A STUDY OF REPRODUCTIVE HEALTH OF WOMEN AND CHILD HEALTH CARE PRACTICES IN WEST GODAVARI DISTRICT OF ANDHRA PRADESH, INDIA

Thesis submitted to

ANDHRA UNIVERSITY, VISAKHAPATNAM

for the award of the Degree of

DOCTOR OF PHILOSOPHY

IN

ECONOMICS

By

SURYA PRABHA DAKARAPU

Under the Guidance of

Research Director

Prof. M. PRASADA RAO
M.A., Ph.D (SUSSEX)
Department of Economics
Andhra University
Visakhapatnam – 530 003

Joint Research Director

Dr. K.V.V.A.P.T. SURYA RAO
M.A., M.Sc., Ph.D.
Principal
D.N.R College
Bhimavaram – 534 202

DEPARTMENT OF ECONOMICS
ANDHRA UNIVERSITY
VISAKHAPATNAM -530 003 (A.P) INDIA
OCTOBER – 2018

Chapter-9

SUMMARY AND CONCLUSIONS

CHAPTER - 9

SUMMARY AND CONCLUSIONS

The present study is attempted to analyse the Reproductive Health of Women and Child Health Care in Andhra Pradesh by considering a case study of West Godavari District. The study is carried out by examining various aspects relating to reproductive health of women considering antenatal, natal and post-natal issues and also attempted find out the determinants of reproductive health of women. Further, the study also attempted to examine the issues relating child health care.

The specific objectives of the study are:

1. To Review the Health Planning in India and Comparative Reproductive Health Status of Women and Child Health Care in India, Andhra Pradesh State and West Godavari District.
2. To Examine the Socio-economic Characteristics of Selected Sample Rural Women in the Study Area.
3. To Analyze the Reproductive Health Status of Women Considering Ante-natal, Natal and Post-natal Issues in the Study Area.
4. To Focus on Menstruation Related Reproductive Health Problems in the Study Area.
5. To Identify the Determinants of Reproductive Health of Women in the Study Area.
6. To Assess the Reproductive Tract Infection (RTI) and Sexual Tract Infection (STI) Issues in the Study Area.
7. To Study Child Health Care Practices and Immunization in the Study Area.
8. To Suggest Some Policy Measures for Improving the Reproductive Health Status of Women and Child Health Care Practices in the Study Area.

Based on the objectives to be achieved, the following hypotheses were formulated:

H_0 : Socio-economic conditions of the select sample women affects reproductive health of women.

H_0 : Reproductive health status of women across select sample mandals is more or less same without much variations.

H_0 : Family income, education status, occupation structure, access to drinking water and toilet, age at marriage and first-born child, size of family are determinants of reproductive health.

H_0 : Child health care practices and immunization across select sample mandals are more or less same without much variations.

The present study is a cross section study and is based on data collected during the year 2016. However, primary data relating to various inter related issues such as live births/still births/abortions/conception problems/Family Planning etc., are collected for a three-year period i.e., 2013 – 2016. The primary data is collected from 400 households covering four rural primary health centers from mandals namely Kalla, Tanuku, Polavaram and Dwaraka Tirumala of West Godavari District of Andhra Pradesh State.

The study is mainly based on primary data and secondary data is used to a limited extent. Primary data is collected from four rural primary health centres from four mandals namely Kalla, Tanuku, Polavaram and Dwaraka Tirumala respectively. The primary data is collected through designing a well-structured schedule covering socio – economic aspects relating to women such as details of religion, social class, type of house and ownership of house, size of family, Literacy level and occupation of respondents and their husbands, monthly family income, availability of ration card, source of light and drinking water, treatment of water, availability of separate kitchen toilet facility.

Further, the schedule is also designed to include information relating to reproductive health of women considering ante-natal, natal and post-natal issues. Accordingly, information relating to ante-natal period aspects of women such as age

at marriage, age of reproductive span, age at first born child, women by number of abortions, number of live and still births, pregnancy registration, frequency of antenatal check-up, frequency of tetanus injections given, number IFA syrups and tablets consumed, Knowledge of pregnancy complications and other related issues are incorporated.

The natal period issues such as type of delivery, conduct of delivery by Doctor/AMN/Nurse/Dai, place of delivery, mode of transport used to reach delivery place, total cost incurred for delivery and post-natal issues such as amount of financial assistance received under JSY, check-up within 48 hours, details of check-up, health problems faced during the first 6 weeks after delivery, consultation for treatment from government/private health facility, Awareness about family planning methods and the time period the family planning methods adopted, women suffering menstrual related problems and the period of suffering, problems faced by women in conception, incidence of problems faced in conception, knowledge about RTI/STI, abnormal vaginal discharge and related issues are included.

The schedule is also designed to include issues relating to child care practices and immunization. Hence, issues of newly born babies such as knowledge of mothers about danger signs of newly born babies, issues of medical check-up of newly born, issues relating to child feeding including breast feeding and immunization of children against disease etc., are also included.

Data from the secondary sources viz., Reproductive and Child Health (RCH) during three rounds. Other sources like Census, District Health Statistics and HMIS web portal of Ministry of Health and Family Welfare (MOH&FW) Government of India will also be used.

The present study is carry out based on multi stage sampling technique right from the district level to mandal level and ultimately thereafter to sampling units making the sample size 400. Thus, West Godavari district turns out to be the sampling unit out of 13 districts of Andhra Pradesh, and in turn 4 mandals namely Kalla, Tanuku, Polavaram and Dwaraka Tirumala are turned out as sampling mandals out of 46 mandals of West Godavari district. From each select mandal, a sample of 100 eligible women are selected from two Sub Centers (SCs) of the concerned Primary

Health Center (PHC) so as to include 50 women from one Sub Centre which is nearest to the PHC Head Quarters and 50 women from another Sub Centre, which is farthest from the PHC Head Quarters in order to study the differentials in both types of Sub Centers. List of registered eligible women who have visited the respective health Sub Centers in each mandal is obtained from concerned ANM/ASHA worker and then sample women were selected following the random sample method. Apart from Sub Centres, efforts were also made to draw sampling units from the hamlet villages of concerned Sub Centres, if there exist hamlet villages.

In order to pursue the objectives out lined earlier, the following methodology is used to analyse different aspects. The study is carried out with simple tools such as averages and percentages and bar diagrams. Moreover, Chi-square test of independence of attributes is employed to observe the association or relationship between various aspects relating to socio economic issues of women, antenatal, natal and postnatal issues and also child health care issues. In the present study ordinary least square method (O.L.S) is used to estimate the regression equations so as to analyse the determinants of reproductive health of women. Under certain assumptions such as homoscedastic disturbances, absence of auto correlation and multicollinearity, the O.L.S method yields Best Linear Unbiased Estimates (BLUE). To the best possible extent care has been taken to avoid the problems associated with the said assumptions. Step wise regression was used to avoid the problem of multicollinearity.

Based on primary data collected from 400 women from 4 select mandals, the study dealt with socioeconomic characteristics of women. Uni-variate analysis is carried out by considering certain socioeconomic aspects such as religion, social class, type of house and ownership of house, size of family, literacy level and occupation of respondents and their husbands, monthly family income and other similar aspects. Bi–variate relationship between various socio-economic aspects such as social class and occupation of respondents, social class and family income of respondents, education status of head of households and family income, level of education of respondents and abortions, women age at marriage and their level of education and other similar relationships.

Reproductive health aspects of women considering antenatal issues such as age at marriage, age of reproductive span, age at first born child, women by number of abortions, number of live and still births, pregnancy registration, frequency of antenatal check-up and other related issues were examined. Also the study attempted to analyse the natal period issues such as type of delivery, conduct of delivery by Doctor/AMN/Nurse/Dai, place of delivery, mode of transport used to reach delivery place, total cost incurred for delivery and post-natal issues such as amount of financial assistance received under JSY, check-up within 48 hours, details of check-up, health problems faced during the first 6 weeks after delivery, consultation for treatment from government/private health facility, awareness about family planning methods.

The study also examined child health care issues such as knowledge of mothers about danger signs of newly born babies, issues of medical check-up of newly born, child feeding including breast feeding and of immunization of children against disease.

The study is organized into nine chapters in which Chapter I present the Introduction of study through presenting introduction about the study, need for the study, scope of study, data sources, sample design, methodology followed and chapterization. Health planning and reproductive health status of women and child health care in India is outlined in Chapter II. Chapter III is intended to present Review of literature relating to reproductive health of women, child care and immunization, while brief profile of Andhra Pradesh as well as study area is outlined in Chapter IV. Socio economic characteristics of select women are analyzed in Chapter V, while analysis of reproductive health of women considering antenatal, natal and post-natal issues is presented in in Chapter VI. Chapter VII is devoted to estimate determinants reproductive health of women and Child care practices and immunization issues are discussed in Chapter VIII. Chapter IX is devoted to present summary of findings and conclusions, policy suggestions and limitations of the study.

Major Findings of the study:

The following are the major findings of Study

Socio-economic Characteristics of Sample Respondents

1. Majority of select sample women i.e., about 96 per cent are found to be Hindus, while the remaining about 4 per cent of women are observed to be Christians. Majority of women i.e., about 77 to 79 per cent belongs to OBC, SC and ST communities.
2. Majority of the select sample households have either semi pucca or pucca houses, and about 81 per cent are living in their own houses, while about 14 to 21 per cent of households in respect of select mandals living in kuccha houses.
3. Average family size is noticed to be 3.91 for the aggregate of sample and except Kalla mandal, the average size of family is less than that of aggregate of sample in respect of other three mandals.
4. About 55 per cent of select sample women have primary level of education, while about 37 per cent are illiterates. The mandal wise analysis implies that majority of the select women ranging from 50 to 65 per cent have primary level of education followed by 30 to 41 per cent of illiterates.
5. In the aggregate sample, about 82 per cent of women are found to be housewives, while about 15 per cent are noticed to be agricultural labour and the remaining 3 per cent are seen to be in service sector and caste based traditional occupations.
6. The average monthly family income of aggregate of select sample households is found to be Rs.5085. The average family monthly income of Kalla and Dwaraka Tirumala households is higher than that of sample average income, while the same is less than that of sample average income in respect of Tanuku and Polavaram mandal households.
7. In the select sample households, majority i.e., about 59 per cent are still using Firewood as fuel for cooking purpose, while other 41 per cent are using LPG/Natural Gas/Bio-Gas as fuel for cooking purpose. However, only 3 households (less than one per cent) are using electricity for cooking purpose.

Thus, the analysis reveals that majority of the households are still depending on firewood as fuel for cooking purposes.

8. In the aggregate select sample, about 90 per cent of households do not possess separate kitchen facility, while among the select mandals also 82 per cent to 97 per cent households still do not have separate kitchen facility.

9. In the aggregate select sample households, about 63 per cent are observed to have pit latrine facility, while less than one per cent are noticed to have flush or pour flush toilet facility. Thus, the remaining 36 per cent are observed to have no toilet facility and are opting for open defecation and the analysis clearly reveals that about 99 per cent of sample households have lack of access to flush or pour flush toilet facility.

10. The analysis of bi-variate relationship between social class and occupation reveals that agricultural labour is the main occupation on which, 80 to 93 per cent from SC, ST and OBC categories are depending, while only 60 per cent from OC category are depending on agricultural sector as labour. Thus, the analysis reveals relationship between social class and occupation and the conclusion draws support from the analysis of results of Chi-square.

11. The analysis of bi-variate relationship between social class and earnings reveals that reveals that about 53 per cent of OBC, about 21 per cent of OC, about 13 per cent of SC and about 3 per cent of ST households put together are earning monthly income in the range Rs.2500 – 6500, while the remaining 10 per cent of households belonging to all four categories are earning between Rs. 6500 – 12500. Further, relatively higher proportion (59 per cent) of ST households is earning monthly family income between Rs. 4500 – 6500, when compared to all other categories. Thus, the analysis reveals relationship between social class and monthly family income of households and the conclusion draws support from the analysis of results of Chi-square.

12. The analysis of bi-variate relationship between family income and family size reveals that that nearly 80 per cent of households with a family income between Rs.2500 – 6500 have the family size between 3 and 4. The analysis of Chi-square

implies that the distribution of select sample households by family size and family income are not independent of each other.

13. Majority of the select sample women (about 93 per cent) got married at the age between 15-20 years irrespective of their social class and average age at marriage is noticed to be 17.92 years. But, all ST women and all most all SC women got married at the age between 15 – 20 years. However, the analysis of Chi-square results in rejection of null hypothesis, implying that the distribution of select sample women by age at marriage and their social class are not independent of each other.

14. Majority of the select sample women (about 60 per cent) have their first child born between 15-20 years irrespective of their level of education. However, the analysis of Chi-square results implies that the distribution of select sample women by age at first child born and level of education are not independent of each other.

15. Majority of the select sample (about 96 per cent) did not experience even single abortion, irrespective of their level of education. However, the analysis of Chi-square results implies that the distribution of select sample women by level of education and number of abortions experienced are independent of each other.

Reproductive Health Status of Women:

1. The average age at marriage is noticed to be 17.92 years for the aggregate of sample women and analysis reveals that the average age at marriage for the sample respondents as well as in two mandals namely Polavaram and Dwaraka Tirumala is less than the legally prescribed age of 18 years. The results of Chi-square test also provide support to the analysis, which implies that the marriage at age depends on local area considerations based on family traditions, religious beliefs, income conditions.

2. The average age of women in the reproductive span in selected mandals is observed to be 23.5, 23.15, 22.45 and 22 years respectively in case of Tanuku, Dwaraka Tirumala, Kalla and Polavaram mandals, while the same for aggregate of sample is noticed to be at 22.78 years. However, based on results of Chi-square test, the analysis implies that age composition of women in reproductive span is more or less different across the selected mandals.

3. The average age of women at first born child for the entire sample stood at 19.71 years, while the same average for Kalla, Tanuku, Dwaraka Tirumala and Polavaram mandals stood at 20.20, 20.17, 20.07 and 18.4 years respectively. The analysis also draws support from Chi-square test, which implies that distribution of select sample women by age at first born child is not independent of area (mandals).

4. Majority of sample select women did not experience single abortion and no women experienced 2 abortions in all the select mandals. The analysis draws support from results of Chi-square test, as it implies that distribution of select sample women by number of abortions is independent of area (mandals).

5. The analysis clearly emphasizes that majority of the births are live, while still births are to the extent of about 6 per cent only and across the mandals also no much difference is noticed with regard to number of still births except Tanuku mandal. Thus, the analysis of Chi-square results supports the fact that the distribution of select sample women by frequency of still births is independent of area i.e., mandal.

6. Majority of the respondents underwent antenatal check-up for 6 times and the average frequency is noticed to be about 5. Frequency of antenatal check-up is noticed to vary mandal to mandal and thus draws support from results of Chi-square test, which implies that distribution of select sample women by frequency of antenatal check-up is independent of area i.e., mandal.

7. The analysis implies that majority (99 per cent) of the respondents in the select sample have taken the tetanus injection for only two times and no significant difference is noticed across the select mandals. Thus, the analysis of Chi-square results supports the fact that the distribution of select sample women by frequency of the of tetanus injections taken is independent of area.

8. In the aggregate select sample, on the average, the consumption IFA tablets were observed to be about 92 per cent, while the average consumption in three mandals other than Kalla is noticed to be between 97 to 99 per cent. The analysis implies low consumption of IFA tablets by the women from Kalla mandal (74 per cent) and draws support from results of Chi-square test, as the test implies that

distribution of select sample women by the use of IFA tablets is not independent of area i.e., mandal.

9. The average consumption of IFA syrups in the total sample stood at 2.29 bottles, while the same in Kalla (2.7) and Polavaram (2.5) is noticed to be slightly higher compared to the total sample average, the average consumption is marginally lower in case of Dwaraka Tirumala (2.14) and Tanuku (1.8). The analysis draws support from the results of Chi-square, which implies that distribution of select sample women by the use of iron folic acid syrups is not independent of area.

10. The analysis implies the existence of antenatal care differences across mandals and it is pertinent to note that 100 per cent coverage is not seen in case of even non-expensive and simple tests such as measurement of weight, height, BP and even in giving the expected delivery date and nutrition advices. It is surprise to note that the important sonogram ultrasound test is performed only in respect of 59 per cent of sample women from Tanuku.

11. Among the 117 women out of 400, who have suffered problems, about 71 per cent reported that they have suffered excessive vomiting followed by about 19 per cent suffered from swelling of hands, feet and face problems. Very negligible number i.e., about 10 per cent reported the other problems.

12. Out of 117 women reported to suffer on account of pregnancy problems, about 85 per cent are reported to underwent treatment for the problems from which they have suffered, while the remaining 15 per cent of women reported that they have not taken any treatment.

13. The study implies that majority of the respondents are depending on private institutions when compared to government institutions for pregnancy related antenatal care. Hence, there is need on the part of government to still strengthen the rural medical infrastructure facilities and also steps should be initiated to motivate the women to prefer government institutions, so that they may get relief from the burden of private medical expenses.

14. In the aggregate select sample, about 55 per cent women reported to have normal delivery, while the remaining 45 per cent underwent caesarean surgeries. The analysis implies that caesarean deliveries in the study area vary in the range of 36

per cent to 54 per cent and thus there exists large spread disparities across the mandals with regard to select sample women by type of delivery and the analysis draws support from the results of Chi-square as the test implies that distribution of select sample women by type of delivery is not independent of area i.e., mandal.

15. 76 per cent of deliveries in the aggregate select sample are reported to be attended by the doctor, while about 21 per cent are noticed to be attended by ANM/Nurse. However, it is pertinent to note that still about 3 per cent deliveries are attended by Dai at home. Further, there exists large spread disparities across the mandals with regard to select sample women by conduct of last delivery and the analysis draws support from the results of Chi-square, as the test implies that distribution of select sample women by distribution of select sample women by conduct of last delivery is not independent of area i.e., mandal.

16. The analysis implies the total average cost of delivery incurred by the aggregate sample women (Four mandals put together) as Rs. 3433 and wide spread disparities across the mandals with regard to total cost incurred by pregnant woman for delivery and the analysis draws support from the results of Chi-square, as the test implies that distribution total cost incurred by pregnant woman for delivery is not independent of area i.e., mandal

17. Out of 171 women are reported to underwent institutional delivery, about 71 per cent are reported to receive the assistance under JSY scheme and on the average Rs.746 is observed to be the financial assistance received. There exist wide spread disparities across the mandals with regard to financial assistance received, amount of financial assistance received and the time of assistance received by select sample women under JSY scheme and the analysis draws support from the results of Chi-square.

18. In the aggregate select sample, about 97 per cent reported to underwent check-up within 48 hours after delivery, while the remaining 3 per cent did not underwent medical check-up within 48 hours after delivery. Regarding place of check-up, majority of women in the aggregate sample i.e., about 52 per cent reported that they underwent medical check-up in private hospital/clinic, while about 44 per cent of women approached Government hospital for medical check-up. It is

pertinent to note that majority of respondents are approaching private hospitals rather government hospitals for medical check-up after delivery.

19. All the select sample respondents from the select mandals are observed to have awareness about the need for family planning, its importance and the family planning methods namely male sterilization and female sterilization. With regard to other family planning methods, 81 per cent, 58 per cent and 20 per cent of the aggregate of sample respondents are observed to have awareness about IUD, Oral Pills and condoms respectively.

20. On the average, family planning methods adopted by the aggregate of sample respondents stood at 19.69 months, while the same for Kalla, Tanuku, Polavaram and Dwaraka Tirumala recorded as 17.81 months, 18.51 months, 23.02 months and 20 months respectively. There exist wide spread disparities across the mandals with regard to the time period the respondents adopting family planning methods. The analysis draws support from the results of Chi-square.

Determinants of Reproductive Health of Women:

1. In the aggregate select sample, only 278 women i.e., 70 per cent are in menstrual cycle. Among the women in menstrual cycle, about 36 per cent reported that their menstrual period is in weeks, while in case of 31 per cent it was in days and in respect of about 3 per cent women it was in months. The analysis of Chi-square test resulted in the acceptance of null hypothesis implying that the distribution of select sample respondents by the beginning of last menstrual period is independent of area i.e., mandal.

2. Out of 57 women reported to suffer on account of specific menstrual related problems as many as 40 women i.e., about 74 per cent reported to suffer on account of pain full periods and it appears to be the common menstrual problem in case of women in the select sample area and the analysis also draws support from the Chi-square test, which implies that the distribution of select sample respondents by suffering menstruation related problems is independent of area i.e., mandals.

3. Out of 400 sample respondents, only 34 women i.e., 9 per cent reported that they have faced problems in the conception. However, conception of women differs

from mandal to mandal and the analysis draws support from the results of Chi-square, as the test resulted in the rejection of null hypothesis, which implies that the distribution of select sample respondents by problems faced in the conception is not independent of area i.e., mandal.

4. Television, ASHA workers and Doctors are noticed to be the source of information about RTI/STI in respect of 78 per cent,76 per cent and 72 per cent respectively, while relatives/friends, health workers and husbands are noticed to be the source of information in respect of 72 per cent, 68 per cent and 67 per cent of select sample women. However, the role of all other sources in providing information about RTI/STI is observed to be limited by a maximum of 50 per cent of sample respondents.

5. In the study area (four mandals put to gather) among the select sample respondents 22 per cent of women responded that Reproductive Tract Infection (RTI) is due to unsafe delivery, while 10 per cent and 16 per cent of women reported respectively that unsafe abortions and unsafe IUD insertion are the factors responsible for transmission of RTI. Further, 37 per cent, 30 per cent and 57 per cent of women are reported that unsafe sex with homosexuals, unsafe sex with persons who have many partners and unsafe sex with sex workers respectively are the reasons for transmission of STI.

6. Out of 400 select sample respondents, only 37 women i.e., 9 per cent reported to experience vaginal discharge, while about 4 per cent reported to wet or stain their under clothes. 3 per cent of women reported the colour of discharge as the white, while 6 per cent of women reported the discharge as colour less. Further, the texture of discharge is said to be curdish by 8 per cent, as sticky mucoid by 5 per cent and as forthy by 3 per cent. At the same time 4 per cent of the 37 women experienced the abnormal vaginal discharge, reported that the odor of the discharge as foul smell.

7. The regression analysis corresponding to aggregate of select sample reveals that Age at first born child (Afb), education level (Ed), monthly family income (Fi), access to safe drinking water (represented by dummy D_4) are the important factors affecting reproductive health of women for the aggregate of select sample. The coefficients of Afb, Ed, Fi and D_4 statistically significant at 5 per cent, while the

coefficient of age at marriage (Am), occupation structure (Os) and D_2 (dummy variable representing availability of septic latrine), which are also included in the model are not statistically significant.

8. The aggregate analysis implies that a one year late at first-born child will improve the reproductive health index of women by 2.71 per cent, while a one more year of schooling experience will push the reproductive health index by 5.92 per cent. At the same time, one per cent raise in the monthly family income will result in an increase of 2.113 per cent in reproductive health index of women. Based on the value of adjusted R^2, all these factors included in the model are observed to provide explanation to the extent of 61 per cent variation in the reproductive health status index.

9. Age at marriage, education level, monthly family income, type of fuel used for cooking and access to safe drinking water are the important factors affecting reproductive health of women in Kalla mandal. The analysis implies that a one year late at marriage of women will improve their reproductive health status index by 1.32 per cent, while a one more year of school experience will push the reproductive health index by 5.23 per cent. At the same time, one per cent raise in the monthly family income will result in an increase of 3.43 per cent in reproductive health index of women.

10. Age at first-born, education level, occupation structure, monthly family income, type of fuel used for cooking and households with separate kitchen are the important factors affecting reproductive health of women in Tanuku mandal. The analysis reveals that a one year late at first-born child will improve the reproductive health index of women by 1.12 per cent, while a one more year of school experience will push the reproductive health index by 3.51 per cent. At the same time, one per cent raise in the monthly family income will result in an increase of 2.21 per cent in reproductive health index of women.

11. Age at first-born, education level, monthly family income, type of fuel used for cooking, households with separate kitchen are the important factors affecting reproductive health of women in Polavaram mandal. The analysis shows that a one year late at first-born child will improve the reproductive health index of women by 5.22 per cent, while a one more year of school experience will push the

reproductive health index by 2.278 per cent. At the same time, one per cent raise in the monthly family income will result in an increase of 1.37 per cent in reproductive health index of women.

12. Age at marriage, education level, monthly family income, access to safe drinking water are the important factors affecting reproductive health of women in Dwaraka Tirumala mandal. The analysis implies that a one year late at marriage will improve the reproductive health index of women by 1.279 per cent, while a one more year of school experience will push the reproductive health index by 2.398 per cent. At the same time, one per cent raise in the monthly family income will result in an increase of 4.234 per cent in reproductive health index of women.
13. The analysis suggests that steps should be initiated to provide counselling with regard to advantages of women education and avoiding the need for deliveries at an early age, provision of employment opportunities to women and access to safe drinking water helps in pushing the reproductive health index of women in for the aggregate of select sample.

Analysis of Child Health Care Practices and Immunization

1. The aggregate analysis reveals that more than 80 per cent of sample respondents know about the blue tongue lips and cold and hot temperature, while more than 70 per cent of mothers know about abnormal movement and baby did not cry as dangers sings of newly born baby. At the same time, about 60 per cent of mothers have knowledge about poor sucking of breast, while only 50 per cent of mothers know about difficulty in breathing and developing yellow staining of palm and soles as danger signs of newly born babies.
2. Medical check-up of newly born baby within 24 hours after delivery is noticed in all the select mandals and the results of Chi-square also supported the analysis as the test resulted in the acceptance of null hypothesis, implying that the distribution of sample respondents by the check-up of newly born baby within 24 hours of delivery is independent of area. Thus, the analysis implies about good medical care and awareness of select sample respondents.
3. The average frequency of check-up for the newly born babies within 10 days of birth in the aggregate of sample is noticed to be 1.79, while same for Kalla,

Tanuku, Polavaram and Dwaraka Tirumala mandals recorded as 2.25, 1.70, 1.62 and 1.55 respectively. Thus, there exists disparities among select mandals with regard to frequency of check-up and the analysis draws support from the results of Chi-square test, as the test resulted in the rejection of null hypothesis implying that distribution of select sample respondents by the frequency of check-up is not independent of area i.e., mandal.

4. In the aggregate select sample, about 54 per cent reported to approach private health facility for the check-up of their newly born child, while about 46 per cent reported to avail Government health facility for the check-up. The analysis implies that majority of the sample respondents prefer private health facility when compared to government health facility and no much difference is observed among the mandals with regard to the agency approached for health checkup of newly born child. The analysis also draws support from the results of Chi-square test.
5. About 99 per cent of mothers in the aggregate select sample reported to feed milk colostrums. Further, no significant difference across mandals is observed with regard to feeding of milk colostrums and this fact is also supported by the results of Chi-square.
6. About 98 per cent of sample respondents reported to first breastfeed their children immediately after the delivery, while less than 2 per cent reported to first breastfeed within 24 hours of delivery. However, less one per cent reported to first breast feed between 2 to 3 days after delivery and those women have reported not to fed milk colostrums. Among the selected mandals also about 96 to 100 per cent women reported to first breastfeed immediately after the delivery and no significant difference across mandals is observed with regard to first breast feeding of milk. The same fact also draws support from the results of Chi-square.
7. The analysis implies that on the average the mothers reported that they fed exclusively breastfeed milk to their child for 9.15 months and there exits wide disparities among sample respondents across select mandals with regard to the duration of exclusive breastfeed for child and the analysis also draws support from the results of Chi-square.
8. About 94 per cent of mothers reported that they have been providing water to their baby before completion of 6 months, while only 6 per cent of mothers stated that

they have not provided water to their baby before six months. Though variations among mandals in providing water to baby before 6 months of age is noticed, yet the Chi-square test do not provide any such evidence.

9. When the child gets diarrhea, about 98 per cent of select sample women reported to have knowledge about offering ORS solution, about 90 per cent reported to know about offering Slat and Sugar solution, about 55 per cent, 84 per cent and 95 per cent of sample respondents have respectively reported to offer plenty of fluid, continue with normal food and continue breast feeding.
10. In the aggregate select sample, about 93 per cent of women stated that they have knowledge about difficulty in breathing and running nose of children, while about 81 per cent reported that they have knowledge about excessively drowsy and difficult to wakeup of the child as the signs of pneumonia. At the same time about 62 per cent, and about 50 per cent of mothers respectively stated that they have knowledge about wheezing or whistling and pain in chest and productive cough, while about 46 per cent and 39 per cent of mothers respectively stated that they have knowledge about rapid breathing and not able to drink or take feed as sings of pneumonia.
11. BCG and Pulse Polio vaccinations are observed to administer to all the 391 children. However, DPT vaccine is administered in case of 97 per cent of children, while Measles, Vitamin – A and Hepatitis – B vaccines are administered to only about 74 per cent of children. Among the selected mandals, the coverage of those three vaccines namely measles, Vitamin – A and Hepatitis – B is observed to be between 68 to 79 per cent. Thus, the analysis implies the inadequacy of immunization coverage with regard to Measles, Vitamin – A and Hepatitis – B.
12. The average frequency of Polio vaccine for the study area is noticed to be 4.52, while same is recorded as 4.65, 4.62, 4.49 and 4.32 respectively for Dwaraka Tirumala, Polavaram, Tanuku and Kalla mandals. The analysis of Chi-square test resulted in the rejection of null hypothesis, implying that the distribution of select sample respondents by the frequency of polio vaccine is not independent of area.
13. The average frequency of DPT vaccine for the study area stood at 3.07, while the same is recorded as 3.50, 3.08 2.92 and 2.79 respectively for Kalla, Tanuku, Polavaram and Dwaraka Tirumala mandals. The analysis of Chi-square test

resulted in the rejection of null hypothesis, implying that the distribution of select sample respondents by the frequency of DPT vaccine is not independent of area.

14. About 74 per cent of mothers reported to approach the Government agency for the purpose of vaccination to the babies, while the remaining 26 per cent mothers approached the private agency for the purpose of vaccination to their children. Thus, the analysis implies that majority of sample respondents are utilizing the Government health facility for the vaccination purpose. The analysis of Chi-square test resulted in the acceptance of null hypothesis, implying that the distribution of select sample respondents by the agency approached for vaccination to the child is independent of area.

Overall Summary:

The analysis of Chi-square results implies that the distribution of select sample women by age at marriage and their social class as well as the distribution of select sample women by age at first child born and level of education are not independent of each other, but the distribution of select sample women by level of education and number of abortions experienced are independent of each other. Thus, it is clear that age at marriage is influenced by social class of women, while age at first born child is influenced by the level of education of women, but at the same time level of education of women is no way related to number of abortions experienced. Thus, in the light of facts mentioned, the analysis draws certain evidence in favour of hypothesis 1 (two out of three factors established), which implies that socio economic conditions affect reproductive health of women as early marriages and pregnancy at early age will affect the reproductive health of women.

Further, the analysis of Chi-square results also implies that the distribution of select sample women by marriage at age (in years), age of reproductive span, age at first born child, agency of last pregnancy registered, IFA tablets and syrups consumed, health facility utilised for delivery, frequency of antennal check-up underwent, women suffering menstrual related problems and period of suffering, women underwent treatment for abnormal vaginal disease all are not independent of area (mandals). In other words, in respect of all above indicators wide spread inequalities are observed across all the four select mandals based on various considerations such as family traditions, religious beliefs, income aspects and other

local conditions. At the same time, the analysis of Chi-square results also implies that the distribution of select sample women by number of abortions experienced, live and still births took place, frequency of tetanus injections given, problems faced in conception all are independent of area (mandals) i.e., uniform pattern is observed in those aspects across all the four select mandals. In the light of facts, no evidence is available in support of the hypothesis 2 (11 out of 16 factors) not established implying that reproductive health status of women across select sample mandals is more or less not same and variations exist despite NHRM initiatives.

The regression analysis implies that age at first-born child, education status, family income and access to drinking water are important determinants of reproductive health as the coefficients of those variables are observed to be statistically significant 5 per cent. However, occupation structure and access to toilet are found to be not statistically significant, while the coefficient of variable age at marriage did not turned up with the expected sign. The analysis implies that a one year late at first-born child will improve the reproductive health index of women by 2.71 per cent, while a one more year of schooling experience will push the reproductive health index by 5.92 per cent. At the same time, one per cent raise in the monthly family income will result in an increase of 2.113 per cent in the reproductive health index of women. Further, the access to safe drinking water (measured by dummy) is also observed to be a variable affecting RSHI. Thus, partial evidence is available in favour of hypothesis 3, as only 4 out of 7 variables are observed to be the important variables affecting reproductive health of women.

The analysis of Chi-square results implies that the distribution of select sample respondents by check-up of newly born baby within 24 hours, the agency approached for health check-up, feeding milk colostrums, time of first breast feeding and the agency approached for vaccination of child all are independent of area i.e., mandal. It implies that in respect of all above indicators wide spread inequalities are observed across all the four select mandals. However, sample respondents by check-up of newly born within 10 days, duration of exclusive breast feeding, providing water to baby before six months, frequency of vaccination to child and frequency of DPT vaccine all are not independent of area i.e., mandals. Thus, partial evidence is noticed

in support of hypothesis 4 as the evidence supports only 5 out of 10 variables considered.

Policy Suggestions:

Based on the results of the study, the following are the policy suggestions outlined:

1. The analysis implies that about 59 per cent of aggregate sample and about 40 per cent to 75 per cent from select mandals are using firewood as fuel for cooking purpose. But, using firewood for cooking purpose results in health problems to women, steps should be initiated by the government to provide LPG/Natural gas/Bio-gas connections at subsidised and instalment basis to rural households.
2. The analysis implies that 36 per cent of households have lack of access to toilet facility and are defecating openly and about 99 per cent of sample households have lack of access to flush or pour flush toilet facility. As open defecation as well as pit latrine leads to different kinds health problems, steps should be initiated to provide flush/pour flesh toilet facility at subsidised rates and educate the constant counselling should be given about ill health effects of open defecation.
3. Majority of women in the study area are observed to get married even before the legally prescribed age of 18 years for marriage of women. As early marriages may lead to pregnancy at early age which in turn affects good rearing of newly born baby, so that child health may be affected. Hence, steps should be initiated to providing counselling to rural women about drawbacks of early marriage and pregnancy at early age.
4. The study implies that majority of the respondents are depending on private institutions when compared to government institutions for pregnancy related antenatal care. Similarly, about 54 per cent of women reported to approach private health facility for the check-up of their newly born child, while about 46 per cent reported to avail Government health facility for the check- up. Hence, there is need on the part of government to still strengthen the rural medical infrastructure facilities and also steps should be initiated to motivate the women to prefer government institutions, so that they may get relief from the burden of private medical expenses.

5. Steps should be initiated to sensitise pregnant women about the need for consumption of iron folic acid tablets and iron folic acid syrups as under consumption and variations in the consumption across select mandals is observed.
6. Despite the NRHM initiatives, still significant proportion of women have lack of knowledge about the pregnancy complications and antenatal care differences across mandals exists. Cent percent coverage is not seen in case of even non-expensive and simple tests such as measurement of weight, height, BP, while the important sonogram ultrasound test is performed only in respect of 59 per cent of sample women from Tanuku. The study also reveals the poor motivation on the part of health workers in failing to motivate the pregnancy problem sufferers as there exists large spread disparities across the mandals with regard to select sample women by treatment taken for antenatal health problems. Hence, steps should be initiated to gear up NHRM initiatives to properly deal with antenatal care.

Limitations of the Study:

However some of the limitations of the present study are as follows:

1. As the Study dealt with qualitative variables which cannot be quantified, the analysis is attempted with simple tools such as Chi – square test of independence of attributes and multiple regression analysis only. Advanced tools could not be used due to paucity of data.
2. Issues and responses relating to health is a very delicate, extremely personal, sensitive subject to be analyzed. Hence, reporting bias may affect results of the study.
3. The analysis is made on the basis of primary data sources to a large extent. The analysis may be subjected to reporting bias as the data is collected from rural areas with limited knowledge and less educated women.
4. Though precautions were taken and step wise regression analysis relating to is attempted to avoid the problem of multi collinearity, yet the analysis may be subjected to assumptions underlying ordinary least squares method.
5. As the analysis is based on case study, the results of the study may not be generalized for the entire rural community.