

Early identification of infants at risk for institutional care

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The neonatal health and family situation of infants admitted for institutional care were evaluated retrospectively. Based on the criteria for admission they were classified into four groups: handicapped infants; infants of mothers with psychiatric illness or mental retardation; infants of alcoholic or drug-addicted mothers; and infants of mothers with various social dysfunctions. Mentally disturbed and addicted mothers were to a large extent multiparae. One-fourth of them already had children in foster care. The mentally disturbed mothers had a raised frequency of pregnancy and delivery complications. Compared to the general population, the gestational age and birth weight were significantly lower in all groups, and the number of preterm babies was twice as high. The majority of infants at risk for parental failure due to mental disturbance or addiction can be identified in the maternity ward. Deficient maternal behaviour in the maternity ward and the occurrence of previous children in foster care are important risk factors in predicting maternal incapability for parenting.

INTRODUCTION

A new concern has developed in antenatal as well as postnatal care since Kempe *et al.* (1962) first reported on child abuse. There is an increasing awareness of the environmental influences on a child's development (Ounsted *et al.* 1983). While serious physical injury is a relatively rare phenomenon in child abuse, a growing number of infants exhibit symptoms of family dysfunction. It has been stated that most abusing families can already be identified in the maternity ward (Lynch & Roberts 1977). Poor antenatal attendance, abnormal pregnancy or delivery and ensuing neonatal separation have been found to be significantly overrepresented in the biographies of mothers whose children are at risk for neglect or abuse (Hunter *et al.* 1978).

The aim of the present study has been to examine retrospectively the neonatal health of

infants who were admitted for institutional care during their first year of life. In addition, the study was focused on estimating the rate of identification in the maternity ward of infants at risk for child abuse owing to parental insufficiency.

MATERIAL AND METHODS

The study includes all infants (337) admitted for institutional care in the metropolitan area of Stockholm during 1970 (150 infants), 1975 (92 infants) and 1980 (95 infants). On the basis of the criteria for admission for institutional care (Larsson & Ekenstein 1983) the children were classified into four groups.

Group 1: infants born with mental and/or physical handicaps ($n = 32$).

Group 2: infants of mothers with psychiatric illness or mental retardation ($n = 60$).

TABLE 1 *The social situation of the mothers at the time of delivery*

Social situation	Group 1 (<i>n</i> = 32)	Group 2 (<i>n</i> = 60)	Group 3 (<i>n</i> = 55)	Group 4 (<i>n</i> = 190)
Median age of the mothers (yr)	26 (17–36)	29 (19–41)	26 (18–40)	26 (14–51)
Mothers under 20 years of age	2 (6%)	2 (3%)	4 (7%)	28 (15%)
Immigrants	4 (13%)	10 (17%)	13 (24%)	67 (35%)*
Single mothers	5 (6%)	13 (22%)	10 (18%)	83 (44%)†
> 2 previous pregnancies	4 (13%)	13 (28%)	19 (35%)*	38 (20%)
Previous children in foster care	0	11 (18%)*	14 (25%)†	9 (5%)

**P* < 0.05, †*P* < 0.01 compared to group 1.

Group 3: infants of mothers who were addicted to alcohol and/or drugs (*n* = 55).

Group 4: infants of mothers with a number of interlocking social problems including housing, finances, unemployment, criminality and/or domestic violence (*n* = 90).

Medical and social data on each pregnancy, birth and postnatal period were collected from records in the departments of obstetrics and paediatrics. The records gave information on the mothers' antenatal care, delivery and postnatal course. In addition, sociodemographic data were noted as well as the social situation at delivery. All but 25 of the 337 infants were born in the nine departments of obstetrics in the area of Stockholm. One infant in group 1 and seven in group 4 were born abroad. Information about the pregnancies and deliveries abroad is missing. Some data in an additional small number of birth records are also missing, and therefore the number of infants in the result tables is reduced. Student's *t*-test and the chi-square test were the methods used for the statistical analyses.

The study was approved by the Ethical Committee of the Karolinska Institute. It was supported by grants from the Save the Children Fund.

RESULTS

The social and family situation of the mothers

Information about the maternal age, citizenship and civil status is given in Table 1. Approximately half of the women in the total population

were primiparae. The women exhibiting alcohol or drug abuse had significantly more previous pregnancies than the women in group 1. A great number of these pregnancies had resulted in abortions, but nevertheless these mothers had delivered more children than group 1. Nearly one-fourth of the women in groups 2 and 3 already had children in foster care (Table 1). In fact, 75% of all the previous children in group 3 were not in the custody of their biological mothers.

Antenatal care and present pregnancy

Nearly one-fifth of the women in groups 2–4 had attended the maternal health clinic very infrequently and were classified as having had poor antenatal care (Table 2). Seventy per cent of all pregnancies in Sweden in 1975 ran their course without recorded complications (Statistical Reports 1980). Compared to this figure, significantly fewer (*P* < 0.05) pregnancies in group 2 were considered normal, i.e. without such complications as elevated blood pressure, proteinuria, anaemia, poor weight gain, premature labour or intercurrent infections. One-third of the mentally disturbed mothers was treated in hospital during pregnancy (Table 2), nine because of mental deficiency and 10 because of pregnancy complications. In only one-fourth of the records of the mothers in groups 2 and 3 was there any indication of mental insufficiency or alcohol and drug abuse during the pregnancy (Table 2).

TABLE 2 Antenatal care and present pregnancy of the mothers

	Group 1 (n = 30)	Group 2 (n = 56)	Group 3 (n = 54)	Group 4 (n = 176)
Unsatisfactory antenatal care*	1 (3%)	10 (18%)	11 (20%)	34 (19%)
Normal pregnancy	24 (80%)	32 (57%)†	38 (70%)	135 (77%)
Psychic insufficiency	0	14 (25%)	4 (7%)	5 (3%)
Alcohol or drug abuse	0	1 (2%)	11 (20%)	1 (0.5%)
Hospitalization during pregnancy	6 (20%)	19 (34%)	9 (17%)	28 (16%)

*Defined as less than four visits to the maternal health clinic, or first visit after the 28th week of gestation.

† $P < 0.05$, compared to all Swedish pregnancies 1975.

TABLE 3 Gestational age, intrauterine growth and some abnormalities during the neonatal period

	Group 1 (n = 31)	Group 2 (n = 58)	Group 3 (n = 54)	Group 4 (n = 179)	All Swedish children 1975
Gestational age, weeks (mean \pm SD)	38.6 \pm 2.2†	38.8 \pm 2.4†	38.8 \pm 2.7†	39.1 \pm 2.3†	40.3
Preterms (< 37 weeks)	4 (13%)	8 (14%)	6 (11%)	19 (11%)*	6%
Birth weight g (mean \pm SD)	3004 \pm 495†	3273 \pm 675*	3139 \pm 570†	3200 \pm 569†	3464
Small for gestational age	1 (3%)	0	3 (6%)	2 (1%)	
Birth weight < 2500 g	7 (23%)†	4/56§ (7%)	7 (13%)*	11/173§ (6%)	5%
Apgar score < 7 at 5 min	3 (10%)	0	1 (2%)	10 (6%)	5%
Hyperbilirubinemia	4 (13%)	5 (9%)	5 (9%)	15 (8%)	6%
Hyperexcitability and/or fits	0	3 (5%)	7 (13%)	3 (2%)	
Serious congenital malformation	11/32 (34%)	1/60 (2%)	0	3/190 (2%)	
Admission for neonatal care	13 (42%)	10 (17%)	12 (22%)	21 (12%)	

* $P < 0.05$, † $P < 0.001$ compared to all Swedish children in 1975.

§Twins excluded.

Delivery and neonatal period

Twelve per cent of the mentally insufficient mothers had instrumental deliveries compared to 0–5% in the other three groups and 5% of all Swedish mothers in 1975. In group 1 five (15%) of the mothers had caesarean sections compared to 7–9% in the other three groups. In 1975 8% of all the deliveries in Sweden were caesarean sections (Statistical Reports 1980). Table 3 gives information about the newborn infants. The mean gestational age (as reported in the records of the maternal health clinic and maternity ward) was significantly lower in all four groups than in the general population and the frequency of preterm births was about twice as high. In all the groups the mean birth weight was significantly lower than the mean birth

weight of all Swedish children in 1975 (Statistical Reports 1980). There was an overrepresentation ($P < 0.05$) of hyperexcitability and/or fits in group 3 and three infants in this group showed characteristics of fetal alcohol exposure. The high morbidity and the large number of admissions for neonatal care in group 1 were mainly due to the physical or mental abnormalities. Eleven infants (34%) in this group had mongolism.

Identification of maternal dysfunction

Approximately two-thirds of the mothers exhibiting mental insufficiency or alcohol or drug abuse were identified in the maternity ward

TABLE 4 Identification of social dysfunction and discharge of infants from the maternity or neonatal ward

	Group 1 (n = 32)	Group 2 (n = 60)	Group 3 (n = 55)	Group 4 (n = 190)
Social dysfunction noted in the maternity ward*	4/30 (13%)	41/56 (73%)	35/54 (65%)	65/176 (37%)
Discharge for institutional care	15 (47%)	13 (21%)	13 (23%)	85 (45%)

*The number in each group reduced because of missing information.

during the postnatal period (Table 4). Thus, a considerable number of insufficient mothers were recognized after delivery in addition to those recognized at the maternal health clinic (Table 2).

The destination of the infants after discharge from the maternity or neonatal ward is shown in Table 4. Approximately one-fifth of the infants in groups 2 and 3 were discharged for immediate institutional care. The large number of infants in group 1 were placed because of their different handicaps. Forty-seven of the 85 infants in group 4 were admitted for institutional care while awaiting adoption.

DISCUSSION

The present study is based on a rather heterogeneous group of infants who were admitted for institutional care during their first year of life (Larsson & Ekenstein 1983). They were admitted either because of their own handicap or because of maternal deficiency. In group 4 a variety of social problems were found and there was an overrepresentation of mothers who were single, teenagers and immigrants. The majority of these mothers asked for or consented to the admission of their child for institutional care. Half the number of newborns admitted while awaiting adoption were children of teenaged mothers. Nearly all the adoptions were made in 1970, and in this year practically all of the admissions were on a voluntary basis (Larsson & Ekenstein 1983). In contrast, in 1980 the admissions were mainly compulsory according

to the Child Welfare Act. The reason for the decisions by the Social Welfare Department to intervene in the families was serious maternal problems such as alcoholism, drug abuse and/or mental disorders (Larsson *et al.* 1984).

Several studies have reported an increase in pregnancy and delivery complications in women who turn out to be deficient mothers (Lynch 1975, Lealman *et al.* 1983). In the present study this was true concerning the mentally deficient mothers. One-third of the women in this group was treated in hospital during pregnancy. Approximately two-thirds of the pregnancies in the other three groups were considered normal. In contrast to other reports on alcoholic or drug addicted mothers (Wilson *et al.* 1973, Sokol *et al.* 1980), there were few pregnancy and delivery complications in group 3.

Except for the handicapped infants in group 1, the majority of the neonates were healthy, but in group 3 significantly more children than in the other three groups exhibited hyperexcitability and/or fits during the neonatal period. There was also an overrepresentation in this group of neonates of low birth weight, compared to the general population. These findings could be attributed to fetal exposure to alcohol or drugs. In the records of three infants in group 3 there were notes pertaining to suspected fetal alcohol effects. Since these characteristics were very little known in 1970 and 1975, it cannot be ruled out that the real number of affected children was greater.

The gestational age as well as the birth weight of the infants in all four groups was significantly lower than in the general population. These

findings conform with those of other studies that have reported a higher rate of growth retardation and prematurity in newborns of socially dysfunctional mothers (Klein & Stern 1971, Hunter *et al.* 1978, Murphy *et al.* 1981). The low rate of pregnancy and neonatal complications may be an effect of the well developed health and social care system in Sweden.

A large number of the mothers in groups 2 and 3 had had three or more previous pregnancies. The majority of their previous children were in foster care. It has been asserted that an effective way to prevent child abuse is to prevent unwanted births (Helfer & Kempe 1972). One problem with mentally insufficient women and female addicts is that, although the pregnancy might be unplanned, it may not be unwanted. The pregnancy gives these women increased self-esteem and often involves unrealistic hopes of overcoming their own difficulties (Larsson 1980).

The staff of the maternity ward had recorded mental disorders or alcohol or drug abuse in two-thirds of the mothers in groups 2 and 3, which is a considerable increase in identified mothers compared to those who were known before the delivery. Obviously, the maternal dysfunction became more apparent when the staff had the opportunity to observe the mothers and the interaction with their newborns in the hospital after delivery. Although severe maternal deficits were noted, three-fourths of the infants in groups 2 and 3 were discharged from the maternity ward in the custody of their biological mothers. Apart from the risk of physical abuse, several studies have shown the negative effects on the emotional development of children raised by alcoholic, drug-addicted or mentally deficient parents (Chafetz *et al.* 1971, Mednick *et al.* 1971, Sardemann *et al.* 1976, Larsson & Larsson 1982). It appears that the maternity staff and the social workers either did not realize the gravity of the situation or were obliged to pursue a wait-and-see policy.

CONCLUSION

In the present study of children admitted to institutional care the dysfunction of alcoholic, drug-addicted or mentally deficient mothers was obvious already in the maternity ward in two-

thirds of the cases. Apart from the previously reported risk factors (Klein & Stern 1971, Lynch 1975, Hunter *et al.* 1978) two additional ones appear to be of importance in the evaluation of a mother's capability for parenting, i.e. previous children in foster care and the maternal behaviour noted in the maternity ward.

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