel of the training of first-year obstetric assistant resident or higher.
- b. OB-57, Anesthetic Agents. This form is completed under the supervision of or by the person administering anesthesia to the Study patient.

Collaborative Project Procedure Manual for Obstetric Phase

5. Delivery Room Observation of the Neonate

PED-1, Delivery Room Observation of the Neonate, is completed according to the pediatric protocol.

OB-55, stamped "Not According to Protocol" when labor and delivery is not observed.
OB-60
CP-1

6. Procedures for Placenta

All procedures required for the collection and examination of placenta, membranes and cord are done according to the Pathology Manual.

7. Virology

Specimens of blood for virology examinations are taken from the mother and from the cord according to "Reference to Study Procedures."

B. Patient Moves Away

1. If the patient moves to the area of another Study institution, arrange the transfer of the patient to that institution by contacting the Perinatal Research Branch.
2. If the patient moves elsewhere beyond the possibility of routine followup, make arrangements to obtain delivery details from her physician or hospital. The procedure then becomes that of "Delivery Outside the Study Hospital." (III-E-2)

C. Postpartum Phase

1. Laboratory Studies

All laboratory studies from the time of admission until the time of the discharge of the Study patient are recorded onto the OB-45, Laboratory Record.

2. OB-58, Summary of Puerperium. This form is completed on every routine Study patient. This may be done on a day-to-day basis or it may be done after the patient has been discharged from the hospital.
3. Virology. See "Reference to Study Procedures." Blood for virology study is taken from the mother at the time of her return to the postpartum clinic. This is usually between the sixth and eighth week.
4. A blood pressure reading at the six to eight weeks postpartum visit is required on all patients. This should be recorded on OB-58 along with the date.

C. Non-Study Outpatient Prenatal Care

1. Consultations. The date is recorded and the diagnoses and treatments are listed on OB-46 by lay or medical editors, outpatient obstetricians, Project obstetricians, or the Obstetric Coordinator. Supporting data are not required.
2. Study Hospital, Non-Study Facility. Handle same as consultations (III-C-1).
3. Outside the Study Hospital. The date is recorded and the diagnoses are listed on OB-46 by the lay or medical editor, outpatient obstetricians, Project obstetricians, or the Obstetric Coordinator. Supporting data are submitted to the Perinatal Research Branch along with the form OB-46.

D. Antepartum Hospitalization

1. Study Hospital, Study Facility

All protocol procedures are carried out and all protocol forms are completed. These are:

Definite: OB-8, OB-50, OB-51, OB-52, OB-47

Possible: OB-32, OB-45, OB-57, CP-5

2. Study Hospital, Study Facility; Patient not recognized by Study personnel. All forms except OB-8 are completed as under III-D-1, and stamped "Not According to Protocol."

III. Study Procedures for Special Situations

A. Patient Refuses to Participate

1. At the time of selection. Replace the patient according to sampling procedure.
2. At a later date. Collect all data possible that does not require active participation of the patient. In addition to already completed forms, complete and submit as a minimum:

Collaborative Project Procedure Manual for Obstetric Phase

3. Study Hospital, Non-Study Facility

Definite: OB-50, OB-51, OB-52, OB-47

Possible: OB-45, OB-57, CP-5

These forms are completed by lay or medical editors, outpatient or Project obstetricians, or the Obstetric Coordinator. They are stamped "Not According to Protocol." Supporting data are not required.

4. Non-Study Hospital

The following forms are completed:

Definite: OB-47

Possible: CP-5, OB-45, OB-57

These forms are completed by lay or medical editors, outpatient or Project obstetricians, or the Obstetric Coordinator. They are stamped "Not According to Protocol." All supporting data are submitted to the Perinatal Research Branch with the OB-47.

5. Transfer Within a Study Hospital

a. Upon arrival at Study facility, initiate all appropriate procedures and forms.

b. Non-Study facility hospitalization is summarized according to III-D-3.

E. Unobserved Labor and Delivery

1. Study Hospital

If a Study patient delivers in the Study hospital but the entire labor and delivery is unobserved by Study personnel, the following forms are completed:

OB-50, 51, 52, 55, 56, 57, 45

OB-32, 33, PED-1

These forms are stamped "Not According to Protocol." These forms may be filled out by lay or medical editors, outpatient obstetricians, Project obstetricians, or the Obstetric Coordinator.

2. Outside the Study Hospital

This labor and delivery is reported on OB-55, 56, 57, CP-1 and possibly on

on OB-45, 50, 51, 52, and PED-1. All forms are stamped "Not According to Protocol." These forms may be completed by lay or medical editors, outpatient or Project obstetricians, or the Obstetric Coordinator. Supporting data are submitted to the Perinatal Research Branch.

F. Abortions, Non-Viable Ectopic Pregnancies and Moles: Abortions are designated as embryos of less than 16.5 cms. crown-rump length. If length is unknown, weight of embryo of 400 grams or less is the criterion. If both length and weight are unknown, the designation is a gestation of less than twenty full weeks.

1. Study Hospital, Study Facility

The following forms are completed:

Definite: OB-8, OB-50, 51, 52, CP-1, OB-45, OB-56 (Circumstances of abortion), PED-4

Possible: OB-32, OB-33, OB-57, PED-1, CP-5

2. Study Hospital, Non-Study Facility

The following forms are filled out:

Definite: OB-50, 51, 52, OB-45, CP-1, OB-56 (Circumstances of abortion), PED-4

Possible: CP-5

These forms are stamped "Not According to Protocol." These forms may be filled out by the lay or medical editors, the outpatient or Project obstetricians, or the Obstetric Coordinator.

3. Outside the Study Hospital

If an abortion occurs without admission to the Study hospital, the following forms are filled out:

Definite: OB-56, PED-4, CP-1

Possible: CP-5

All these forms are stamped "Not According to Protocol." All supporting data is submitted to the Perinatal Research Branch. The forms may be filled out by lay or medical editors, outpatient or Project obstetricians, or the Obstetric Coordinator.

Collaborative Project Procedure Manual for Obstetric Phase

G. Known or Suspected Intrauterine Death and Stillborn

For hospital admission and for observation of labor and delivery, perform all Project procedures and complete all Project forms according to protocol. The only possible exception to this general directive is that if physicians repeatedly are unable to obtain the fetal heart, the Study observers may stop listening for the fetal heart, but they must observe the patient during labor and delivery and must record all observations. If the infant is stillborn, both PED-1 and PED-4 are completed, as well as all procedures for the stillborn infant, the placenta, membranes and cord.

H. Maternal Death (Occurring during pregnancy or during the 90 days following termination of pregnancy)

1. Study Hospital, Study Facility

Complete all appropriate procedures and forms, including OB-47, up to the time of death. Submit CP-1. Submit copy of autopsy report.

2. Non-Study Facility or Hospital

Complete all appropriate forms including OB-47. These forms are stamped "Not According to Protocol." Submit CP-1. Submit copy of autopsy report.

I. Direct Hospital Admission, No Prenatal Care in Study Hospital

1. After forty-eight hours, if the sampling frame permits, register the patient and initiate the Project procedures and forms.
2. If sampling procedure does not permit registration of the patient while she is in the hospital and if the patient is later selected for the Study, consider that hospitalization as an antepartum hospitalization and complete required forms as under III-D.

IV. Record Processing

A. Editing

Editing is an essential Project requirement for the review of the completed Study record. It should be done with the aid of the patient's unit history or hospital records. Both lay and medical editing are to compliment each

other so as to produce a record which provides the most accurate, informative, objective and complete body of data possible.

B. Lay Editing

1. Initial clerical editing of the entire Study record, under the supervision of and with the support of the medical editor, should consist of checking that:
 - a. All necessary forms have been completed for the patient.
 - b. All forms are identified with patient's name, NINDB number, page numbers, continuation sheet titles.
 - c. All data are recorded legibly in both original and carbon copies.
 - d. All required data are reported and in the proper area.
 - e. No items remain blank if the protocol requires completion. These blank items should be referred to the originally responsible personnel.
 - f. Explanations are given for data not obtained, or for data not obtained in the required manner.
 - g. Sources of all data are identified.
2. Additional steps in lay editing will depend upon the lay editor's medical and obstetric knowledge and her experience and training. There should be at least one lay editor at each local institution who is able to:
 - a. Review all data.
 - b. Compare data contained on one form with that recorded elsewhere in the record.
 - c. Review correctness and logic of statements made and facts reported.
 - d. Determine conformity of diagnoses made to Study definitions and criteria, if such are available.
 - e. Resolve, correct and complete where necessary, at the discretion of the Obstetric Coordinator or medical editor.
3. Source of data

Collaborative Project Procedure Manual for Obstetric Phase

- a. Obstetric records should be completed in such a manner that the originally recorded data are not confused with the additions and corrections of editors.
- b. Use the blue or black ink for original data and for transcription of original data. Add editor's comments in red ink or pencil. This red color must show on the copy of the form that is sent to the Perinatal Research Branch.
- c. The title or position of the person making an addition to or comment upon original data should be apparent from the completed record.
- d. When records other than those sent to NINDB are used by editors as an authoritative source of information, these records should be identified.

C. Medical Editing

1. Medical editing should consist of an intensive review of the entire Study record, carried out in conjunction with the patient's unit history or hospital records by the Obstetric Coordinator or his designee (preferably a Board-qualified obstetrician, but at least a third-year obstetric resident) who is thoroughly familiar with Study Procedure and Instruction Manuals, Study definitions and objectives, and with the principles below.

2. Principles of Medical Editing

- a. Completeness
 - (1) The medical editor should insure that all available information from whatever source is incorporated into the Study record if it is required, recommended or potentially pertinent in the opinion of the editor to the use of the case for research.
 - (2) The medical editor should first consider all important, obvious or apparently potential sources of fetal damage that are suggested as present in the case. The record should then be re-examined to determine if there is adequate information concerning each of these factors. In addition to presence or absence of a factor, it is desirable to determine the period of time during which it may have been active and its severity or impact upon the fetus.
- b. Consistency and correctness
 - (1) Medical editing should add information that tends to resolve or justify inconsistencies in the data
 - (2) This resolution of inconsistencies is desirable for the following types of data in descending order of importance:
 - (a) Factual data establishing diagnoses of major medical and obstetric complications of pregnancy.
 - (b) Factual data establishing the presence of other important potential sources of fetal damage.
 - (c) Factual data ruling out the possibility that the conditions above were present.
 - (d) Observations containing an element of individual bias which pertain to medical diagnoses, obstetric complications or fetal outcome.
 - (e) Judgments which pertain to medical diagnoses, obstetric complications or fetal outcome.
 - (f) Histories of medical care.
 - (3) Resolution of inconsistencies is not desirable for:
 - (a) Findings at physical examination unless appropriate under IV-C-2-b above.
 - (b) Patient's histories of signs and symptoms.
 - (c) Diagnostic impressions and treatment rationales later proven incorrect.
 - (4) With respect to delivery, resolution of inconsistencies should be accomplished as far as possible by corrections of OB-55, utilizing the appropriate box.

Collaborative Project Procedure Manual for Obstetric Phase

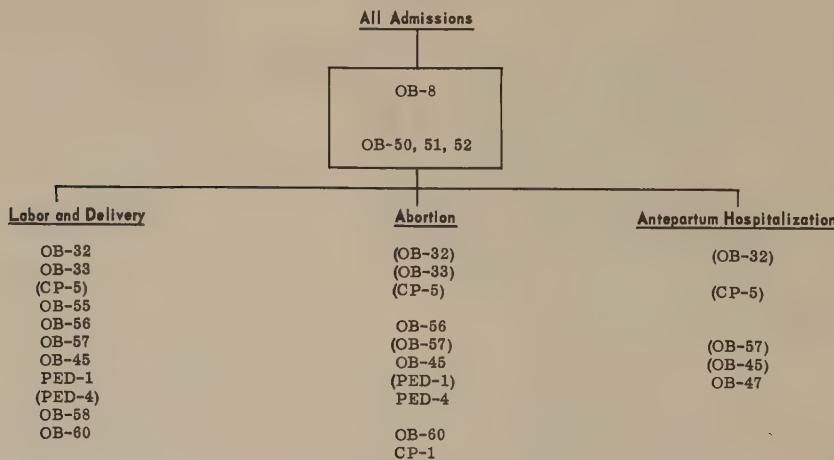
- (5) Medical editing should not be directed toward producing a record that contains no erroneous or misleading information. No information or questioned information is preferable to false information. That data specified in IV-C-2-b should be so treated that the best approximation of the fact appears at the appropriate place or places in the record.
- (6) Editors should use their personal knowledge of situations and persons to resolve inconsistencies or question the accuracy of a report.

D. Diagnostic Summarization

1. The final form for the obstetric phase of each Study patient is OB-60, Obstetric Diagnostic Summary. This is completed using the Study record, together with the complete hospital record.
2. This form is submitted in conjunction with the entire Study record to the Perinatal Research Branch no later than 6 months after termination of a Study pregnancy.

V. Flow Chart

Use of Forms for Study Facility Hospital Admissions



Forms enclosed in parentheses are possibly required.

OB-55		DELIVERY REPORT	PAGE 1
2. <input type="checkbox"/> SINGLE BIRTH	4. DELIVERED BY	1. PATIENT IDENTIFICATION	
0 <input type="checkbox"/> TWIN A 1 <input type="checkbox"/> TWIN B 2	5. TITLE OR POSITION 6. FORM COMPLETED BY		
3. DATE DELIVERED	7. TITLE OR POSITION		
Mo. Day Yr.	THIS PAGE FOR ALL DELIVERIES		

8. LABOR		
<input type="checkbox"/> NO LABOR		
OX		
<input type="checkbox"/> QUESTIONABLE LABOR		
1		
<input type="checkbox"/> SPONTANEOUS		
2		
<input type="checkbox"/> INDUCED (Onset within 12 hrs.)		
3		
9. DATE OF ONSET	10. TIME OF ONSET	
Month Day	(Use 24 hr. clock)	
DURATION OF LABOR		
	HRS.	MINS.
11. FIRST STAGE		
12. SECOND STAGE		
13. THIRD STAGE		
14. TOTAL		

RUPTURE OF MEMBRANES (Report only initial rupture here)		
21. DATE OF RUPTURE	22. TIME OF RUPTURE	
Month Day	(Use 24 hr. clock)	
23. TYPE OF RUPTURE		
<input type="checkbox"/> SPONTANEOUS		
0		
<input type="checkbox"/> ARTIFICIAL		
1		
24. REASON FOR AMNIOTOMY		
<input type="checkbox"/> TERMINAL IN DELIVERY ROOM 1 OR AT CESAREAN SECTION		
<input type="checkbox"/> INDUCTION OF LABOR		
2		
<input type="checkbox"/> AUGMENTATION OF LABOR		
3		
<input type="checkbox"/> UNINTENTIONAL		
4		
<input type="checkbox"/> OTHER		
8 (Specify)		

29. REACTIONS TO UTERINE STIMULANT		
<input type="checkbox"/> NO UNUSUAL REACTION	6X	
<input type="checkbox"/> NO UTERINE RESPONSE		
<input type="checkbox"/> SUSTAINED CONTRACTION FOR _____ MIN.		
<input type="checkbox"/> PERSISTENT INCREASED UTERINE TONE		
<input type="checkbox"/> SIGNIFICANT VARIATION OF FETAL HEART RATE OR RHYTHM		
<input type="checkbox"/> TUMULTUOUS LABOR AND/OR DELIVERY		
<input type="checkbox"/> OTHER UNUSUAL REACTION (Specify)		

POSITION, STATION	
AT FIRST EXAMINATION IN LABOR	
15. POSITION	_____
16. STATION	<input type="checkbox"/> ON PERINEUM
IMMEDIATELY BEFORE ANY ATTEMPT AT OPERATIVE DELIVERY	
17. POSITION	_____
18. STATION	<input type="checkbox"/> ON PERINEUM
19. DELIVERED AS: (Position)	_____
(If delivered vaginally)	
20. COMPOUND PRESENTATION	_____
<input type="checkbox"/> NONE	0
VERTEX WITH:	BREECH WITH:
<input type="checkbox"/> HAND	<input type="checkbox"/> HAND
1	4
<input type="checkbox"/> ARM	<input type="checkbox"/> ARM
2	5
<input type="checkbox"/> FOOT	<input type="checkbox"/> FOOT
3	6

UTERINE STIMULANT (NOT FOR PLACENTA)		
<input type="checkbox"/> NONE	6X	
25. OXYTOCIC (Agents)		
<input type="checkbox"/> NONE		
0		
<input type="checkbox"/> FOR INDUCTION		
1		
<input type="checkbox"/> FOR AUGMENTATION		
2		
26. OTHER MEDICINAL (Agents)		
<input type="checkbox"/> NONE	0	
3		
<input type="checkbox"/> FOR INDUCTION		
1		
<input type="checkbox"/> FOR AUGMENTATION		
2		
27. MECHANICAL (Method other than amniotomy)		
<input type="checkbox"/> NONE	00	
3		
<input type="checkbox"/> FOR INDUCTION		
1		
<input type="checkbox"/> FOR AUGMENTATION		
2		
28. NO. OF ATTEMPTS AT INDUCTION WITH OXYTOCIC		

30. FOR INDUCTION	31. FOR AUGMENTATION
<input type="checkbox"/> ELECTIVE	<input type="checkbox"/> (1)
<input type="checkbox"/> RUPTURED MEMBRANES	<input type="checkbox"/> (2)
<input type="checkbox"/> TOXEMIA	<input type="checkbox"/> (3)
<input type="checkbox"/> ABRUPTIO PLACENTAE	<input type="checkbox"/> (4)
<input type="checkbox"/> DIABETES MELLITUS	<input type="checkbox"/> (5)
<input type="checkbox"/> ERYTHROBLASTOSIS	<input type="checkbox"/> (6)
<input type="checkbox"/> PYELONEPHRITIS	<input type="checkbox"/> (7)
<input type="checkbox"/> INTRAUTERINE INFECTION	<input type="checkbox"/> (8)
ARRESTED PROGRESS OF LABOR	
<input type="checkbox"/> OTHER (Specify)	<input type="checkbox"/>
32. PRIMARY INDICATION (Among those noted above)	

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33. MEDICAL EDIT BY

34. TITLE OR POSITION

35. LAY EDIT BY

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DELIVERY REPORT

PAGE 2

36. PATIENT IDENTIFICATION

37.

<input type="checkbox"/> TWIN A
<input type="checkbox"/> TWIN B

NOTE: CODING SPACES, DENOTED BY
DASHED LINES, ARE FOR
THE USE OF CODE CLERKS
ONLY.

38. ARRESTED PROGRESS OF LABOR

 NONE DEFINED

6X

LATENT PHASE - lack of progress
for 6 or more hours after labor has
been established but before 4 cms
dilatation (3 cms in primipara) has
been reached

ACTIVE PHASE - lack of
progress for 3 or more hours
after 4 cms dilatation (3 cms
in primipara) has been reached

SECOND STAGE - lack of
progress in descent or rotation
for 2 or more hours

39. PROBABLE CAUSE(S) (Mark and specify)

- FETOPELVIC DISPROPORTION
 MOLPRESENTATION
 ABNORMAL UTERINE
ACTIVITY

OTHER:

VAGINAL VERTIX PROCEDURES AND/OR DELIVERY

 NOT APPLICABLE

40. DELIVERY OF HEAD

- UNCONTROLLED
1 CONTROLLED MANUALLY
2 CONTROLLED WITH FORCEPS
3

41. FUNDAL PRESSURE
(FOR DELIVERY OF HEAD)

- NONE MODERATE
0 SLIGHT STRONG
1 2 3

MANUAL ROTATION

 NOT ATTEMPTED

6X

42. FROM _____

43. TO _____

44. DIFFICULTY OF ROTATION
(at most difficult attempt)

(1)	(2)	(3)	(4)
Avg.	Diff.	V.DIFF.	Failed

USE OF FORCEPS

 NOT USED

6X

48. NUMBER OF
APPLICATIONS: _____ (1 Blade = $\frac{1}{2}$)

49. FIRST APPLICATION OF FORCEPS

- CLASS I' (Application when skull on
1 (OUTLET) perineal floor has been visible,
and sagittal suture in AP
diameter of pelvis.)
- CLASS II (Application when skull on
2 (LOW) perineal floor, but other
criteria for Class I are
not met.)
- CLASS III (Application when engage-
ment of BIP in inlet has
taken place, but skull is
not on perineal floor)
- CLASS IV (Application before engage-
ment of head)

FORCEPS ROTATION

 NOT
6X ATTEMPTED

50. FROM _____

51. TO _____

FORCEPS CONVERSION

 NOT
6X ATTEMPTED

52. FROM _____

53. TO _____

54. TYPE(S) OF FORCEPS USED

 NOT USED USED

6X

55. AXIS TRACTION ATTACHMENT

 NOT USED USEDDIFFICULTY OF FORCEPS PROCEDURES
(at most difficult attempt)

(1)	(2)	(3)	(4)
Avg.	Diff.	V.DIFF.	Failed

56. APPLICATION

57. ROTATION

58. CONVERSION

59. TRACTION

4-62

60. INDICATIONS FOR
USE OF FORCEPS

- ELECTIVE
6X

VACUUM EXTRACTOR

 NOT USED

6X

WHEN FIRST APPLIED:

61. DILATATION _____

62. POSITION _____

63. STATION _____

64. HIGHEST VACUUM ATTAINED

 KG/CM² MM. HG.

65. DELIVERY WITH VACUUM EXTRACTOR

 YES

1 NO, BECAUSE OF:

- UNSATISFACTORY APPLICATION
2 FAILURE TO ROTATE
3 FAILURE TO DESCEND
4 OTHER (Specify)
5

66. INDICATIONS FOR USE

- ELECTIVE
6X

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DELIVERY REPORT

PAGE 3

67. PATIENT IDENTIFICATION

68.

<input type="checkbox"/> TWIN A
<input type="checkbox"/> TWIN B

NOTE: THROUGHOUT THIS FORM, MARK
ALL ITEMS APPLICABLE TO
 THIS CASE.

BREECH DELIVERY INCLUDING VERSION AND EXTRACTION

 NOT APPLICABLE

INTERNAL PODALIC VERSION

NOT ATTEMPTED

OX

69. DIFFICULTY OF VERSION

(1) AVG.	(2) DIFF.	(3) V. DIFF.	(4) FAILED

70. POSITION OR PRESENTATION IMMEDIATELY PRIOR TO VERSION:

-----T-----

71. INDICATIONS FOR VERSION

ELECTIVE

8X

72. ATTITUDE OF BREECH (Before attempts at delivery)

NOT APPLICABLE (Version)

0

- FRANK
- FULL OR COMPLETE
- SINGLE FOOTLING OR KNEE
- DOUBLE FOOTLING OR KNEE
- UNKNOWN

9

73. COMPLICATIONS OF BREECH

NONE LISTED

0

- NUCHAL ARM
- HYPEREXTENDED HEAD

1

2

74. FUNDAL PRESSURE (SECOND STAGE)

<input type="checkbox"/> NONE	<input type="checkbox"/> MODERATE
0	2
<input type="checkbox"/> SLIGHT	<input type="checkbox"/> STRONG
1	3

75. PROCEDURES ATTEMPTED FOR DELIVERY OF HEAD

<input type="checkbox"/> NONE (SPONTANEOUS)
0
<input type="checkbox"/> MANUAL CONTROL
1
<input type="checkbox"/> FORCES
2

76. PROCEDURES ATTEMPTED FOR DELIVERY OF BODY

<input type="checkbox"/> NONE (SPONTANEOUS)
0
<input type="checkbox"/> DECOMPOSITION
1
<input type="checkbox"/> PARTIAL EXTRACTION
2
<input type="checkbox"/> TOTAL EXTRACTION
3

DIFFICULTY OF BREECH DELIVERY PROCEDURES (at most difficult attempt)

(1) AVG.	(2) DIFF.	(3) V. DIFF.	(4) FAILED

77. DECOMPOSITION

78. PARTIAL EXTRACTION

79. TOTAL EXTRACTION

80. MANUAL DEL. OF HEAD

81. FORCES DEL. OF HEAD

82. INDICATIONS FOR TOTAL EXTRACTION

NOT APPLICABLE

000

- FOLLOWING VERSION
- 700
- ELECTIVE
- 800

INDICATED (Specify)

83. SECTION FOLLOWING

NO ATTEMPT AT VAGINAL DELIVERY

0

ATTEMPTS AT VAGINAL DELIVERY:

- AS VERTEX
- 1
- AS BREECH
- 2

(Complete all applicable parts of this form)

84. TYPE OF UTERINE INCISION

- LOW, TRANSVERSE
- 1
- LOW, VERTICAL
- 2
- CLASSICAL
- 3
- EXTRA-PERITONEAL
- 4
- OTHER, INCLUDING T-INCISION
- 5

85. PLACENTA UNDERLYING INCISION:

- NO
- 0
- YES
- 1

DELIVERY OF INFANT AT CESAREAN SECTION

86. HEAD:

- MANUAL
- 1
- SINGLE VECTUS
- 2
- FORCES
- 3

87. BODY:

- FOLLOWING THE VERTEX
- 1
- BREECH EXTRACTION
- 2
- VERSION AND EXTRACTION
- 3

DIFFICULTY OF DELIVERY AT CESAREAN SECTION

(1) AVG.	(2) DIFF.	(3) V. DIFF.

88. HEAD

89. BODY

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DELIVERY REPORT

PAGE 4

90. PATIENT IDENTIFICATION

91.

<input type="checkbox"/> TWIN A
<input type="checkbox"/> TWIN B

92. INDICATIONS FOR CESAREAN SECTION (MARK ALL APPLICABLE)
- PREVIOUS SECTION (11)
 - PREVIOUS MYOMECTOMY (12)
 - CEPHALOPELVIC DISPROPORTION (13)
 - FOLLOWING FAILED PELVIC PROCEDURE (14)
 - TRANSVERSE LIE (15)
 - OTHER MALPRESENTATION (16)
 - UTERINE DYSFUNCTION (17)
 - FETAL DISTRESS (18)
 - PROLAPSED CORD (19)
 - PLACENTA PREVIA (20)
 - ABRUPTIO PLACENTAE (20)
 - ELDERLY PRIMIPARA (21)
 - POOR OBSTETRIC HISTORY (22)
 - OBSTRUCTING TUMOR (23)
 - TOXEMIA (23)
 - DIABETES MELLITUS (25)
 - OTHER INDICATION (Specify) _____

93. PRIMARY INDICATION (AMONG THOSE NOTED ABOVE)

94. OPERATIVE BLOOD LOSS
TOTAL: _____ CC

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95. OTHER PROCEDURES AT SECTION

- NONE 6X
- TUBAL LIGATION
- APPENDECTOMY
- OVARIAN SURGERY (Specify) _____
- CESAREAN HYSTERECTOMY:
 - TOTAL
 - SUBTOTAL
 - OTHER SURGERY (Specify) _____

ALL DELIVERIES:

96. PLACENTA
- SPONTANEOUS DELIVERY 0
 - MANUAL SEPARATION AND 1 EXTRACTION
 - MANUAL EXTRACTION ONLY 2

97. CONDITION OF PLACENTA AT DELIVERY

- INTACT 1
- NOT INTACT (Describe) 2

98. OXYTOCIC FOR PLACENTA

99. UMBILICAL CORD
- NONE 00
 - PITOCIN-LIKE ERGOTRATE-LIKE
 - I. V. 1 2
 - I. M. 1 2

100. PROLAPSED CORD

- NO PROLAPSE 0X
- OCCULT 1
- INTO VAGINA 2
- THRU INTROITUS 3

101. WHEN FIRST NOTED

- PULSATING 1
- UNKNOWN 9
- NOT PULSATING 2

102. TREATMENT PRIOR TO DELIVERY

- NO TREATMENT 0X
- REPLACEMENT
- DISPLACEMENT OF PRESENTING PART
- KNEE-CHEST POSITION
- TRENDelenburg POSITION
- MATERNAL OXYGEN THERAPY
- OTHER (Specify) _____

103. CORD PATHOLOGY

- NONE 6X
- AROUND NECK: _____ TIMES TIGHT _____ TIMES LOOSE
- AROUND BODY OR EXTREMITIES:
 - LOOSE 1
 - TIGHT 2
- TRUE KNOT:
 - LOOSE 1
 - TIGHT 2
- VELAMENTOUS INSERTION
- VASA PREVIA
- RUPTURED CORD VESSEL
- OTHER (Specify) _____

104. EPISIOTOMY

- NONE 0
- MEDIO-LATERAL
 - MEDIAN 1
 - MEDIAN 2

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DELIVERY REPORT

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105. PATIENT IDENTIFICATION

106.

<input type="checkbox"/> TWIN A
<input type="checkbox"/> TWIN B

107. PLACENTA PREVIA

<input type="checkbox"/> NONE
0
<input type="checkbox"/> TOTAL
1
<input type="checkbox"/> PARTIAL
2
<input type="checkbox"/> MARGINAL
3
<input type="checkbox"/> LOW IMPLANTATION
4
<input type="checkbox"/> UNCLASSIFIED
5

108. ABRUPTIO PLACENTAE

<input type="checkbox"/> NONE
0
<input type="checkbox"/> PARTIAL
1
<input type="checkbox"/> COMPLETE
2

109. OTHER PLACENTAL ABNORMALITIES

<input type="checkbox"/> NONE
000
<input type="checkbox"/> MARGINAL SINUS RUPTURE
<input type="checkbox"/> RETAINED PLACENTA ($\frac{1}{2}$ hour or more)
<input type="checkbox"/> OTHER (Specify)

110. PLACENTAL WEIGHT

(If weighed in delivery room) _____ Gms.

BLEEDING BEFORE CORD CLAMPED

ESTIMATED AMOUNT SINCE ADMISSION AND BEFORE CORD CLAMPED:

111. _____ CC

(Report blood loss before section here - loss at section in item 94)

112. CAUSES OF BLEEDING BEFORE CORD CLAMPED

<input type="checkbox"/> UNKNOWN
9X
<input type="checkbox"/> PLACENTA PREVIA
<input type="checkbox"/> ABRUPTIO PLACENTAE
<input type="checkbox"/> MARGINAL SINUS RUPTURE
<input type="checkbox"/> EPISIOTOMY
<input type="checkbox"/> LACERATIONS
<input type="checkbox"/> OTHER (Specify)

105. PATIENT IDENTIFICATION

113. ESTIMATED AMOUNT _____ CC

114. CAUSE, IF 500 cc or more

<input type="checkbox"/> UTERINE ATONY
<input type="checkbox"/> EPISIOTOMY
<input type="checkbox"/> LACERATIONS
<input type="checkbox"/> RETAINED SECUNDINES
<input type="checkbox"/> OTHER (Specify)

119. LACERATIONS

<input type="checkbox"/> NONE
00
PERINEAL DEGREE:
<input type="checkbox"/> FIRST
1
<input type="checkbox"/> SECOND
2
<input type="checkbox"/> THIRD
3
<input type="checkbox"/> FOURTH
4
<input type="checkbox"/> VAGINAL-SULCUS
1
<input type="checkbox"/> PERI-URETHRAL
2
<input type="checkbox"/> CERVICAL
3
<input type="checkbox"/> OTHER (Specify)
4

120. OTHER PROCEDURES

<input type="checkbox"/> NONE
6X
<input type="checkbox"/> EXTERNAL VERSION (at any time)
<input type="checkbox"/> ADMINISTRATION OF BLOOD OR BLOOD DERIVATIVES DURING DELIVERY ADMISSION (Specify)
<input type="checkbox"/> ABDOMINAL AMNIOCENTESIS (at any time)
<input type="checkbox"/> ATTEMPT TO INHIBIT LABOR (Specify)
<input type="checkbox"/> MATERNAL OXYGEN THERAPY (not for prolapsed cord)
OTHER (Specify)

121. OTHER COMPLICATIONS (Describe in narrative)

<input type="checkbox"/> NONE
6X
<input type="checkbox"/> INTRAPARTUM SHOCK (Specify cause)
<input type="checkbox"/> SHOULDER DYSTOCIA
<input type="checkbox"/> INTRAPARTUM FEVER OVER 100.0°F ORAL
<input type="checkbox"/> COAGULATION DEFECT (ante- or intrapartum)
<input type="checkbox"/> POLYHYDRAMNOS (at any time)
<input type="checkbox"/> RUPTURED UTERUS
OTHER (Specify)

117. TRANSIENT INTRA-PARTUM

5 HYPERTENSION ONLY

118. FETAL CONDITION

 NONE LISTED

6X

INTRAMERUTERINE DEATH:

<input type="checkbox"/> BEFORE LABOR
1
<input type="checkbox"/> FIRST STAGE
2
<input type="checkbox"/> SECOND STAGE
3
<input type="checkbox"/> UNKNOWN
4
<input type="checkbox"/> TIME

 ABNORMAL FETAL HEART RATE (Under 110, over 160) ABNORMAL FETAL HEART RHYTHM MECONIUM AND/OR MECONIUM STAINING
(describe in narrative)

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OB-60 OBSTETRIC DIAGNOSTIC SUMMARY

1. PATIENT IDENTIFICATION			
2. CODED BY	3. TITLE OR POSITION		
4. CODED BY	5. TITLE OR POSITION		
6. REVIEWED BY	7. TITLE OR POSITION		
8. DATE CODING COMPLETED	Mo. Day Yr.	9. IF CODING NOT COMPLETE, EXPLAIN	
10. STUDY RECORDS CODED WITH:	<input type="checkbox"/> NO OTHER RECORDS	<input type="checkbox"/> HOSP. RECORD OF THIS PREG. ONLY	<input type="checkbox"/> COMPLETE HOSP. RECORD
Asterisks * indicate that specification of the disease or condition is required.			
DISEASES OR CONDITIONS	(Mark box after major headings if NONE under that system)		
	BEFORE PREG.	DURING PREG.	POST-PARTUM
A. CARDIOVASCULAR	<input type="checkbox"/> NONE	<input type="checkbox"/>	<input type="checkbox"/>
11. ORGANIC HEART DISEASE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type*			
----- FUNCTIONAL CLASSIFICATION -----			
12. No sympt. on exertion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Sympt. on ordinary activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Sympt. on limited activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Sympt. on bed rest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. RHEUMATIC FEVER, ACUTE OR RECURRENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. THROMBOSIS AND/OR PHLEBITIS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Regional incr. in body heat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Fever 100.4° or above	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Regional swelling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Palpable thrombus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Vein tenderness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Embolization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. OTHER*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. PULMONARY	<input type="checkbox"/> NONE		
25. TBC, ACTIVE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Pos. sputum culture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Pos. culture - other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Pos. guinea pig inoculation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. X-Ray evidence of presence of disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. X-Ray evidence of progression of disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. TBC, INACTIVE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. PNEUMONIA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Pos. culture (bacteria)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Viral and/or serolog. evidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Chest X-Ray evidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. PULMONARY (continued)			
36. BRONCHIAL ASTHMA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. Acute asthma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. Status asthmaticus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. THORACIC SURGERY*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Rib, Lung, Cardiac)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. OTHER*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. BLOOD	<input type="checkbox"/> NONE		
41. ANEMIA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type*			
42. Abnor. low serum iron	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. Abnor. high IBC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. Abnor. high protoporphyrin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45. Abnor. peripheral RBC smear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. Abnor. bone marrow smear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47. Clinical response to iron therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(incr. in HGB, HCT, or reticulocyte count)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. Abnormal hemoglobin S electrophoresis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. Sickling in peripheral blood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50. Other findings in anemia*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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OB-60 OBSTETRIC DIAGNOSTIC SUMMARY

51. PATIENT IDENTIFICATION

DISEASES OR CONDITIONS	B	D	P	51. PATIENT IDENTIFICATION
	BEFORE PREG.	DURING PREG.	POST-PARTUM	
(1)	(2)	(4)		
C. BLOOD (continued)				
52. COAGULATION DEFECT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
53. Abnor. low prothrombin		<input type="checkbox"/>		
54. Abnor. low proconvertin		<input type="checkbox"/>		
55. Abnor. low fibrinogen		<input type="checkbox"/>		
56. Abnor. prolonged clot. time		<input type="checkbox"/>		
57. Clin. response to administr. of fibrinogen		<input type="checkbox"/>		
58. Other findings in coagulation defects*		<input type="checkbox"/>		
59. OTHER*		<input type="checkbox"/>	<input type="checkbox"/>	
D. METABOLIC AND ENDOCRINE <input type="checkbox"/> NONE				
60. DIABETES MELLITUS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
61. Any blood sugar 200 mg. % or more..		<input type="checkbox"/>		
62. Insulin therapy or oral hypoglycemic analogue..		<input type="checkbox"/>		
63. Insulin reaction		<input type="checkbox"/>		
64. Diabetic coma		<input type="checkbox"/>	<input type="checkbox"/>	
65. Keto-Acidosis		<input type="checkbox"/>	<input type="checkbox"/>	
66. Duration 5 years or more..		<input type="checkbox"/>		
67. ABNORMAL GLUCOSE TOLERANCE TEST	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68. HYPOTHYROIDISM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
69. Abnor. low BMR		<input type="checkbox"/>		
70. Abnor. low PBI		<input type="checkbox"/>		
71. Abnor. low BEI		<input type="checkbox"/>		
72. Abnor. low I-131 uptake		<input type="checkbox"/>		
73. Clinical response to thyroid		<input type="checkbox"/>		
74. HYPERTHYROIDISM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
75. Abnor. high BMR		<input type="checkbox"/>		
76. Abnor. high PBI		<input type="checkbox"/>		
77. Abnor. high BEI		<input type="checkbox"/>		
78. Abnor. high I-131 uptake		<input type="checkbox"/>		
79. Clinical response to therapy		<input type="checkbox"/>		
D. METABOLIC AND ENDOCRINE (continued)				
80. THYROID SURGERY*				<input type="checkbox"/>
81. OTHER*				<input type="checkbox"/>
E. VENEREAL <input type="checkbox"/> NONE				
82. SYPHILIS				<input type="checkbox"/>
83. Pos. serology				<input type="checkbox"/>
84. Pos. cerebrospinal fluid				<input type="checkbox"/>
85. Pos. treponema immobilization test				<input type="checkbox"/>
86. Pos. dark field				<input type="checkbox"/>
87. GONORRHEA				<input type="checkbox"/>
88. Pos. culture				<input type="checkbox"/>
89. Pos. smear				<input type="checkbox"/>
90. OTHER*				<input type="checkbox"/>
F. URINARY TRACT <input type="checkbox"/> NONE				
91. ACUTE AND CHRONIC GLOMERULONEPHRITIS..				<input type="checkbox"/>
92. KUB INFECTION				<input type="checkbox"/>
93. Fever 100.4° or above..				<input type="checkbox"/>
94. CVA tenderness				<input type="checkbox"/>
95. Pos. urine culture				<input type="checkbox"/>
96. Pyuria (15 WBC/HPF).				<input type="checkbox"/>
97. HEMATURIA (15 RBC/HPF)				<input type="checkbox"/>
98. KUB TUMOR*				<input type="checkbox"/>
99. KUB SURGERY*				<input type="checkbox"/>
100. OTHER*				<input type="checkbox"/>

OB-60 OBSTETRIC DIAGNOSTIC SUMMARY

DISEASES OR CONDITIONS	BEFORE PREG.			101. PATIENT IDENTIFICATION		
	BEFORE (1)	DURING (2)	POST PARTUM (4)	102. FERTILITY	103. INCOMPETENT CERVIX	104. SURGERY FOR INCOMPETENT CERVIX
G. GYNECOLOGICAL <input type="checkbox"/> NONE				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
102. INFERTILITY.....	<input type="checkbox"/>					
103. INCOMPETENT CERVIX.....	<input type="checkbox"/>	<input type="checkbox"/>				
104. SURGERY FOR INCOMPETENT CERVIX.....	<input type="checkbox"/>	<input type="checkbox"/>				
105. VAGINITIS*.....	<input type="checkbox"/>					
106. LEIOMYOMA.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
107. OTHER GYNECOLOGIC TUMOR*.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
108. GYNECOLOGIC SURGERY*.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
109. OTHER*.....	<input type="checkbox"/>					
H. NEUROLOGIC AND PSYCHIATRIC <input type="checkbox"/> NONE						
110. CONVULSIVE DISORDER (not eclamptic)..... Type*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
111. CONVULSIONS DURING PREGNANCY (not eclamptic).....	<input type="checkbox"/>					
112. MENTAL RETARDATION*.....	<input type="checkbox"/>					
113. ORGANIC BRAIN DISEASE*.....	<input type="checkbox"/>					
114. PSYCHOSIS* AND NEUROSIS*.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
H. NEUROLOGIC AND PSYCHIATRIC (continued)	(1)	(2)	(4)			
115. OTHER NEUROLOGIC OR NEUROMUSCULAR DISEASE* (including brain surgery).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
116. ALCOHOLISM*.....	<input type="checkbox"/>					
117. DRUG HABITUATION* AND ADDICTION*.....	<input type="checkbox"/>					
118. OTHER*.....	<input type="checkbox"/>					
I. GASTROINTESTINAL <input type="checkbox"/> NONE						
119. CHOLECYSTITIS.....	<input type="checkbox"/>					
120. CHOLELITHIASIS.....	<input type="checkbox"/>					
121. HEPATITIS*.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
122. APPENDICITIS.....	<input type="checkbox"/>					
123. COLITIS, ILEITIS.....	<input type="checkbox"/>					
124. HIATUS HERNIA.....	<input type="checkbox"/>					
125. PEPTIC ULCER.....	<input type="checkbox"/>					
126. GI SURGERY*.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
127. GI TUMOR*.....	<input type="checkbox"/>					
128. OTHER*.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

OB-60 OBSTETRIC DIAGNOSTIC SUMMARY

120. PATIENT IDENTIFICATION

DISEASES OR CONDITIONS	BEFORE PREG. (1)	DURING PREG. (2)	POST- PARTUM (4)
J. INTEGUMENT AND APPENDAGES <input type="checkbox"/> NONE			
130. BURNS (more than 5% body surface area)—IF HOSPITALIZED.....	<input type="checkbox"/>	<input type="checkbox"/>	
131. BREAST DISORDER*	<input type="checkbox"/>	<input type="checkbox"/>	
132. OTHER*	<input type="checkbox"/>	<input type="checkbox"/>	
K. COMPLICATIONS OF THIS PREGNANCY <input type="checkbox"/> NONE LISTED BELOW			
133. HYPEREMESIS GRAVIDARUM.....	<input type="checkbox"/>		
134. Intravenous therapy.....	<input type="checkbox"/>		
135. Acetonuria.....	<input type="checkbox"/>		
136. HYDRAMNIOS.....	<input type="checkbox"/>		
137. PLACENTA PREVIA.....	<input type="checkbox"/>		
138. ABRUPTIO PLACENTAE.....	<input type="checkbox"/>		
139. MARGINAL SINUS RUPTURE.....	<input type="checkbox"/>		
OTHER UTERINE BLEEDING:			
140. First Trimester.....	<input type="checkbox"/>		
141. Second Trimester.....	<input type="checkbox"/>		
142. Third Trimester.....	<input type="checkbox"/>		
SHOCK:			
143. Anesthetic.....	<input type="checkbox"/>	<input type="checkbox"/>	
144. Hemorrhagic.....	<input type="checkbox"/>	<input type="checkbox"/>	
145. Septic.....	<input type="checkbox"/>	<input type="checkbox"/>	
146. Positional (vena cava syndrome).....	<input type="checkbox"/>	<input type="checkbox"/>	
147. Other shock*	<input type="checkbox"/>	<input type="checkbox"/>	
148. ANESTHETIC ACCIDENT, OTHER.....	<input type="checkbox"/>	<input type="checkbox"/>	
149. MATERNAL DEATH.....	<input type="checkbox"/>	<input type="checkbox"/>	

L. OUTCOME OF PREGNANCY

150. LIVEBORN (regardless of maturity).....
151. STILLBORN (regardless of maturity)
152. MULTIPLE PREGNANCY.....
- ABORTION:
153. Less than 16.5 cm crown-rump.....
154. 400 gms. or less.....
155. Less than 20 weeks.....
156. ECTOPIC.....
157. HYDATIFORM MOLE.....
158. CHORIOCARCINOMA.....

M. COMPLICATIONS OF PUERPERIUM NONE

159. HEMORRHAGE, within 24 hours (EARLY).....
160. HEMORRHAGE, after 24 hours (LATE).....
161. Puerperal INFECTION (During period of hospitalization)*.....

162. OTHER*.....

OB-60 OBSTETRIC DIAGNOSTIC SUMMARY

DISEASES OR CONDITIONS

N. INFECTIOUS DISEASES DURING PREGNANCY (Exclude local infections common cold, and those coded elsewhere).	NONE		
	1ST	2ND	3RD
164. KNOWN OR PRESUMED VIRAL*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
165. KNOWN OR PRESUMED BACTERIAL*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
166. KNOWN OR PRESUMED PARASITIC*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
167. KNOWN OR PRESUMED FUNGAL*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
168. TYPE UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
169. ATTENUATED LIVE VACCINE, TYPE*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O. DISEASES AND CONDITIONS NOT ELSEWHERE SPECIFIED <input type="checkbox"/> NONE			
170.	B/FONE PREC. (1)	DURING PREG. (2)	POST. PARTUM (3)
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P. SPECIAL STUDIES (Optional)			
171. Bacteruria.....	<input type="checkbox"/>		
172. Heart volume.....	<input type="checkbox"/>		
173. Fetal EKG.....	<input type="checkbox"/>		
174. Other*.....	<input type="checkbox"/>		

OB-60 OBSTETRIC DIAGNOSTIC SUMMARY

176. HISTORY OF HYPERTENSION	<input type="checkbox"/> NONE 0	<input type="checkbox"/> WHEN NOT PREGNANT 1	<input type="checkbox"/> DURING PRIOR PREGNANCY 2		
R. TOXEMIA SCREEN	<input type="checkbox"/> NONE OF THE ITEMS LISTED BELOW 0	1		UP TO THE 24TH WEEK	24 WEEKS TO LABOR
177. Blood pressure systolic 140-159 mm and/or diastolic 90-109 mm					
178. Blood pressure systolic 160 or more and/or diastolic 110 or more					
179. Blood pressure rise of 30 mm or more in systolic and/or rise of 15 mm or more in diastolic					
180. Proteinuria of less than 5 gms/24 hrs. + to ++					
181. Proteinuria of 5 gms/24 hrs. or more or +++ or more					
182. Persistent edema above waist, including hands or face					
183. Weight gain of 2 lbs. or more per week or 6 lbs. or more per month					
184. Oliguria (400 ml/24 hrs. or less)					
185. Pulmonary edema					
186. Cyanosis					
187. Convulsions					
188. Coma					

PLEASE DO NOT WRITE BELOW THIS LINE

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
②															
③															

PLACENTAL EXAMINATION - GROSS

INSTRUCTIONS: (1) For use when crown-rump length of fetus is 16.5 cm. or more (gestational age 20 weeks). (2) Placenta must be fresh when examined. (3) An entry is required for every item except those for twins only. (4) Describe all abnormalities in the space at bottom of second sheet. (5) Prepare at least 3 sections as specified in manual-card, membrane roll, and placenta.

			1. PATIENT'S IDENTIFICATION		
			DATE		
			AM	Mo.	Day
			PM	Year	
2. GROSS EXAMINATION BY			3. TIME		
			AM	Mo.	Day
			PM	Year	
4. MULTIPLE BIRTHS (Photograph all placentas of multiple births - 35 mm. color)					
5. DESIGNATION OF PLACENTA DESCRIBED ON THIS FORM			6. LABELED AT DELY.	7. PLACENTAS FUSED	
<input type="checkbox"/> Twin A <input type="checkbox"/> Twin B <input type="checkbox"/> Other Multiple Birth (Describe)			<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes (Fill out one form for each fetus)	
8. IF FUSED PLACENTAS, IS ANASTOMOSIS PRESENT?					
<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Undetermined (Vessels must be injected as described in manual). Describe anastomoses below, indicating whether artery to artery, vein to vein, or artery to vein. Note size of vessels, etc.					
9. DIMENSIONS			10. SHAPE		
X <input type="text" value=" "/> (Largest Diam.) X <input type="text" value=" "/> (Smallest Diam.) X <input type="text" value=" "/> (Thickness)			<input type="checkbox"/> Round or Oval <input type="checkbox"/> Other (Describe)		
11. CORD					
12. LENGTH OF CORD			13. SHORTEST DISTANCE FROM CORD INSERTION TO PLACENTAL MARGIN		
(Portion attached to placenta plus any loose pieces)			<input type="text" value=" "/> cms <input type="checkbox"/> Insertion not membranous <input type="checkbox"/> Insertion membranous		
14. NUMBER OF VESSELS			15. TRUE KNOT IN CORD	16. COLOR OF CORD	17. FROZEN SECTION TAKEN
<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 0 <input type="checkbox"/> 1 Yes (If "yes" take sections as specified in manual).			<input type="checkbox"/> Normal <input type="checkbox"/> Other (Describe)	<input type="checkbox"/> No <input type="checkbox"/> Yes	
18. MEMBRANES AND FETAL SURFACE					
19. MEMBRANES COMPLETE			20. DECIDUAL NECROSIS	21. MEMBRANES EDEMATOUS	
<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unable to determine			<input type="checkbox"/> Not seen <input type="checkbox"/> Present <input type="checkbox"/> Massive	<input type="checkbox"/> No <input type="checkbox"/> Yes	
22. INSERTION OF MEMBRANES (check two if partial)			23. SHORTEST DISTANCE FROM EDGE OF RUPTURE TO PLACENTAL MARGIN		
<input type="checkbox"/> Marginal <input type="checkbox"/> Circummarginate <input type="checkbox"/> Circumvallate			<input type="text" value=" "/> cms <input type="checkbox"/> Unknown		
24. COLOR OF FETAL SURFACE			25. OPACITY OF MEMBRANES		
<input type="checkbox"/> Blue-gray <input type="checkbox"/> Green <input type="checkbox"/> Brownish-yellow <input type="checkbox"/> Other (Specify)			<input type="checkbox"/> Not Opaque <input type="checkbox"/> Opaque		
26. SUBCHORIONIC FIBRIN			27.	28. THROMBOSED FETAL VESSELS	
<input type="checkbox"/> Not seen <input type="checkbox"/> Present <input type="checkbox"/> Massive			<input type="checkbox"/> Patchy <input type="checkbox"/> Diffuse	<input type="checkbox"/> Not seen <input type="checkbox"/> Present (Describe: Vein, artery, etc.)	
29. AMNION NODOSUM			30. CYSTS	31. WEIGHT	
<input type="checkbox"/> Not seen <input type="checkbox"/> Present (Describe)			<input type="checkbox"/> Not seen <input type="checkbox"/> Present (Describe)	(Trim cord and membranes) <input type="text" value=" "/> Gms	
32. MATERNAL SURFACE					
33. SURFACE			34.		
<input type="checkbox"/> Intact <input type="checkbox"/> Lacerated			<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete <input type="checkbox"/> Undetermined		
35. DEPRESSED AREA			36. IF PRESENT	37. APPARENTLY CAUSED BY	
<input type="checkbox"/> None <input type="checkbox"/> Present			Size <input type="text" value=" "/> X <input type="text" value=" "/> cms	<input type="checkbox"/> Hemorrhage <input type="checkbox"/> Atrophy or <input type="checkbox"/> Other (Describe) <input type="checkbox"/> Unknown	
<input type="checkbox"/> None <input type="checkbox"/> Recent <input type="checkbox"/> Old			<input type="checkbox"/> 1 (Elastic) <input type="checkbox"/> 2 (Firm) <input type="checkbox"/> 3 (Large diam.) <input type="checkbox"/> 4 (Small) <input type="checkbox"/> 5 (Thickness)	<input type="checkbox"/> 1 Infarct <input type="checkbox"/> 2 Infarcts	
38. HEMORRHAGE			39. SIZE	40. SHORTEST DISTANCE FROM PERIPHERAL EDGE OF HEMORRHAGE TO PLACENTAL MARGIN	
<input type="checkbox"/> None <input type="checkbox"/> Recent <input type="checkbox"/> Old			<input type="text" value=" "/> X <input type="text" value=" "/> cms	<input type="checkbox"/> Location retroplacental <input type="checkbox"/> Location retromembranous	
41. CUT SURFACE					
42. INFARCTS: (If none write 0 in all blanks)					
43. Pink-Red Infarcts			44. Yellow-White Infarcts		
No. Marginal <input type="text" value=" "/>			No. Not Marginal <input type="text" value=" "/>	No. Marginal <input type="text" value=" "/>	
45. SIZE OF INFARCTS					
<input type="checkbox"/> Not Applicable <input type="checkbox"/> All less than <input type="checkbox"/> 3 cms.			At least one more than 3 cms (in fact or more than 3 cms. in largest diam. must be described below)		
46. MATERNAL FLOOR INFARCTS (as specified in manual)					
<input type="checkbox"/> None found <input type="checkbox"/> 1 3 cms.			<input type="checkbox"/> Not seen <input type="checkbox"/> Present (Describe)		
47. COLOR			48. CONSISTENCY		
<input type="checkbox"/> Normal <input type="checkbox"/> Unusually light (pale)			<input type="checkbox"/> Firm <input type="checkbox"/> Spongy <input type="checkbox"/> Calcification maternal surface only	<input type="checkbox"/> Calcification throughout	
49. INTERVILLOUS THROMBOSIS: (If none, write 0 in all blanks)					
50. Total number laminated			51. No. laminated in marginal sinus	52. Total no. not laminated	
				53. No. not laminated in marginal sinus <input type="text" value=" "/>	
54. TUMOR			55. HYDATID CHANGE	56. TRUE CYSTS (in substance) (if none, write 0)	
<input type="checkbox"/> Not seen <input type="checkbox"/> Present (Describe)			<input type="checkbox"/> Not seen <input type="checkbox"/> Present (Describe)	Number present <input type="text" value=" "/>	

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57. PATIENT'S IDENTIFICATION

PLACENTAL EXAMINATION-GROSS
(Continued)

58. GROSS EXAMINATION WAS DONE WITH KNOWLEDGE THAT:

Clinical course or outcome for 1 mother or baby was normal Clinical course or outcome for 2 mother or baby was abnormal With no knowledge of the case

59. SPECIAL STUDIES:

Photography Virology Histochimistry 3 (Special strain) Other (describe) 8

60. PRESENCE OF OTHER ABNORMALITIES

No abnormalities other than those specified above Abnormalities other than those specified above

61. DESCRIPTION OF ABNORMALITIES CHECKED AND OTHER PERTINENT FINDINGS. IDENTIFY EACH COMMENT BY THE CORRESPONDING NUMBER.

COLR-3222-2

11-59

PLACENTAL EXAMINATION-MICROSCOPIC

INSTRUCTIONS: (1) For use when crown-rump length of fetus is 16.5 cm. or more (gestational age 20 weeks). (2) An entry is required for every item except those for twins only. (3) Describe all abnormalities in the space at bottom of sheet. (4) Examine at least 3 sections; cord, membrane roll, and placenta. (5) Use ball point pen.

2. MICROSCOPIC EXAMINATION BY:	3. DATE Mo. Day Year
--------------------------------	-------------------------

1. PATIENT'S IDENTIFICATION

4. DESIGNATION OF PLACENTA DESCRIBED ON THIS FORM <input type="checkbox"/> Single Birth <input type="checkbox"/> Twin A <input type="checkbox"/> Twin B <input type="checkbox"/> Other Multi-Birth (Identify below) <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked		5. WAS AMNIOTIC FLUID AVAILABLE FOR EXAMINATION <input type="checkbox"/> No <input type="checkbox"/> Yes	
6. CORD			
7. NEUTROPHILIC INFILTRATION 8. Umbilical Vein <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked		9. Umbilical Artery <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked	
10. Cord Substance <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked			
11. THROMBOSIS OF VESSELS <input type="checkbox"/> Not seen <input type="checkbox"/> Present (Describe)		12. NUMBER OF UMBILICAL ARTERIES <input type="checkbox"/> One <input type="checkbox"/> Two	
13. MEMBRANES			
14. EPITHELIUM OF AMNIOTIC FLUID 15. Necrosis <input type="checkbox"/> Not seen <input type="checkbox"/> Present		16. Squamous metaplasia <input type="checkbox"/> Not seen <input type="checkbox"/> Present	
17. Amniotic Nodules <input type="checkbox"/> Not seen <input type="checkbox"/> Present		18. Bacterial Colonies <input type="checkbox"/> Not seen <input type="checkbox"/> Present	
19. NEUTROPHILIC INFILTRATION OF: 20. Amniotic Membrane Roll <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked		21. Chorion of Membrane Roll <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked	
22. Amniotic Placental Surface <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked		23. Chorion of Placental Surface <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked	
24. Fetal Surface Vessels <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked			
25. OTHER FETAL SURFACE VASCULAR CHANGES <input type="checkbox"/> None <input type="checkbox"/> Thrombosis <input type="checkbox"/> Necrosis <input type="checkbox"/> Other (Describe)			
26. MACROPHAGES			
27. In Amniotic or Chorionic Fluid <input type="checkbox"/> Not seen <input type="checkbox"/> Present (containing no pigment) <input type="checkbox"/> Present (containing meconium) <input type="checkbox"/> Present (containing hemoglobin) <input type="checkbox"/> Present (containing unknown pigment)			
28. In Decidua <input type="checkbox"/> Not seen <input type="checkbox"/> Present (containing no pigment) <input type="checkbox"/> Present (containing meconium) <input type="checkbox"/> Present (containing hemoglobin) <input type="checkbox"/> Present (containing unknown pigment)			
29. TWIN PLACENTAS ONLY - CLASSIFY DIVIDING MEMBRANES <input type="checkbox"/> Monoamniotic-Monochorionic <input type="checkbox"/> Diamniotic-Dichorionic <input type="checkbox"/> Diamniotic-Monochorionic <input type="checkbox"/> Unknown <input type="checkbox"/> (No dividing membranes present) <input type="checkbox"/> 1 <input type="checkbox"/> 2			
30. DECIDUA			
31. VESSELS (of intact, non-necrotic area of decidua) 32. Thrombosis <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Present <input type="checkbox"/> 2 Unable to evaluate		33. Fibroid <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Present <input type="checkbox"/> 2 Unable to evaluate	
34. Atheroma <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Present <input type="checkbox"/> 2 Unable to evaluate		35. NECROSIS 36. At Margin <input type="checkbox"/> Not marked <input type="checkbox"/> 1 Marked <input type="checkbox"/> 2 Unable to evaluate	
37. In Capsularis <input type="checkbox"/> Not marked <input type="checkbox"/> 1 Marked <input type="checkbox"/> 2 Unable to evaluate		38. In Basalis <input type="checkbox"/> Not marked <input type="checkbox"/> 1 Marked <input type="checkbox"/> 2 Unable to evaluate	
39. NEUTROPHILIC INFILTRATION 40. At Margin <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked		41. In Capsularis <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked	
42. In Basalis <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked		43. LYMPHOCYTIC INFILTRATION 44. At Margin <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked	
45. In Capsularis <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked		46. In Basalis <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked	
47. CYTOTROPHOBlast OF COLUMNS 48. Fibrin Deposition <input type="checkbox"/> Average <input type="checkbox"/> Excessive		49. Cystic Change <input type="checkbox"/> Not seen <input type="checkbox"/> Present	
50. Syncytium-Nuclear Clumping <input type="checkbox"/> Normal (clumps less than 30% of villi) <input type="checkbox"/> Normal for term placenta		51. TERMINAL VILLI	
52. LANGHANS' LAYER <input type="checkbox"/> Absent <input type="checkbox"/> 1 Present		53. HOFBAUER CELLS <input type="checkbox"/> Few <input type="checkbox"/> 1 Many	
54. STROMAL FIBROSIS <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Present (Describe)		55. PATHOLOGICAL EDEMA <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Present (Describe)	
56. MICRO INFARCTS (as specified in manual) <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Present		57. NUCLEATED RBC IN FETAL CIRCULATION <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Present	
58. MELANIN <input type="checkbox"/> Not seen <input type="checkbox"/> 1 Slight <input type="checkbox"/> 2 Marked			

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(PATH-2) Page 1 of 2

59. PATIENT'S IDENTIFICATION

PLACENTAL EXAMINATION-MICROSCOPIC
(Continued)

60. INTERVILLOUS SPACE

61. INTERVILLOUS THROMBI

<input type="checkbox"/> Not seen	<input type="checkbox"/> Present, RBC intact	<input type="checkbox"/> Present, RBC hemolyzed
0	1	2

62. IF THROMBI PRESENT

<input type="checkbox"/> No adjacent villous	<input type="checkbox"/> Adjacent villous
0 Infarction seen	1 Infarction seen

63. MARGINAL SINUS THROMBI

<input type="checkbox"/> Not seen	<input type="checkbox"/> Present, RBC intact	<input type="checkbox"/> Present, RBC hemolyzed
0	1	2

64. SICKLING (maternal blood)

<input type="checkbox"/> Not noted	<input type="checkbox"/> Present
0	1

65. APPARENT MATURITY OF PLACENTA

<input type="checkbox"/> Under 20 weeks	<input type="checkbox"/> 20-27 weeks	<input type="checkbox"/> 28-36 weeks	<input type="checkbox"/> 37 weeks or over
1	2	3	4

66. MICROSCOPIC EXAMINATION WAS DONE WITH KNOWLEDGE THAT:

<input type="checkbox"/> Clinical course or outcome for 1 mother or baby was normal	<input type="checkbox"/> Clinical course or outcome for 2 mother or baby was abnormal	<input type="checkbox"/> With no knowledge of the case 3
--	--	---

67. PRESENCE OF OTHER ABNORMALITIES

<input type="checkbox"/> No abnormalities other than those specified above II	<input type="checkbox"/> Abnormalities other than those specified above I
--	--

68. DESCRIPTION OF ABNORMALITIES CHECKED AND OTHER PERTINENT FINDINGS. IDENTIFY EACH COMMENT BY THE CORRESPONDING ITEM NUMBER.

69. FINAL DIAGNOSIS

70. DO NOT USE

OBSTETRICAL ADMINISTRATIVE RECORD

1. PATIENT IDENTIFICATION																	
2. LAST NAME						3. OPD NO.		4. HOSPITAL NO.		5. SPECIAL NO.							
6. FIRST NAME			7. MIDDLE			8. MAIDEN			COMPLETE ONLY IF NEEDED BY HOSPITAL								
9. ADDRESS (Street and Number) (City, Zone and State)						10. TELEPHONE NO.			11. EDC								
12. DATE REGISTERED Mo. Day Year			13. DATE FORM INITIATED Mo. Day Year			14. FIRST DAY LMP Mo. Day Year			15. DATE OF BIRTH Mo. Day Year			16. AGE					
17. MARITAL STATUS <input type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> CL 1 2 3						18. RACE <input type="checkbox"/> SEP. <input type="checkbox"/> W <input type="checkbox"/> N 6 1 2						19. WEEKS OF GESTATION <input type="checkbox"/> OR <input type="checkbox"/> PR <input type="checkbox"/> Other 3 4 8					
20. PATIENT STATUS <input type="checkbox"/> Clinic 1			21. SAMPLING FRAME PATIENT SELECTED FOR STUDY <input type="checkbox"/> Based on 1 Systematic Sampling <input type="checkbox"/> Based on 2 Special Sampling (Specify)									NOT SELECTED FOR STUDY <input type="checkbox"/> Based on 7 Sampling Design <input type="checkbox"/> For Other Reasons 8 (Specify below)					

Appendix D

SUMMARY DATA FOR CASES UNKNOWN FOR SPECIFIED CHARACTERISTIC

SUMMARY DATA FOR CASES UNKNOWN FOR SPECIFIED CHARACTERISTIC
WHICH ARE NOT SHOWN ON DETAILED TABLES - WHITE

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT		NEUROLOGICALLY ABNORMAL				
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE		
EMPLOYMENT STATUS OF GRAVIDA	646	3.4	68	105.3	52	80.5	594	16	26.9	559	57	102.0	223	7	31.4
GRAVIDA WITH TWIN SIBLING	950	5.0	93	97.9	67	70.5	883	26	29.4	829	85	102.5	374	8	21.4
HISTORY OF INFECTIOUS DISEASES	135	0.7	10	74.1	8	59.3	127	2	15.7	114	7	61.4	76	1	13.2
CARDIOVASCULAR CONDITIONS (ORGANIC HEART DISEASE; THROMBOSIS/PHLEBITIS)	156	0.8	11	70.5	9	57.7	147	2	13.6	131	7	53.4	91	1	11.0
PULMONARY DISEASES (TUBERCULOSIS; PNEUMONIA; ASTHMA)	146	0.8	10	68.5	7	47.9	139	3	21.6	122	6	49.2	87	1	11.5
METABOLIC AND ENDOCRINE CONDITIONS (DIABETES; HYPERTHYROIDISM; HYPOTHYROIDISM)	132	0.7	10	75.8	8	60.6	124	2	16.1	106	9	84.9	68	1	14.7
URINARY TRACT INFECTIONS (GLomerulonephritis; KIDNEY-URINARY BLADDER INFECTION)	161	0.8	13	80.7	11	68.3	150	2	13.3	128	7	54.7	80	1	12.5
NEUROLOGIC AND PSYCHIATRIC CONDITIONS (CONVULSIVE DISORDERS; CONVULSIONS; MENTAL RETARDATION; NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES)	180	0.9	16	88.9	12	66.7	168	4	23.8	151	13	86.1	107	2	18.7
GASTROINTESTINAL CONDITIONS (CHOLECYSTITIS; CHOLELITHIASIS; HEPATITIS; GASTROINTESTINAL CONDITIONS)	155	0.8	12	77.4	10	64.5	145	2	13.8	132	10	75.6	90	2	22.2

SUMMARY DATA FOR CASES UNKNOWN FOR SPECIFIED CHARACTERISTIC
WHICH ARE NOT SHOWN ON DETAILED TABLES - WHITE (CONT.)

ITEM	BIRTHS		PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT		NEUROLOGICALLY ABNORMAL				
	NO.	%	NO.	RATE	NO.	RATE	LIVE-BIRTHS	NO.	RATE	UNDER 2501 GM.	1 YR EXAMS	NO.	RATE		
COMPLICATIONS OF PREGNANCY AND LABOR (HYPEREMESIS GRAVIDARUM; HYDRAMNIOS)	246	1.3	18	73.2	15	61.0	231	3	13.0	192	6	31.3	73	1	13.7
ABNORMAL COLORATION OF FETAL SURFACE OF PLACENTA	2046	14.9	243	85.4	194	68.2	2652	49	18.5	2543	203	79.8	1757	48	27.3
MACROPHAGES IN AMNION OR CHORION	2801	14.7	233	83.2	190	67.8	2611	43	16.5	2505	203	81.0	1720	49	28.5
MACROPHAGES IN PLACENTAL DECIDUA	2807	14.7	233	83.0	190	67.7	2617	43	16.4	2511	203	80.8	1725	49	28.4
NEUTROPHILIC INFILTRATION OF AMNION OR PLACENTAL SURFACE	3571	18.7	255	71.4	207	58.0	3364	48	14.3	3256	233	71.6	2316	56	24.2
NEUTROPHILIC INFILTRATION OF AMNION OF PLACENTAL SURFACE	3977	20.9	261	65.6	212	53.3	3765	49	13.0	3856	227	62.1	2655	59	22.2
NEUTROPHILIC INFILTRATION OF CHORION OF MEMBRANE ROLL	2839	14.9	237	83.5	193	68.0	2646	44	16.6	2540	205	80.7	1748	50	28.6
NEUTROPHILIC INFILTRATION OF UMBILICAL VEIN	2840	14.9	237	83.5	192	67.6	2648	45	17.0	2542	208	81.8	1749	49	28.0
CORD WITH MEMBRANOUS INSERTION	1512	7.9	210	136.9	174	115.1	1338	36	26.9	1232	115	93.3	689	14	20.3
CORD WITH ONE UMBILICAL ARTERY	1406	7.4	194	138.0	167	118.8	1239	27	21.8	1135	82	72.2	615	9	14.6
SURGERY FOR INCOMPETENT CERVIX	135	0.7	10	74.1	8	59.3	127	2	15.7	114	7	61.4	76	1	13.2

SUMMARY DATA FOR CASES UNKNOWN FOR SPECIFIED CHARACTERISTIC
WHICH ARE NOT SHOWN ON DETAILED TABLES - NEGRO

ITEM	BIRTHS			PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	NO.	RATE	NO.	NO.	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	
EMPLOYMENT STATUS OF GRAVIDA	337	1.7	35	103.9	17	50.4	320	18	56.3	299	50	167.2	208	5	24.0
GRAVIDA WITH TWIN SIBLING	1048	2.3	107	102.1	51	48.7	997	56	56.2	938	172	183.4	687	9	13.1
HISTORY OF INFERTILITY	201	1.0	27	134.3	16	79.6	185	11	59.5	167	35	209.6	139	5	36.0
CARDIOVASCULAR CONDITIONS (ORGANIC HEART DISEASE; THROMBOSIS/PHLEBITIS)	235	1.2	29	123.4	16	68.1	219	13	59.4	199	38	191.0	165	5	30.3
PULMONARY DISEASES (TUBERCULOSIS; PNEUMONIA; ASTHMA)	204	1.0	28	137.3	16	78.4	188	12	63.6	169	33	195.3	139	5	36.0
METABOLIC AND ENDOCRINE CONDITIONS (DIABETES; HYPERTHYROIDISM; HYPOTHYROIDISM)	201	1.0	27	134.3	16	79.6	185	11	59.5	166	36	216.9	137	6	43.8
URINARY TRACT INFECTIONS (CHRONIC NEPHRITIS; KIDNEY-URINARY BLADDER INFECTION)	207	1.0	29	140.1	17	82.1	190	12	63.2	169	35	207.1	139	5	36.0
NEUROLOGIC AND PSYCHIATRIC CONDITIONS (CONVULSIVE DISORDERS; CONVULSIONS; MENTAL RETARDATION; NEUROLOGIC OR PSYCHIATRIC ABNORMALITIES)	225	1.1	31	137.8	20	88.9	205	11	53.7	189	38	201.1	160	5	31.3
GASTROINTESTINAL CONDITIONS (CHOLECYSTITIS; CHOLANGITIS; HEPATITIS; GASTROINTESTINAL CONDITIONS)	232	1.2	28	120.7	17	73.3	215	11	51.2	189	38	201.1	160	5	31.3

SUMMARY DATA FOR CASES UNKNOWN FOR SPECIFIED CHARACTERISTIC
WHICH ARE NOT SHOWN ON DETAILED TABLES - NEGRO (CONT.)

ITEM	BIRTHS			PERINATAL DEATHS		STILLBIRTHS		NEONATAL DEATHS		LIVEBIRTHS WITH KNOWN BIRTHWEIGHT			NEUROLOGICALLY ABNORMAL		
	NO.	%	NO.	RATE	NO.	RATE	NO.	RATE	NO.	NO.	UNDER 2501 GM.	I YR EXAMS	NO.	RATE	
COMPLICATIONS OF PREGNANCY AND LABOR (HYDROMArosis)	235	1.2	35	148.9	22	93.6	213	13	61.0	180	35	194.4	141	5	35.5
ABNORMAL COLORATION OF FETAL SURFACE OF PLACENTA	3011	14.9	257	85.4	165	54.8	2846	92	32.3	2697	409	151.6	2315	53	22.9
MACROPHAGES IN AMNION OR CHORION	2426	12.0	231	95.2	153	63.1	2273	78	34.3	2127	346	162.7	1793	40	22.3
MACROPHAGES IN PLACENTAL DECIDUA	2440	12.1	232	95.1	155	63.5	2285	77	33.7	2139	347	162.2	1804	40	22.2
NEUTROPHILIC INFILTRATION OF AMNION OF MEMBRANE	3384	16.8	252	74.5	168	49.6	3216	84	26.1	3066	429	139.9	2624	50	19.1
NEUTROPHILIC INFILTRATION OF AMNION OF PLACENTAL SURFACE	3791	18.8	248	65.4	168	44.3	3623	80	22.1	3473	421	121.2	2967	47	15.8
NEUTROPHILIC INFILTRATION OF CHORION OF MEMBRANE	2507	12.4	239	95.3	158	63.0	2349	81	34.5	2202	358	162.6	1858	42	22.6
NEUTROPHILIC INFILTRATION OF UMBILICAL VEIN CORD WITH MEMBRANOUS INSERTION	2505	12.4	237	94.6	158	63.1	2347	79	33.7	2201	356	161.7	1858	43	23.1
CORD WITH ONE UMBILICAL ARTERY	2478	12.3	234	94.4	161	65.0	2317	73	31.5	2183	345	158.0	1894	42	22.2
SURGERY FOR INCOMPETENT CERVIX; SURGERY FOR INCOMPETENT CERVIX	1903	9.4	200	105.1	148	77.8	1755	52	29.6	1624	232	142.9	1375	26	18.9

Appendix E

CHARACTERISTICS AND OUTCOME

All of the material on this subject is contained on microfiche cards which are located in the envelope inside the back cover of this book.

Location on Microfiche Cards of Data by Institution, by Subject

	Distribution Card-Row-Col.	Perinatal Death Rate Card-Row-Col.	Rate of Birthweight Under 2501 Gm. Card-Row-Col.
Marital status	1-1-1	1-4-9	2-2-3
Age of gravida	1-1-1	1-4-9	2-2-3
Schooling of gravida	1-1-2	1-4-10	2-2-4
Cigarettes	1-1-2	1-4-10	2-2-5
Height of gravida	1-1-3	1-4-11	2-2-6
Prepregnant weight	1-1-3	1-4-11	2-2-6
Parity	1-1-4	1-4-12	2-2-7
Survival state of last prior child	1-1-4	1-4-12	2-2-7
Bwt. of last prior child (gm)	1-1-5	1-4-13	2-2-8
Time to become pregnant	1-1-5	1-4-13	2-2-8
Gestation at registration	1-1-6	1-4-14	2-2-9
Prenatal visits	1-1-6	1-4-14	2-2-9
Organic heart disease	1-1-7	1-5-1	2-2-10
Tuberculosis	1-1-7	1-5-1	2-2-10
Pneumonia	1-1-8	1-5-2	2-2-11
Pneumonia with positive chest x-ray	1-1-8	1-5-2	2-2-11
Bronchial asthma	1-1-9	1-5-3	2-2-12
Acute bronchial asthma	1-1-9	1-5-3	2-2-12
Status asthmaticus	1-1-10		
Gravida's lowest hemoglobin	1-1-10		
Diabetes mellitus	1-1-11	1-5-4	2-2-13
Diabetes—five or more years' duration	1-1-11	1-5-4	2-2-13
Type of delivery	1-3-4	1-6-11	2-4-6
Procedure for vaginal delivery of vertex	1-3-5	1-6-12	2-4-7
Degree of difficulty of forceps usage (vertex)	1-3-6	1-6-13	2-4-8
Procedure for delivery of body (breech)	1-3-6	1-6-13	2-4-8
Procedure for delivery of after-coming head (breech)	1-3-7	1-6-14	2-4-9
Time interval between delivery and cord clamp—vertex	1-3-7	1-6-14	2-4-9
Time interval between delivery and cord clamp—breech	1-3-8	2-1-1	2-4-10
Time interval between delivery and cord clamp—c-section	1-3-8	2-1-1	2-4-10
Hyperemesis gravidarum	1-3-9	2-1-2	2-4-11
Incompetent cervix	1-3-9	2-1-2	2-4-11
Surgery for incompetent cervix	1-3-10	2-1-3	2-4-12
Trimester of first occurrence of vaginal bleeding	1-3-10	2-1-4	2-4-13
Hydramnios	1-3-11	2-1-5	2-4-14
Placenta previa	1-3-11	2-1-5	2-4-14
Abruption placenta	1-3-12	2-1-6	2-5-1
Prolapse of cord	1-3-13	2-1-7	2-5-2
Abnormal glucose tolerance test	1-1-12	1-5-5	2-2-14
Hypothyroidism	1-1-12	1-5-5	2-2-14
Hyperthyroidism	1-1-13	1-5-6	2-3-1
Glomerulonephritis	1-1-13	1-5-6	2-3-1
Kidney-urinary bladder infection	1-1-14	1-5-7	2-3-2
Kidney-urinary bladder infection with fever	1-1-14	1-5-7	2-3-2

Location on Microfiche Cards of Data by Institution, by Subject

	Distribution Card-Row-Col.	Perinatal Death Rate Card-Row-Col.	Rate of Birthweight Under 2501 Gm. Card-Row-Col.
Kidney-urinary bladder infection with positive urine culture	1-2-1	1-5-8	2-3-3
History of convulsive disorders, not eclamptic	1-2-1	1-5-8	2-3-3
Convulsions, not eclamptic	1-2-2	1-5-9	2-3-4
Mental retardation	1-2-2	1-5-9	2-3-4
Psychosis or neurosis	1-2-3	1-5-10	2-3-5
Neurologic disease	1-2-3	1-5-10	2-3-5
Alcoholism	1-2-4	1-5-11	2-3-6
Drug habituation	1-2-4	1-5-11	2-3-6
Cholecystitis	1-2-5	1-5-12	2-3-7
Cholelithiasis	1-2-5	1-5-12	2-3-7
Hepatitis	1-2-6	1-5-13	2-3-8
Appendicitis	1-2-6	1-5-13	2-3-8
Ileo-colitis	1-2-7	1-5-14	2-3-9
Peptic ulcer	1-2-7	1-5-14	2-3-9
Duration of labor			
1st stage-vertex presentation parity 0	1-2-8	1-6-1	2-3-10
1st stage-vertex presentation parity 1+	1-2-9	1-6-2	2-3-11
1st stage-breech presentation parity 0	1-2-10	1-6-3	2-3-12
1st stage-breech presentation parity 1+	1-2-11	1-6-4	2-3-13
2nd stage-vertex presentation parity 0	1-2-12	1-6-5	2-3-14
2nd stage-vertex presentation parity 1+	1-2-13	1-6-6	2-4-1
2nd stage-breech presentation parity 0	1-2-14	1-6-7	2-4-2
2nd stage-breech presentation parity 1+	1-3-1	1-6-8	2-4-3
3rd stage-vertex presentation parity 0	1-3-2	1-6-9	2-4-4
3rd stage-vertex presentation parity 1+	1-3-2	1-6-9	2-4-4
3rd stage-breech presentation parity 0	1-3-3	1-6-10	2-4-5
3rd stage-breech presentation parity 1+	1-3-3	1-6-10	2-4-5
Uterine dysfunction	1-3-14	2-1-8	2-5-3
Premature rupture of membrane	1-4-1	2-1-9	2-5-4
Puerperal infection	1-4-1	2-1-9	2-5-4
Length of cord	1-4-2	2-1-10	2-5-5
Weight of placenta	1-4-2	2-1-10	2-5-5
Macrophages in amnion of chorion	1-4-3	2-1-11	2-5-6
Macrophages in placental decidua	1-4-3	2-1-11	2-5-6
Neutrophilic infiltration of amnion of membrane roll	1-4-4	2-1-12	2-5-7
Neutrophilic infiltration of chorion of membrane roll	1-4-4	2-1-12	2-5-7
Neutrophilic infiltration of umbilical vein	1-4-5	2-1-13	2-5-8
Membranous insertion of umbilical cord	1-4-5	2-1-13	2-5-8
Umbilical cord with one umbilical artery	1-4-6	2-1-14	2-5-9
Degree of necrosis of decidua capsularis	1-4-7	2-2-1	2-5-10
Diameter of placental infarcts	1-4-8	2-2-2	2-5-11

GLOSSARY

- **ABORTION**—A pregnancy terminating at less than twenty weeks gestation. (Length of gestation is rounded to nearest week.)
- AGE OF GRAVIDA**—Years completed at last birthday at time of registration in the Study.
- BIRTHWEIGHT**—As reported at delivery, converted from pounds and ounces to grams where necessary. For cases where delivery did not occur at the Collaborating hospital, the information was obtained if possible.
- BIRTHWEIGHT OF LAST PRIOR CHILD**—The figure, as reported by the gravida, is included for last prior child even if abortion or multiple birth.
- CIGARETTES SMOKED PER DAY**—When the gravida registered, she was asked about her smoking. Data shown in this report are as of the time of registration. "Zero" means "never smoked." A "1" includes all gravidas who reported occasional smoking.
- CORE CASE**—Case included in study because it fell in the hospital's normal sampling procedure. (A non-core case is one which is included in the Study because of a special interest of hospital.)
- FIRST STUDY PREGNANCY**—The first pregnancy registered in the Study for a gravida. A subsequent pregnancy registered in the Study for the same gravida is called a repeat pregnancy. It should be noted that the first Study pregnancy was not necessarily the gravida's first pregnancy — it may have been her sixth child but it was the first pregnancy registered in the Study.
- GESTATION**—Gestation was calculated in days between the first day of the gravida's last menstrual period (LMP) and the date of the event (registration, delivery, etc.). Conversion to weeks was performed by dividing by seven and rounding to the nearest week.
- LABOR, STAGES OF**—First stage: Onset of regular contractions to full dilatation of the cervix.
Second stage: Full dilatation of the cervix to completed delivery of infant.
Third stage: Completed delivery of infant to delivery of placenta.
- LIVEBIRTH**—A product of a conception of 20 or more weeks gestation, which at the time of complete delivery shows any sign of life (i.e., respiratory activity, heart beat, pulsation of cord, or definite movement of voluntary muscles).
- LOST-TO-STUDY CASES**—Cases for which neither labor and delivery nor pediatric data were available. Includes women who refused to participate after registering, who moved and could not be located, etc.
- NEONATAL DEATH**—A death after birth and before 28 days.
- NEUROLOGICALLY ABNORMAL AT ONE YEAR**—This category in this report consists of definite abnormalities only; suspects are excluded. It includes: those children for whom the examiner is able to make a diagnosis of a recognized syndrome; those who he feels are definitely neurologically abnormal but who do not fit into any specific diagnostic category; and those with conditions which may not be themselves neurological but which are often related to central nervous system disorders (such as abnormalities of skull, spinal anomalies, and unusual facies).
- OB-34 (OB-55)**—Delivery Report forms. OB-55 succeeded OB-34.
- PARITY**—Number of prior pregnancies (exclusive of those terminating at less than twenty weeks gestation). Primipara (and parity 0) refer to a woman with no prior pregnancy of gestation twenty weeks or more.
- PERINATAL DEATHS**—Stillbirths plus neonatal deaths.
- PLUS (+)**—The plus sign on a variable line means "and over."
- PRENATAL VISITS**—A prenatal visit was counted for each date on a form which indicated a clinic visit for consultation or examination prior to delivery.
- RATE**—All rates are per 1000. Perinatal death rates and stillbirth rates are per 1000 births (exclusive of those terminating at less than twenty weeks gestation).
Neonatal death rates are per 1000 livebirths.
Birthweight rates are per 1000 liveborns with known birthweight.
Neurological abnormality rates are per 1000 children tested.
- STILLBIRTH**—The product of a conception of gestation of twenty or more weeks (rounded to nearest week), which, at the time of complete delivery, shows no sign of life (i.e., respiratory activity, heartbeat, pulsation of cord, or definite movement of voluntary muscles).
- SYSTEM**—As used in tables, refers to cardiovascular, pulmonary, blood, etc., as shown on OB-60 (see Appendix C).
- WALK-IN CASE**—Gravida who delivered on same date on which she registered.

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