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Research Article

Study of utilization of antenatal care services in tribal area of Thane district

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ABSTRACT

Background: Many health problems among pregnant women are preventable, detectable or treatable through visits to health facility before birth. This enables women to receive important services, such as tetanus vaccinations and screening and treatment for infections, as well as potentially life-saving information on warning signs during pregnancy.² The objective of this study is to understand the current status of utilization of maternal health services in rural area by elucidating the various factors influencing the use of these services.

Methods: It is a community based, cross sectional study carried out in a primary health centre in tribal area of Thane district.

Results: 93% women received ANC care for 3 or more than 3 times. 73% women received recommended antenatal care. 68% women received ANC care exclusively from public health facility.

Conclusions: In spite of implementation of various programmes like Janani Suraksha Yojana, Matrutva Anudan Yojana and NRHM in the area percentage of registration during first trimester was less. There was lack of awareness and motivation in study subjects to come on their own to PHC for early registration of pregnancy. Though the coverage of ANC services was good it was not of good quality.

Keywords: Antenatal care, Maternal health, Registration of pregnancy, Tribal area, Utilization

INTRODUCTION

MDG 5 focuses on improving maternal health.¹ A substantially lower proportion of pregnant women receive the standard set of four visits recommended by WHO and UNICEF. Many health problems among pregnant women are preventable, detectable or treatable through visits with trained health workers before birth. These enable women to receive important services, such as tetanus vaccinations and screening and treatment for infections, as well as potentially life-saving information on warning signs during pregnancy.² Antenatal care is an opportunity to promote the benefits of skilled attendance at birth and to encourage women to seek postpartum care for themselves and their newborns.³ Little is known about the

current magnitude of use and factors influencing the use of these services in Maharashtra & particularly in this tribal area.

Objective of study: 1) To study the current pattern of utilization of antenatal care services in tribal area. 2) To study factors influencing utilization of antenatal services in study area.

METHODS

This was a community based, cross sectional study, carried out from May 2008 to April 2009 period, in a primary health centre in tribal area of Thane district which is a rural field practice area for Seth G.S. medical

college, Mumbai and serves a population of 30745. All the married women who have delivered a baby prior to 3 months, residing in study area were included. Unmarried mothers, divorcee and nonresident women of study area were excluded from the study. Ethical clearance was obtained from ethics committee of Seth G.S. medical college, Mumbai.

Sampling technique: Multistage with simple random sampling. First stage: all 8 sub centres were selected. Second stage: villages in each sub centre were randomly selected. Third stage: married women who have delivered a baby 3 months prior to study were randomly selected.

Sample size calculation: The total population of PHC was 30745. Total live birth in previous year = 639, Birth rate of PHC was 21%.

Expected No. of pregnancies was calculated for each sub centre using formula - Expected number of ANCs in one year = Birth rate x population/1000+10% (pregnancy wastage).⁴ Total expected no of pregnancies in PHC in a year was 831. 10% of expected No. pregnancies in a year were taken as a sample from each sub centre. So average of all sub-centres = 83. Considering nonresponse of study subjects' additional sample of 15% was taken. So 15% of 83 = 12.45. Therefore, 83+12.45=95.45.

So, on an average 100 was taken as a sample size.

Table 1: Sample size - Anganwadi report.

Sub centre	Population	Birth rate of sub centre	Expected No. of pregnancies	10% of expd. No. of pregnancies
A	5091	23.96	134.17	13.41
B	4101	28.52	128.65	12.86
C	4439	27.48	134.17	13.41
D	5084	21.63	120.95	12.09
E	3243	25.9	92.38	9.23
F	2739	22.63	68.17	6.81
G	3164	23.7	82.47	8.24
H	2884	22.19	70.38	7.03
Total population of PHC	30745	24.50 (avg. of all)	831.34	82.93

Anganwadi from pada or village randomly selected from a subcentre was visited. Rapport was built with Anganwadi workers. no & details of women who had 3 months old baby was taken from Anganwadi register and houses of women were visited with the help of Anganwadi assistant. Interviews of women were conducted after taking informed consent. Data was collected by using standard, validated questionnaires based on District Level Household Survey (DLHS) Reproductive and Child Health (RCH) Round II, Phase

II, 2004 Woman's Questionnaire.⁵ It was suitably modified to meet objectives of study and was pilot-tested.

Statistical analysis was done by using SPSS version 16 software. Descriptive statistics for Socio-demographic factors done. Cross tabulation to find association between different variables by using Chi-square test wherever applicable. P value of <0.05 was taken as significant.

RESULTS

Almost half of women (51%) were from scheduled tribes, 36% belongs to OBC and 3% scheduled castes. 75% women belong to 18-25 years age group. Only 10% women were working. 70% women were literate. Out of literate women, 28 received primary education while 35 received secondary education. Only 7 women received higher secondary education. 49 respondents were primipara and 45 were multipara. Only 6 women were grand multipara. All women were registered for ANC care at sub centre or PHC during pregnancy. 58 women were registered during first trimester. 37 women were registered during second trimester. Only 5 women were registered during third trimester. 72 were registered by ANMs during their visit to village Anganwadi. Only 13 women registered directly at PHC. Only 12 women got registered at sub centre. 8 women were having history of abortion at previous pregnancy while 6 women were having history of stillbirth. 4 women were having history of death of baby within 2 month of delivery at previous pregnancy. 88 study subjects were aware while 12 were not aware of ANC services at PHC. Only 60 women utilize ANC services at PHC. 68% women received ANC care exclusively from public health facility while 32% women in addition to PHC or sub centre also visited to private hospitals for ANC check-up. 99% women received inj. TT. 73 women received recommended antenatal care and 27 women did not receive it. Only 9 women were given referral to higher centre for some or other reason during antenatal care. Out of 9 women given referral, reason for referral in 6 women was swelling over legs alone or along with some other reason like previous history of Pregnancy Induced Hypertension (PIH) or raised blood pressure. Reason for referral in 3 women was history of abortion, PIH with anaemia, elderly primi respectively.

Height was measured in only 12 respondents. 45 women were asked for swelling over legs and only 39 women were examined for signs of edema. Blood group was tested in only 37 women. Only 22 women were referred to ICTC for HIV & VDRL. Only 38 women were advised for ultrasonography (USG). Only 29 women received information about contraception. Only 48 women received information about danger signs of pregnancy. 32.8% women who utilized ANC services at PHC were illiterate. 67.2% women who utilized ANC services at PHC were literate. The association between educational status of women and utilization of ANC services was found to be statistically significant. 51.9% women who did

not received recommended ANC care had institutional delivery. 87.7% women who received minimum recommended ANC care had institutional delivery. Majority of women who received minimum recommended ANC care had institutional delivery as compared to those women who did not received recommended ANC care. The association between utilization of minimum Recommended ANC care and place of delivery was found to be statistically significant. 44.4% women from middle class utilized ANC services. 67.1% women from lower class utilized ANC services. Almost two third women from lower class

utilized ANC services at PHC as compared to women from middle class. The association between socioeconomic class of study subjects and Utilization of ANC services was found to be statistically significant. 30 % women were not satisfied with ANC services, reason for same in 9 women was long waiting time while in another 8 women it was long waiting time along with other cause like bad behaviour of staff, non-availability of medicine. While total 12 women answered, behavior of staff was not good and total 12 women answered that proper care is not given at primary health centre in addition to some other reason.

Table 2: Distribution of study subjects according to antenatal care service elements received.

Antenatal care service elements	Performed in study subjects	Not performed in study subjects	Total
Asked about h/o of complications	36	64	100
Asked about chronic illness	37	63	100
Asked about drug abuse/any medications	36	64	100
Pallor checked	55	45	100
Recorded blood pressure	77	23	100
Measured weight	91	9	100
Measured height	12	88	100
Examined for signs of oedema	39	61	100
Asked for signs of oedema	45	55	100
Measured Fundal height	72	28	100
Heard Foetal heart sounds	65	35	100
Examined for foetal position& presentation	68	32	100
Blood test done	77	23	100
Advised Blood group &Rh typing	37	63	100
Urine test done	73	27	100
Referred to VCTC for HIV & VDRL	22	78	100
Advised USG	38	62	100
Administered TT injection	99	1	100
Advised regarding nutrition	74	26	100
Advised about Rest	66	34	100
Advised about personal hygiene	69	31	100
Advised about exercise	21	79	100
Advised to avoid alcohol/tobacco	43	57	100
Explained danger signs	48	52	100
Explained importance of regular health check ups	83	17	100
Explained importance of IFA tablets	71	29	100
Explained to avoid heavy work& jerky travel	67	33	100
Told about exclusive breast feeding	57	43	100
Told about child immunization	59	41	100
Told about contraception	29	71	100
Advised regarding place/person of delivery	94	6	100
Reminded of next visit	46	54	100
Asked client if she has any questions	11	89	100

Table 3: Association between age and utilization of Recommended ANC care.

Age of study subjects	Recommended ANC care		Total
	No	Yes	
18-25 years	N 16	59	75
	% 21.30%	78.70%	100.00%
25 & above years	N 11	14	25
	% 44.00%	56.00%	100.00%
Total	N 27	73	100
	% 27.00%	73.00%	100.00%

χ^2 : 4.888; df: 1; P value: <0.05 Significant

Table 4: Association between education and utilization of Recommended ANC care.

Education of study subjects	Recommended ANC care		Total
	No	Yes	
Illiterate	N 12	18	30
	% 40.00%	60.00%	100.00%
Literate	N 15	55	70
	% 21.40%	78.60%	100.00%
Total	N 27	73	100
	% 27.00%	73.00%	100.00%

χ^2 : 3.675; df: 1; P value: <0.05 Significant

DISCUSSION

Uterine The mean age of women was 23.62 years. Majority (75%) of women belongs to 18 -25 years age group, a finding similar to J. Yuvaraj et al.⁶ The age of marriage was ranging from 14 to 23 years. The mean age at marriage was 18.41 years, late than (16.4 years) NFHS-3 findings⁷ and early to findings by (19.8 ± 3.6 years) S. P. Zodpey et al.⁸ The range for age at birth of first child was 17 to 32 years. The mean age at birth of first child was 20.64 years, which is slightly higher than national average according to (19.3 years) NFHS III.⁷ 58 women were registered during first trimester which is high as compared to findings by (30%) C. S. Metgud et al.⁹ 37 women were registered during second trimester. Only 5 women were registered during third trimester, similar findings seen by (5.38%) C. S. Metgud et al.⁹ Only 22.9% of expected antenatal mothers were registered in a study by Loveleen et al.¹⁰ Almost 100% of women had at least one ANC visit during pregnancy a finding similar to that of Toan K. Tran et al.¹¹ and higher as compared to findings by (87%) Emilia Goland et al.¹² While 50.8% women never had antenatal check-ups in a study by Rajesh Gupta et al.¹³ In present study, 93% respondents received 3 or more antenatal check-ups. This is higher compared to, (42.8%) NFHS-3 data,⁷ (80.4%) DLHS-3 Thane district data,⁵ (58.4%) S. P. Zodpey et al.,⁸ (61%) E. Materia et al.,¹⁴ (41.46%) Sahni B et al.¹⁵

75% study subjects received and consumed IFA tablets for 3 or more months duration. This is fairly higher as compared to (30.5%) NFHS-3 and state figures, (35.7%) S. P. Zodpey et al.,⁸ (32.62%) Sahni B et al.,¹⁵ (63%) Bbaale E et al.¹⁶ 80% women received IFA tablets in a study by Toan K. Tran et al.¹¹ 99% women received inj. TT higher as compared to finding (91.7%) by Toan K. Tran et al.¹¹ and (50%) Bbaale E et al.¹⁶ 73 respondents received "minimum recommended antenatal care". higher compared to, (33.6%) S. P. Zodpey,⁸ (29.12%) Sahni B et al.¹⁵ Only 38 women done USG which was very low compared to 96.8% in a study by Toan K. Tran et al.¹¹

18 (60.0%) illiterate women received minimum Recommended ANC care while 55 (78.6%) literate women received minimum Recommended ANC care. Statistically significant association was seen between education of study subjects and utilization of recommended ANC care, similar findings were seen by C. S. Metgud et al.,⁹ Pavalavalli Govindasamy et al.¹⁷ and Ofra Anson.¹⁸ Antenatal services usage was less in illiterate women than in literate women in study by K. Navaneetham et al.¹⁹ however no association was seen by SP Zodpey et al.⁸ 68% women utilize ANC care exclusively from public health facility which is low as compared to 92% by Varma GR et al.²⁰ while 32% women also visited to private hospitals which is low as compared to 54% by Varma GR et al.²⁰ Weight was measured in 91 women during ANC visit. This is similar to findings by (93%) S. P. Zodpey et al.,⁸ however this was in contrast to findings by (48.3 %) Monica Agarwal et al.²¹ Height was measured in only 12 women during visit to sub centre or PHC, very low compared to findings by (47.9%) S. P. Zodpey et al.⁸ In a study by Monica agarwal et al., Height was not measured in single women.²¹ Blood pressure was recorded in 77 women in this study. In a study by Monica agarwal et al, blood pressure was not recorded in single women.²¹ In a study by S. P. Zodpey et al, Blood pressure was measured in almost all women.⁸

57% women received information regarding breast feeding, similar findings seen a study conducted by SP Zodpey et al.⁸ and Monica Agarwal et al.²¹

Only 29% women received information about contraception. However in a study conducted by SP Zodpey et al. 40.6% women received family planning-related advice.⁸ 94% women received advice regarding place or person of delivery, which is fairly high compared to findings by Monica Agarwal et al. 10% women got advice regarding place or person of delivery.²¹

Only 46 % women were reminded of their next visits as compared to 58.3% in a study by Monica Agarwal et al.²¹ Only 11 women were asked about any questions or concerns regarding pregnancy during their ANC visit, however not a single woman were asked about the same in a study by Monica Agarwal et al.²¹

64 (87.7%) women who received recommended ANC care had institutional delivery. This shows that majority of women who received recommended ANC care had institutional delivery as compared to those women who did not received recommended ANC care. However in a study conducted by S. P. Zodpey et al., the preference for place of delivery was not significantly influenced by minimum recommended antenatal care.⁸

CONCLUSION

Socioeconomic class of study subject, age, education was determinants which were found to affect utilization of antenatal care. Percentage of registration during first trimester was less than average for rural area of Thane district DLHS-3 data in spite of various programmes like Janani Suraksha Yojana, Matrutva Anudan Yojana and NRHM are implemented in the area. There was lack of awareness and motivation in study subjects to come on their own to PHC for early registration of pregnancy. Though the coverage of ANC services was good it was not of good quality.

Recommendations

The low level of utilization of minimum recommended antenatal care among illiterate women suggest the need to improve the literacy status of women through adult literacy programme thereby empowering them to take well informed and appropriate decisions regarding their health while pregnant. As overall utilization of antenatal care is more among educated women. Illiterate women should be motivated consistently during antenatal visits and through home visits by ANM to (come to primary health centre)increase their utilization of antenatal services.

Limitations of study

It is possible that information regarding utilization, exact month of registration, number of visits and check-ups may not be fairly accurately recalled by the respondents. We could not validate the information given by the respondents as the records were either incomplete or poorly maintained.

Acronyms and abbreviations

MDG: Millennium development Goal
 NFHS: National family health survey
 ANC: Antenatal care
 IFA: Iron folic acid
 TT: Tetanus toxoid
 PHC: Primary health centre
 DLHS: District level household survey
 SPSS: Statistical package for social sciences
 ICTC: Integrated counselling and testing centre
 VDRL: Venereal disease research laboratory
 USG: Ultrasonography
 PIH: Pregnancy-induced hypertension

OBC: Other backward classes
 BP: Blood pressure

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Ethical approval: The study was approved by the ethics committee of Seth G.S. medical college, Mumbai

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