RESEARCH

STUDY ON ESSENTIAL OBSTETRIC CARE AMONG MOTHERS OF CHILDREN AGED 6 WEEKS TO 6 MONTHS IN URBAN SLUMS OF HYDERABAD

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Abstract

Background: An attempt is made in this study to know the barriers for increasing awareness and further utilization of maternal and child health services and to identify the factors which help to overcome these barriers and make the essential obstetric care more dynamic, useful and applicable. The aim is to determine the proportions of antenatal care received, obstetric factors, socio cultural factors, patterns of relationships between social, cultural & maternal factors and obstetric care. **Materials and Methods:** This is a descriptive and cross-sectional study done in urban slums. The slums were listed out and they were categorized into three groups according to the location and distance from the tertiary maternity hospital and presence of migrant population. Two slums were selected from each category, all the eligible mothers i.e. mothers of children aged 6wks to 6months were listed over a period of 4 months. All the mothers listed were contacted at the household level and interviewed with restructured questionnaire. **Result:** Early or late initiation of breast feeding is not seen to be influenced by the receipt or non-receipt of antenatal care in the mothers. Home delivery and baby being in ICU are the two main reasons for not immunizing the newborns with BCG and Zero dose Polio vaccines. The gender preference for either sex is not seen to be influenced by the level of education of the mothers whether less than 10th standard or higher than that. About 47.7% of the mothers did not practice contraception. Desiring more children is the main reason for non-practicing of contraception. Higher percentage of terminal contraception is practiced when having two or less children by Hindu women when compared to women of the Muslim faith. Among the total subjects, mothers' educational level higher than 10th standard is seen to influence the utilization of contraceptive methods. Even the husband's educational level, if higher than 10th standard, is seen to influence the uptake of contraceptive methods. **Conclusion:** Mothers educated higher than 10th standard is availing the post-natal checkups. The lesser educated mothers are to be motivated for postnatal checks by roping in mothers who had post-natal complications and took treatment in a bigger hospital.

INTRODUCTION

The community health at large and its development is related to maternal and child health of that community. The health status of any state is represented by maternal and child health parameters like maternal mortality rate, infant mortality rate and neonatal mortality rate. These parameters are greatly influenced by the health of the mother during pregnancy, during childbirth, postpartum period and care of the child during neonatal period. This can be achieved through essential obstetric care.

There are many factors which affect the essential obstetric care like age at marriage, teenage pregnancies and size of the family. Although child marriages are not prevalent in urban slums, early marriage and teenage pregnancies that is below the age of 18yrs is observed in some of these urban slum families.

Another important component of essential obstetric care is neonatal care and initiation of breast feeding. Antenatal counseling on breast feeding, skin to skin

bonding of baby and mother after delivery and postnatal lactation support are likely to improve exclusive breast feeding. Like in rural areas, in urban slums also, there is a predominant use of non-reversible methods of contraception particularly female sterilization to limit the size of the family and limited use of reversible methods and very high rates of discontinuation of temporary methods. There is also less number of couples using male dependent methods of family planning.

Most of the deliveries in Hyderabad were institutional but the postnatal check-ups are not according to norms of World Health Organization (WHO). To promote institutional deliveries and postnatal check-ups, the Government of India introduced cash incentives to the pregnant women to meet the transport, delivery and post-delivery expenses under the scheme 'Janani Surakha Yojana.'(JSY) This scheme may help in improving postnatal check-ups and may increase acceptance of contraception among urban slum population in addition to institutional deliveries.[1]

In spite of many developments in providing health care in urban slums, and improved access to health care, still there are gaps between the health care availability and utilization. It is a challenge to deliver these services to those who are hard to reach and marginalized. Millennium development goals have been set by United Nations and health related goals are given area of concern. Goal 4 is the reduction of child mortality, the indicators being Infant mortality rate and under 5 child mortality rate. The goal 5 is to improve maternal health, with the target of reduction of maternal mortality rate by three quarters.[2] An attempt is made in this study to know the barriers for increasing awareness and further utilization of maternal and child health services and to identify the factors which help to overcome these barriers and make the essential obstetric care more dynamic, useful and applicable.

MATERIALS AND METHODS

This is a descriptive and cross-sectional study done in urban slums of Hyderabad. The slums were listed out and they were categorized into three groups according to the location and distance from the tertiary maternity hospital and presence of migrant population. Two slums were selected from each category, all the eligible mothers i.e. mothers of children aged 6wks to 6months were listed over a period of 4 months. All the mothers listed were contacted at the household level and interviewed with restructured questionnaire.

First, the socio-demographic data is collected, previous obstetric history is taken, and information of antenatal, intranatal, postnatal of latest conception and use of contraception if any were sought. Factors which are likely to influence the health care seeking such as literacy of husband, role of husband in health care seeking, size and type of family, birth interval, age at marriage and first child birth, breastfeeding, customs and beliefs regarding antenatal and perinatal practices and also contraceptive methods were obtained.

Sample Size

As the early registration is an indicator of quality antenatal care, the late registration was taken as prevalence. This prevalence 37 was taken from the antenatal registration in urban area as observed in NFHS3

Thus the sample size was taken using the formula

$N = 4PQ/L^2$

N = Sample size, P (Prevalence) = 37, Q (100-Prevalence) = 63

L (allowable error) was taken as 20% of prevalence = 7.4

N = 4PQ/L2 = 4×37 ×63÷7.4×7.4= 9324÷54.76 N =170.

The sample size is 170

There are 62 urban health centres in all six circles of Hyderabad. They were categorized into three groups according to the location and distance from the tertiary maternity hospital and presence of migrant population. Two slums were selected from each category, all the eligible mothers i.e. mothers of children aged 6wks to 6months were listed over a period of 4 months.

With the help of predesigned, pretested questionnaire, the data was collected by interviewing the mothers of children aged 6weeks to 6 months preformat is attached in annexure.

Analysis of Data

The data obtained was computerized in the related data base management system (Microsoft Excel) and the necessary tables were generated and statistical analysis was done in percentages and chi-squares.

Variables as age, education of study subjects, husband's Literacy, husbands income and occupation, type of family, economic class, religion, migration, age at marriage, age at first child, birth order, birth spacing, essential Obstetric care, minimum recommended antenatal care, awareness and advice, first visit, health care provider, awareness and advice, ICDS nutrition

General examination of mothers during antenatal period were taken including general, which includes BP, weight, CVS and abdominal examination and also the investigations like HB%, urine, blood grouping, and HIV test were noted. Transport and place of delivery, whether the baby is resuscitated or referred to NICCU was elicited. If it is a Home delivery, the reasons for home delivery were questioned and noted. Time of initiation of breast feeding and colostrums consumed or not consumed were also recorded. The delay in initiation of breast feeding was considered as 2hrs in normal delivery and 4hrs in LSCS. The reasons for delay were asked and recorded. Information regarding the '0'dose polio and BCG vaccination was also taken and if

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vaccine is not given the reasons for the same were recorded.
Details of Janani Surakha Yojana, who were eligible and who were not and who have received the same were taken.

RESULTS

Out of the total study subjects, 62.35% have received Minimum Recommended Antenatal Care (MRANC).
Literacy of mother and there husbands is significant among groups receiving Minimum antenatal care (MRANC) and those who are not receiving. Religion and occupation are insignificant among groups. [Table 1]
Migration, type of family and socio-economic class is insignificant among groups receiving Minimum antenatal care (MRANC) and those who are not receiving. Religion and occupation are insignificant among groups.
An insignificant difference is observed in the proportions of subjects who received minimum recommended antenatal care between those with younger age at marriage and healthier age at marriage.
The difference between proportions of mothers who received minimum recommended antenatal care among subjects of birth order ≤ 2 and those of birth order ≥3 is highly significant.
The difference between proportions of subjects who received minimum recommended antenatal care among mothers with <2yrs spacing and among those with ≥ 2 years is not statistically significant. [Table 2]
Anemia is significant with literacy of mother and insignificant with age of mother. [Table 3]
Religion and literacy wise utilization of services of ICDS by Antenatal women is insignificant in utilized group and not utilized group. [Table 4]
The difference between the proportion of HIV awareness in mothers who have received antenatal care and in mothers who did not receive is statistically significant.
Among the total study subjects, awareness of anemia is seen in 49.41%, of PIH in 75.29%, of bleeding in 96.47%, of intrauterine death in 45.88%, of malpresentations in 72.94%, of use of drugs and X-rays in 43.53% and of possibility of surgery in 60%.
Among the mothers who are illiterate or studied up to secondary schooling, the proportion of awareness of all the selected complications of pregnancy is 32.5%.
Among the mothers who are educated for more than 10 years, the same proportion of awareness is 78%.
The difference between proportions of awareness of complications of pregnancy among mothers educated up to 10 years or not educated and among the mothers who are educated beyond 10 years is highly significant. [Table 5]
Among the total institutional deliveries, the proportion of mothers walking to the institution is 5.1%, those transported by auto is 87.3%, by ambulance is 2.5%, by 108 is 4.6% and by bus is 6.5%.
Tradition is seen as the foremost reason for delivering at home and is found in 53.8%. Unplanned and precipitate labor is the second largest cause of home delivery of mothers as seen in 15.4%. The less occurring reasons for home delivery are economical, transport free, previous uneventful delivery and fear of hospitals. [Table 7]
Baby in Neonatal Intensive Care Unit is the reason for late initiation of breast feeding in 36% in normally delivered women and in 24.24% of LSCS operated women. Baby asleep is given as the reason in 33.33% in vaginal and 3.03% in operated women. Milk not secreted is the reason in 22.22% and 9.09% in normal and LSCS deliveries respectively. Among operated women, 45.45% gave the reason as pain of mother for delayed breast feeding and 18.18% was the reason of mother being in ICU after the surgery. [Table 10]
The proportion of eligible subjects who received JSY is 54.4% only, as 45.6% of eligible women did not receive the benefits. Among the subjects not eligible for the benefits of JSY, 4% have received the same. [Table 12]
Among the reasons for not accepting contraception, desiring more children is given in 33.33%, fear of side effects or complications in 19.75%, not thinking in that aspect in 13.58%, non-acceptance by mother-in-law in 12.34%, and some more reasons of smaller magnitudes. [Table 14]

Table 1: Minimum antenatal care (MRANC) and demographic variables of mothers

Religion and MRANC of the mothers	MRANC Received	MRANC not received	Total
Hindu	82 (66.1%)	42 (33.9%)	124 (100%)
Muslim and Christian	24(52.1%)	22(47.9%)	46(100%)
$\chi 2$ 2.22, P >0.05			
Literacy of mothers			
Illiterate <10yrs Education	70 (54.2%)	59(45.8%)	129 (100%)
≥10yrs Education	36 (87.9%)	5 (12.1%)	41 (100%)
$\chi 2$ =13.52, and P=<0.001, HS			
Occupation			
House wives	91 (62.8%)	54 (37.2%)	145 (100%)
Working mothers	15 (60%)	10 (40%)	25 (100%)
$\chi 2$= 0.07, P> 0.05 NS			
Husband's Literacy			
Illiterate <10yrs of education	73 (57%)	55(43%)	128 (100%)
≥10yrs of education	33 (78.5%)	9 (21.5%)	42 (100%)
$\chi 2$ =5.37, P< 0.05, Significant			

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Table 2: Variables in Minimum Recommended Antenatal Car (MRANC)

Migration	MRANC Received	MRANC not received	Total
Yes	11 (47.8%)	12 (52.2%)	23 (100%)
No	95 (64.6%)	52 (35.4%)	147 (100%)
$\chi 2$= 2.39 and P > 0.05			
Type of the family			
Nuclear family	46 (62.2%)	28 (37.8%)	74 (100%)
Joint family	60 (62.5%)	36 (37.5%)	96 (100%)
$\chi 2$=2.48 P > 0.05, NS			
S E class			
APL	23 (76.7%)	7 (23.3%)	30 (100%)
BPL	83 (59.3%)	57 (40.7%)	140 (100%)
$\chi 2$=2.48 P > 0.05, NS			
Age at 1st child birth	MRANC Received	MRANC Not received	Total
≤19 yrs	36 (59%)	25 (41%)	61(100%)
>19 yrs	70 (64.2%)	39 (35.8%)	109(100%)
$\chi 2$ = 0.45 P>0.05			
Birth Order			
≤2	89 (73%)	33 (27%)	122 (100%)
>3	17(35.4%)	31 (64.6%)	48 (100%)
$\chi 2$ 20.67, P=0.001, HS			
Birth spacing			
<2yrs	20(45.2%)	23 (54.8%)	43 (100%)
≥2yrs	44 (62%)	27 (38%)	71(100%)
$\chi 2$ = 2.6 P >0.05 NS			

Table 3: Literacy, Age at the first child birth and Anaemia

Literacy	Anaemia Present	No anaemia	Total
≤10yrs education	52 (40.3%)	77 (59.7%)	129 (100%)
>10yrs education	6 (14.6%)	35 (85.4%)	41 (100%)
$\chi 2$ 8.02 P < 0.01 Sig			
Age at the first child birth			
≤19yrs	24 (39.3%)	37 (60.7%)	61 (100%)
≥19 yrs	34(31.2%)	75 (68.6%)	109 (100%)
$\chi 2$ =1.16 P= 0 > 0.05,			

Table 4: Religion and literacy wise utilization of services of ICDS by Antenatal women

Religion	ICDS utilized	ICDS not utilized	Total
Hindu	46 (37.1%)	78 (62.9%)	124 (100%)
Muslim & Christian	12 (26%)	34 (74%)	46 (100%)
$\chi 2$ 0.81 P >0.05, Not Significant			
Literacy			
<10yrs education	45 (34.1%)	84 (68.3%)	129 (100%)
>10yrs education	13 (31.7%)	28 (68.3%)	41 (100%)
$\chi 2$=0.14 P>0.05			

Table 5: Antenatal care and awareness in pregnancy

AN care+	Awareness present	Awareness absent	Total
Yes	129 (85.4%)	22 (14.6%)	151 (100%)
No	9 (47.4%)	10 (52.6%)	19 (100%)
$\chi 2$ 13.61 P < 0.001, HS			
Complications			
Anemia (49.41%)	84	86	170
PIH (75.29%)	128	42	170
Bleeding (96.47%)	164	6	170
Intrauterine death (45.88%)	78	92	170
Malpresentations (72.94%	124	46	170
Use of drugs and X-rays(43.5%)	74	96	170
Possibility of surgery (60.00%)	102	68	170
Literacy			
Illiterate	8 (15.7%)	43 (84.3%)	51 (100%)
Primary & Secondary	34 (43.6%)	44 (66.4%)	78 (100%)
≥10yrs Education	32 (78%)	9 (22%)	41(100%)
Total	74 (43.5%)	96 (56.5%)	170 (100%)
Literacy			
<10yrs Education	42 (32.5%)	87 (67.5%)	129 (100%)
>10yrs Education	32 (78%)	9 (22%)	41 (100%)
Total	74 (43.5%)	96 (56.5%)	170 (100%)

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Table 6: Comparision between institutional and home delivery and variables

Religion	Institutional	Home	Total
Hindu	113 (91.1%)	11 (8.9%)	124 (100%)
Christan & Muslims	44 (95.6%)	2 (4.4%)	46 (100%)
$\chi 2$ 0.44 P > 0.05 NS			
Literacy and Place of delivery			
<10yr education	117 (90.7%)	12 (9.3%)	129 (100%)
>10yrs education	40 (97.6%)	.1 (2.4%)	41 (100%)
$\chi 2$ 1.22 P > 0.05, Not significant			
Literacy and delivery at Government institution			
Illiterate + < 10 yrs education	67 (57.26%)	50 (22.74)	117 (100%)
> 10 yrs education	11 (27.5%)	29 (72.5%)	40 (100%)
Total	78 (49.68%)	79 (50.32%)	157 (100%)
$\chi 2 = 9.41$, p<0.01			

Table 7: Transport to hospital for delivery

Means of transport	Total
By walk	8 (5.1%)
Auto	137 (87.3%)
Ambulance	4 (2.5%)
108	7 (4.6%)
Bus	1 (6.5%)
Total	157 (100.0)
Reasons	
Traditional	7 (53.8%)
Unplanned & precipitated	2 (15.4%)
Cost	1 (7.7%)
No transport	1 (7.7%)
Planned as previous delivery is uneventful	1 (7.7%)
Afraid of hospital	1 (7.7%)
Total	13 (100%)

Table 8: Antenatal advice and initiation of breast feeding in normal delivery

Breast feeding in normal delivery	<2hrs	2 to 4hr	>4hr to 24hrs	>24hrs	Total
Given	52 (67.5%)	6 (7.8%)	5 (6.5%)	14 (18.2%)	77 (100%)
Not given	28 (71.8%)	2 (5.1%)	2 (5.1%)	7 (18%)	39 (100%)
Total	80 (69%)	8 (6.9%)	7 (6%)	21 (18.1%)	116(100%)
Breast feeding LSCS					
Given	10 (22.7%)	5 (11.4%)	12 (27.3%)	17 (38.6%)	44 (100%)
Not given	2 (20%)	4 (40%)	0	4 (40%)	10 (100%
Total	12 (22.2%)	9 16.7%)	12 (22.2%)	21 38.9%)	54 (100%
Type of delivery					
Normal delivery	80 (69%)	8 (6.9%)	7 (6%)	21 (18.1%)	116 (100%)
LSCS	12 (22.2%)	9 (16.7%	12 (22.2%)	21 (38.9%)	54 (100%)
Total	92 (54.1%)	17 (10%)	19 (11.2%)	42 (24.7%)	170 (100%)

Table 9: Antenatal advice and Colostrum

Antenatal advice	Colostrum given	Colostrum not given	Total
given	95 (78.5%)	26 (21.5%)	121 (100%)
not given	35 (87.5%)	14 (12.5%)	40 (100%)
$\chi 2$ 0.97 P >0.05			
Literacy			
Illiterate	31 (60.8%)	20 (39.2%)	51 (100%)
Literate	99 (83.2%)	20 (16.8%)	119 (100%)
$\chi 2$ 9.96 P < 0.01 Sig			

Table 10: Reasons for delay in initiation of breast feeding

Reasons	Normal	LSCS
Baby asleep	12 (33.33%)	1 (3.03%)
Baby in NICU	.13 (36.0%)	.8 (24.24%)
Not sucking	.2 (5.56%)	.0
No milk	8 (22.22%)	3 (9.09%)
Mother in ICU	.0 (0.00%)	.6 (18.18%)
Preterm	1 (2.78%)	0
Mother had pain and asleep	0 (0.00%)	15 (45.45%)
Total	.36 (100.00%)	33 (100.0%)

Table 11: Immunization of New Born

BCG & 0 dose polio given within 1st week	138 (81.18%)
Zero dose polio & BCG not given	32 (18.82%)

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Total	170 (100.00%)
Place of delivery	Zero dose polio, BCG given
PHC, UHP	29 (21.0%)
Government Institute	40 (29.0%)
Pvt. Hospital	66 (47.8%) .
Home	3 (2.2%)
Home delivery	10 (31.25)
Baby in ICU	11 (34.38%)
Not aware of importance	5 (15.63%)
No aware completely and location of health facility	6 (18.75%)
Total	32 (100.00)

Table 12: Janani Suraksha Yojana (JSY)

Eligibility	JSY received	JSY not received	Total
Eligible	25 (54.4%)	21 (45.6%)	46 (100%)
Not Eligible	5 (4%)	119 (96%)	124 (100%)
Total	30 (17.7%)	140 (82.3%)	170 (100%)

Table 13: Postnatal checkups and Literacy

Literacy	>3PN visits	No or <3	Total
ill or <10yrs	71 (55.4%)	58 (44.6%)	129 (100%)
>10yrs	35 (85.4%)	6 (14.6%)	41 (100%)
$\chi 2$ 10.93 P < 0.001, Highly significant			
Further PN (Postnatal) visits after 6wks and Literacy			
ill or<10yrs	32 (33%)	97 (67%)	129 (100%)
>10yrs	16 (39%)	25 (61%)	41 (100%)
$\chi 2$ =3.10 P > 0.05,			

Table 14: Reasons for not accepting contraception

Lack of awareness of the location of facility (Government facility)	2 (2.47%)
Lack of awareness of spacing methods	6 (7.41%)
Lack of access to health facility	1 (1.23%)
Not thinking in that aspect	11 (13.58%)
Lack of support by the husband or family	5 (6.17%)
Non acceptance by mother-in-law	10 (12.34%)
Fear about the side effects and complications	16 (19.75%)
Wants male child	3 (3.70%)
Wants female child or another child	27 (33.33%)
Total	8 1 (100%)

Table 15: variables and Contraceptive use

Religion	Contraceptives methods used	Contraceptives not used	Total
Hindu	72(58%)	52(42%)	124(100%)
Muslim + Christian	17(37%)	29(63%)	46(100%)
$\chi 2$ 3.85 P < 0.05 Sig			
Literacy			
illiterate or <10yrs education	60(46.5%)	69 (53.5%)	129 (100%)
>10yrs education	29 (85.3%)	12 (14.7%)	41 (100%) .
$\chi 2$= 7.32 P=0.01 Sig			
Husband literacy wise contraceptive use	Contraceptive use	No Contraception	Total
Illiterate or <10 yrs of education	59 (46.1%)	69 (53.9%)	128 (100%)
= >10 yrs of education	30 (71.4%)	12 (28.6%)	42 (100%)
$\chi 2$ = 4.23 P < 0.05, Sig			

DISCUSSION

In the present study, minimum recommended antenatal care is received by about 60% of the total study subjects. According to NFHS 3, 25% of mothers had 1or 2 antenatal care visits and 52% had 3 or more visits. About 75% of mothers had at least 3 antenatal visits in urban areas when compared with 44% in rural areas. In rural western Kenya, a community based study has shown that 90% of women visited ANC at least once, 8% 0f women had only one visit and 12% had only 2 visits.[3]

A minimum of 3 visits covering the entire period of pregnancy should be the target. Only 50% had more than 4 antenatal visits as observed in a study from Bangladesh. Only 7.5%women registered in the third trimester had undergone 3 antenatal checkups as compared to 48.3% and 30.8%women registered in the first trimester and second trimester, respectively.[4] Minimum recommended antenatal care is seen to be distributed similarly among women belonging to either majority or minority religion in the present study.

According to (NFHS3) Antenatal care was received by 73% of Muslim women and 78% of Hindu women, compared with almost all Jain women. Minimum recommended antenatal care distribution is significantly higher in women educated beyond

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10th standard in the present study. Mother's education level even within the same socioeconomic status is the key determinant of maternal and child health.[5]

In a study of utilization of antenatal care services in periurban areas of east Delhi, the authors found that mothers who did not registered themselves were mostly illiterate.[6] A study conducted by Singh et al, it is mentioned that education was one of the most important factors in availing the full antenatal care.[7] In Anna M Van Eijk study, women with <8yrs of education and medium/low SES remained associated with never attending an ANC. Good care during pregnancy is reported to be influenced by socio economic status. Socio economic conditions are seen to affect antenatal care as reported from a study. Antenatal care utilization depends on socioeconomic factors as reported in a study.[8] In the study of Manju Rani etal, no consistent increasing or decreasing trend differentials of wealth in the quality of antenatal care are found in India.[9]

Husbands' literacy beyond 10th standard is seen to be a factor in the significantly higher uptake of minimum recommended antenatal care in the present study. Regarding literacy of husband, the RCH programme in India enviscages the involvement of men in women's reproductive health. Men with 12 or >12 years of education had accompanied and participated in essential obstetric care of their wives in NFHS3.[4] The decision to seek care for newborns and pregnant mothers is primarily made by husbands, particularly in marginalized people.[10] Immigration does not seem to influence the consumption of minimum recommended antenatal care in the present study. Whether a woman belongs to a joint family or to a nuclear family does not seem to effect the consumption of minimum recommended antenatal care as seen in the present study. About 50% of the total study subjects have been married at or below the age of 18 years in the present study.

Child marriage and early confinement is a long-established custom in India. In a study of 200 consecutive teenage girls, 194 were reported to be married.[11] About 36% of the subjects delivered their first child at or less than 19 years of age in the present study. Pregnancy in that age is a serious consequence on the nation as a whole according to WHO technical report. A birth order of 3+ is seen to be a significant hurdle in the consumption of minimum recommended antenatal care.

In NFHS3 survey the percentage of births with birth order >3 is 16.3% in urban areas. Eighty eight percent of mothers of 1st order births received antenatal care compared to 48 percent of mothers of 6 or higher order.12 About 38% of the study subjects had an average birth spacing of less than 2 years. Birth Spacing in India, the mean birth spacing in India is 31 months. Pregnant mothers with <24 months birth interval were less likely to get optimum recommended essential obstetric care.[12] About 68% of the study subjects had their first antenatal care visit at less than 14 weeks of pregnancy in the present study.

According to NFHS3 survey, 44% of mothers had their first antenatal care in first trimester of pregnancy and another 22% in their 4th or 5th month of pregnancy. Only 10% of mothers had their first antenatal care when they were 6 months or more months pregnant. Visits in the first trimester are much more common in urban areas than in rural areas. NFHS3 survey showed about 64% of women had first visit in first trimester of pregnancy in urban area when compared to 37% registered in first trimester in rural area.[13]

In the study of Anna M van Eijk et al, among the 559 ANC attendees who could recall when they first attended, 78 women (14%) started ANC visits in the first trimester, 355 women (64%) started in the second trimester, and 126 women (23%) in the third trimester. According to Lieu Thuy Thi Trinh &George Rubin et al teenage pregnancy, high parity, migrants from rural and backward districts are some of the factors for late entry to antenatal care. About 47% of the study subjects received their antenatal care at one of the Government institutions in the present study. According to (NFHS3), the percentage with antenatal care visits during the first trimester was much higher for the private/NGO sector (70%) than for the public sector (49%). The cross-sectional study by Manju Rani et al9, and Sekhar Bonu et al,[11] they did not see any consistent increasing or decreasing trend differentials in the quality of antenatal care in India between public and private sectors. About 34% of the mothers have shown anemia in the present study. According to Bratati Banerjee et al and G.K. Pandey et al anemia and other complications are more common in teenage pregnancy.[12]

Surveys done in different parts of the country by ICMR indicate that 50 to 60 % of women belonging to low socioeconomic status are anemic. According to technical report ser no 405 of WHO 1968, anemia is considered when Hb is below the level of 11% in pregnant woman. The Govt. of India has initiated 'National Nutritional Anaemia Control programme' in India in which 100mgs of elemental iron and 500mcg of folic acid are being distributed to pregnant mothers through antenatal clinics, sub centres and primary health centres.[14]

About 34% of the mothers have utilized ICDS services in the present study. Convergence with Integrated Child Development Services (ICDS) worker by way of involving Anganwadi worker (AWW) intensively in antenatal care is envisaged in Janani Suraksha Yojana.[15] The pregnant mothers should be encouraged to take well balanced and adequate diet to meet the increasing demands of the mother during pregnancy and lactation. To improve this, supplementary nutrition is provided through Anganwadi centres. A rising gradient of awareness of all the main complications of pregnancy is seen along with rising level of education in the women in the present study.

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Complications are more common in teenage pregnancy. Lack of awareness of the risks are some of the main contributory factors for poor obstetric outcome. Women in the highest wealth quintile and women with 12 yrs of education are more likely to get an advice on where to go, when they have complications.[16]

The main reasons for choosing government facility are its proximity to home, and history of complications in earlier pregnancies. A R Bhalerao et al showed the following results in their study of 200 consecutive cases of teenage girls. Out of these 200 girls, 6 were unmarried, 51 were anaemic, 20 had toxaemia of pregnancy. Six girls (43%) in the age group 15-17 years delivered prematurely as compared to only 26 girls (14%) in the age group of 17-19 years. This difference is statistically significant. Also, only 4 girls (29%) in the age group of 15-17 years had full term normal delivery as compared to 113 girls (61%) in the age group of 17-19 years signifying that the outcome of pregnancy becomes worst in girls below the age of 17 years. Ten babies (71%) of mothers in the age group of 15-17 years were LBW as compared to 75 babies (44%) of mothers in the age group of 17-19 years signifying that the incidence of LBW babies is inversely proportional to maternal age.[17]

About 50% of maternal deaths occur in those identified as risk pregnancy. Risk Approach is by taking health and obstetric history and examination of the pregnant mother, we can identify the risk group from a large group of antenatal mothers and arrange for them skilled care while providing appropriate care for all mothers. Less than half of the mothers have utilized a Government institution for delivery in the present study. In a Government General Hospital, Sangli, India, a teaching hospital, an annual delivery rate of over 3,500 is reported.[16] Distance to the nearest government health facility had negative influence on delivery by skilled birth attendant,, 41% in women living within 5km. distance compared with 28% of women living more than 5km. from a facility. A total of 33% delivered in an institution, either a government facility or private facility. The main reasons for choosing government facility is its proximity to home, and history of complications in earlier pregnancies. The reasons for delivery at private hospital is its proximity and perception that proper care is given to the patient. Zulfia Khan et al, observed in his study that the reasons for home delivery were mostly tradition (41.9%), or related to economics (30.7%).[18] In the study of Anwar et al, 35% of deliveries were attended by SBA in their study area. 22.8% at health facilities and 12.4% at home. Of 22.8% deliveries, 12.9% took place at private facilities and 9.1% in government facilities. While only 0.8% were in NGO facilities. In the study of Zulfia Khan, 33% of the women who delivered in institution, either government or private.[18] Of all caesarian deliveries 73% took place at private facilities 3% in NGO facilities and remaining 24% in government facilities. According to Abha Aggarval etal, in his study 'Impact assessment of India Population Project (IPPPVIII), on child health in Metropolitan cities', the institutional deliveries (Key process indicator) increased from 76.9% to 92.1% in Bangalore and from 72% to 96.5% in Hyderabad urban area.[19]

'Baby friendly' hospitals also expected to adopt and practice other interventions for child survival like antenatal care, clean delivery practices, essential new-born care. The auto rickshaw is the maximum utilized means of transport of women to the place of delivery at 87% in the present study. Nazli Khatib, and Quazi Syed Zahiruddin et al found that time of the ANC registration with health care provider, parity and transport facilities are important predictors affecting the utilization of obstetric care.[18]

In his study at Entebbe, Uganda by Carolyn J Tann et al found that among 413 pregnant women under study, 63% delivered their newborn at a local hospital, 11% still delivered at home with no skilled assistance and just under half of these women reported financial/ transportation difficulties as the primary reason. The reasons for not delivering in a health facility may be lack of transport (5.5% in urban area and 11.8% in rural area), cost, (21.5% in urban and 26.9% in rural) or feeling that there is no necessity for delivery in a health facility in 69.5%of urban and 72.1% of rural population.[12]

Among the normally delivered women, 69% of them have initiated breast feeding within 2 hours of child birth in the present study. Breast feeding practices are frequently adopted as reported in a study. One of the old good custom among rural and tribal people is breast feeding practices soon after birth and prolonged breast-feeding which also helps in spacing of births. The bad practice of not giving colostrum is still prevalent in some rural areas and the faith is supported by some untrained traditional birth attendents. When inquired about antenatal advice in his study Nazli khatib et al, found that 58% received diet related advice, followed by family planning related advice, 40.6%, and breastfeeding related advice in 39.1%.[20]

In the study of Anna M van EIJK in Kenya, among 80 women who received health talks the two most frequent topics were diet related, importance of regular antenatal care visits and hospital delivery and care of the newborn and breastfeeding. Family planning was mentioned by only 5 women.[21] In a study, simple newborn care practices were commonly neglected. Only 35% of newborns were breastfed within the first hour and delayed wrapping of newborn infants occurred after 27% of deliveries. IMR is 5 times higher among infants who are not breastfed and who are breastfed for less than of children 6months. It helps parents in spacing children. In the guidelines given by Govt. of India on infant and young child feeding, by dept. of women and child development, special fatty acids in breast milk lead to increased intelligent quotients and better visual acuity and breastfed infants likely to have around 8 points higher IQ. In spite of all advantages,

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(NFHS3) revealed that only 46% of children under 6months are exclusively breastfed and only 55% had first milk colostrums. Interestingly women from rural areas initiate breastfeeding early.

A descriptive study among 144 primigravide, conducted at a tertiary hospital, Pondicherry, India', only 21% received antenatal counseling on breastfeeding while 79% had not received any such counseling and found that antenatal counseling of mothers regarding breastfeeding helps to promote early initiation of breastfeeding. It has been calculated that breastfeeding could prevent deaths of at least 1 million children a year. About three quarters of the mothers have fed colostrums to their newborns in the present study. Colostrums was given to 73.9% of the babies and discarded in the rest. The belief that a good nutrition may increase the size of the baby may lead to suboptimal maternal nutrition and underweight babies. Zulfia Khan et al studies showed that colostrum given to the baby was 66% among home deliveries and 90% among institutional deliveries.[18] The proportions of colostrums not given among home deliveries and institutional deliveries were 34% and 10% respectively and Z test is <0.05, significant. In the study of Aggarwal A, et al, Pandey A et al, delaying of the first feed (22.6%), and discarding the colostrums (26.1%), were other customs reported.19 Giving prelacteal feeds is a deep rooted custom in India and many studies have reported that up to 100% of mothers give prelacteal feeds. Delaying the first feed and discarding of colostrums were other customs reported in similar earlier studies.[20]

Among the newborns, 81.18% have received BCG and Zero dose Polio immunizations in the present study. According to WHO report of 1981 'In Point of Fact', Neonatal tetanus kills 85% of neonates affected with tetanus. Only 17.7% of the mothers studied have received Janani Suraksha Yojana benefit in the present study.

Janani Suraksha Yojna the JSY is the Hindi words which literally mean 'Pregnant Women Safety Scheme' The main strategy to achieve the envisaged vision is to link the cash assistance under JSY to institutional delivery. Cash Incentives For Institutional Delivery: Linking with Antenatal and Post Natal Care May Ensure 'Continuum of Care' in India. About three quarters of the subjects have expressed no preference for the gender of their child during antenatal period. About 20% of them showed a male gender preference in the present study. Marriage is universal in India and there is strong preference for male baby. BN Vadedara and UK Joshi et al in their study 'Study on knowledge, Attitude and practices Regarding Gender Preference and Female Feticide Among Pregnant women' revealed that 58.5% gave preference to male child.[22]

Gender preference: 22% of women want more sons than daughters. Despite the strong preference for sons 75% do not express any preference for a boy or girl. 77% want at least one son and 74% want at least one daughter. Among women with 10yrs or more of education, the preference for sons is 9.8 %.

About 62.4% of the women have received 3+ postnatal checkups in the present study.

The health of the mother during pregnancy, child birth, postnatal period and the care of the baby in neonatal period, has great impact on growth and development of the child and adolescence and the ultimate objective of maternal and child health is life long health.[10]

Postnatal care is most common after birth in a medical facility and one in five is not followed by postnatal checkup even in health facilities. NFHS3 survey revealed following facts regarding postnatal care. 58% of postnatal mothers did not receive any postnatal checkup. Only 27% received postnatal checkup in first 4hrs whereas 37%received within critical 2 days. Births to urban mothers was followed by health checkup in 66% compared to only 34% in rural mothers. Anwar et al study showed an inequity ratio of rich and poor (1.74:0.11) among for postnatal checkups. The women who are recently delivered are of proven fertility and are at risk to become pregnant immediately. About 47.7% of the mothers did not practice contraception in the present study. Proper utilization of contraceptive services can prevent the incidence and complications in this high-risk group. Knowledge of contraceptive methods among women: Female sterilization is a widely known method 97% among women. According to NFHS3, current use of female sterilization in Andhra Pradesh is 61.5%. Percentage of women using any contraception is 67.7%-male sterilization 3%, pill 0.6%, IUD 0.9%, Condom usage is 1.1%.

Women who are on prolonged breastfeeding in postpartum period need counseling on their likelihood of becoming pregnant and on what contraceptive methods might be appropriate for them. Only 7% of couples officially use spacing methods. Couples need to be educated and awareness need to be spread about these methods.[23]

CONCLUSION

Minimum recommended antenatal care is received by about 60% of the total study subjects. Minimum recommended antenatal care is seen to be distributed similarly among women belonging to either majority or minority religion. Minimum recommended antenatal care distribution is significantly higher in women educated beyond 10th standard. Traditional practice is given as the single most important reason for having delivery at home in the home delivered mothers. Among the normally delivered women, 69% of them have initiated breast feeding within 2 hours of child birth. Early or late initiation of breast feeding is not seen to be influenced by the receipt or non receipt of antenatal care in the mothers. About three quarters of the mothers have fed colostrums to their newborns.

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About 4% of mothers who are not eligible have received the benefits of Janani Suraksha Yojana. About three quarters of the subjects have expressed no preference for the gender of their child during antenatal period. About 20% of them showed a male gender preference. The gender preference for either sex is not seen to be influenced by the level of education of the mothers whether less than 10th standard or higher than that. About 62.4% of the women have received 3+ postnatal checkups. The receipt of 3+ postnatal checkups is seen to be influenced by the education of mothers higher than 10th standard. About 47.7% of the mothers did not practice contraception. Desiring more children is the main reason for non practicing of contraception. Higher utilization of contraception is seen in mothers belonging to the Hindu religion compared to those belonging to the Muslim faith. Higher percentage of terminal contraception is practiced when having two or less children by Hindu women when compared to women of the Muslim faith. Among the total subjects, mothers' educational level higher than 10th standard is seen to influence the utilization of contraceptive methods. Even the husband's educational level, if higher than 10th standard, is seen to influence the uptake of contraceptive methods.

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