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Original Research Article

Utilization of antenatal services and related factors in aspirational tribal district of eastern Gujarat

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ABSTRACT

Background: The number of antenatal visit & timing of first visit are important for health of mother and outcome of pregnancy, it is proved by research studies that earlier registration and regular ANC visits helps in preventing adverse pregnancy outcomes. Various study shows that ANC utilization varies with mothers age, occupation, education, income, parity, place of resident, availability and cost of services.
Methods: A Community based cross-sectional study was conducted. The Anganwadi centres were taken as the study area, the study participants were postnatal women up to 42 days after delivery. The primary data collection was done using semi-structured questionnaire by recall method after taking written informed consent. The details of antenatal visits and service utilization were asked.
Results: Most of the participants uses the ANC packages however optimal utilization is lacking. 49.24% has taken ≥4 ANC visits. 58.97% have taken ≥180 IFA tablets while 30.40% have visited for their first Ante-natal visit within 12 weeks. Ante-natal mothers who were working and those belonging to lower middle class visited less than 4 times for ante-natal visits. Ante-natal mother below 20 years of age were having lower consumption IFA tablets. >12 weeks for 1st Ante-natal visit was taken by Ante-natal mothers who were working and belonging to middle class.
Conclusions: There is suboptimal utilization of the ante-natal service package. Pregnant woman who were daily wage worker as well as middle class and lower class reported less visits and delay in reporting health facility.

Keywords: Antenatal visits, Tribal, Service utilization

INTRODUCTION

Ante natal care is 'care taken during the pregnancy.' During antenatal period there should be monitoring of pregnancy for the early sign of complication, detect, treat pre-existing co–morbidity and concurrent problems of pregnancy and also provides advice and counselling on preventive care, diet, delivery care, postnatal care etc. ANC care reduces maternal and perinatal morbidity and mortality both directly, through detection and treatment of pregnancy-related complications, and indirectly, through the identification of women at increased risk of developing complications during labour and delivery, thus ensuring referral to an appropriate level of care.[1] In addition, as indirect causes of maternal morbidity and mortality, such as HIV and malaria infections, contribute to approximately 25% of maternal deaths and near-misses, ANC also provides an important opportunity to prevent and manage concurrent diseases through integrated service delivery. Under National Health mission, Government of India had initiated several programs and schemes for the health of mother and child. But the outcome of such programs depends on the utilization of these services by women. The tribal district situated in eastern part of Gujarat having different socio-demographic profile than other districts. There could be health system or beneficiary side factors which influence the antenatal service coverage and overall

outcome. In the same line, it is important to identify the associated socio-demographic factor which affect the utilization of the antenatal services. Not enough studies were conducted previously in tribal area of eastern Gujarat to find the data on utilization of antenatal care. Considering this background, the attempt was made to assess the antenatal care coverage and the beneficiary side sociodemographic factors associated to the antenatal care coverage in RHTribalC area of community medicine department.[2]

The number of antenatal visit & timing of first visit are important for health of mother & outcome of pregnancy, it is proved by research studies that earlier registration and regular ANC visits helps in preventing adverse pregnancy outcomes. Various study shows that ANC utilization varies with mothers age, occupation, education, income, parity, place of resident, availability & cost of services.[3-5]

Aims and objectives

Aim and objectives of current study were to determine the utilization of antenatal services in tribal district of eastern Gujarat and to identify the sociodemographic factors related to the ANC service utilization.

METHODS

Ante-natal mothers are registered with the primary health care system in India with the mother and child protection card (Mamta-Card) from registration till post pregnancy under the programme National rural health mission (NRHM) under the sub-heading of RMNCH+A. These mothers are identified by the health worker working on ground level and mobilised to the nearby Primary Health Centres or Health and wellness centre for required minimum Ante-natal care.[6] After delivery the continuum of care is provided through Village Health and Nutrition Day (VHND). The VHND is celebrated every month in the respective Anganwadis where mother visits with their child for vaccination. The study was done in an aspirational tribal district Dahod, which is home of indigenous tribal people residing in hilly forest area. A Community based cross-sectional study was conducted in an area covered under Rural Health Training Centre (RHTC) which is field practice area of Community Medicine Department of Zydus medical college, Dahod. The Anganwadi centres under the RHTC area were taken in the study, the study participants are postnatal women up to 42 days after delivery. The sample size of 317 was calculated estimating proportion of outcome variable i.e. 4 Ante-natal visits coverage to be 70.9% in tribal district according to NFHS-V.[7] The absolute allowable error was 5% at 95% confidence interval. The data was collected till the required sample size was achieved.

The primary data collection was done using semi-structured questionnaire by recall method after taking written informed consent from each Post-natal mother. The details of antenatal visits and service utilization were asked. All Postnatal mothers (up to 42 days after delivery) willing to participate were included in the study while those who refused to give consent were excluded.

Statistical analysis

MS excel was used to calculate frequency and percentages. Test of one proportion is applied to determine the statistical significance in ANC service utilization and Optimal ANC service utilization packages for which p-value of <0.05 is considered as significant. Also, the clinico-socio demographic variables were compared to Optimal ANC service utilization for which Chi-square test was applied. No harm to the patients was done as it was a questionnaire-based research. Data analysed have no names disclosed in research paper.

RESULTS

Table 1: Clinico-Socio demographic details of the participants in the study (n=329)

Particulars Classification	N	%
Age (years)		
>30	15	4.56
20-30	294	89.36
Below 20	20	6.08
Residence		
Urban	45	13.68
Rural	284	86.32
Religion		
Hindu	317	96.35
Muslim	12	3.65
Occupation		
Clerical/shop owner/farmer	66	20.06
Professional/Semi-professional	1	0.30
Skilled/semi-skilled	12	3.65
Unemployed	123	37.39
Unskilled worker	127	38.60
Socio-economic Classification		
Upper Class	3	0.91
Upper Middle Class	18	5.47
Middle Class	43	13.07
Lower Middle Class	143	43.47
Lower Class	122	37.08
Family Type		
Joint	173	52.58
Nuclear	41	12.46
Three Generation	115	34.95
Parity Status		
Primi-gravida	136	41.33
Second Child	96	29.17
Multi-para	97	29.48

Total 329 participants were enrolled in the study for determination of the ANC services utilization. Clinico-

Socio demographic details of the same are mentioned below in (Table 1).

Table 2: ANC Services utilization by the given study participants (n=329)

ANC Services	Taken	Not taken	Z-statistics	P value*
Ante-natal visits	323 (98.18)	6 (1.82)	2.647	<0.05
TT vaccine	327 (99.39)	2(0.61)	3.66	<0.001
IFA tablets	321 (97.57)	8 (2.43)	2.139	<0.05
Family planning advice	229 (69.60)	100 (30.40)	21.139	<0.001

(*Z-test of one proportion).

Table 3: optimal utilization of the ANC services by the study participants

Services	N	Observed %	Expected %[8]	P value*
Ante-natal visits				
<4	167	50.76	10	<0.001
≥4	162	49.24	90	
One TT vaccine				
Taken	327	99.39	90	Exempted
Not taken	2	0.61	10	
IFA tablets				
<180	135	41.03	10	<0.001
≥180	194	58.97	90	
Timing of first visit				
>12 weeks	229	69.60	25	<0.001
<12 weeks	100	30.40	75	

(*Z test of one proportion).

The given population has 89% of the population within the age group of 20 to 30 years. 86% resides in the rural area. 96% are of Hindu origin while 38% participants work as unskilled worker. 43% and 37% participants belong to lower middle and lower class of Modified B.G. Prasad classification. 52% belongs to joint family. Total 41.3% were primi-gravida mothers (conceiving for the first time). The given (Table 2) shows the utilization of the antenatal services 98.18% of participants have been for Ante-natal visits minimum once. 99.39% have taken TT vaccine while 97.57% have consumed IFA once or more during their Ante-natal period. 69.60% participants received the advice on the family planning services.

Most of the participants uses the ANC packages however optimal utilization is lacking. 49.24% has taken ≥4 ANC visits. 58.97% have taken ≥180 IFA tablets while 30.40% have visited for their first Ante-natal visit within 12 weeks. The given data shows sub-optimum utilization of the antenatal services. Table below shows the comparison the Clinico-Socio demographic profiles of the participants who did not take optimal services. Ante-natal mothers was employed (daily wage worker) and those belonging to lower middle class visited less than 4 times for ante-natal visits. Ante-natal mother below 20 years of age were having lower consumption IFA tablets. >12 weeks for 1st Ante-natal visit was taken by Ante-natal mothers who are employed and belonging to middle class.

DISCUSSION

This study was conducted in the tribal district where there are poor health indicators due to migrant workers. One such indicator of better health is Ante-natal care i.e., taking care of mothers during their pregnancy period. The government provides the antenatal packages for free which includes ante-natal visits, Iron folic acid supplementation and Td vaccination.[8] Here, 329 participants were enrolled in the study for determination of the ANC services utilization. Most of the population was within the age group of 20 to 30 years. 86% resides in the rural area. 96% are of Hindu origin while 38% participants worked as unskilled worker. 43% and 37% participants belong to lower middle and lower class of Modified B.G. Prasad classification. 52% belongs to joint family. 41.3% were primi-gravida mothers (conceiving for the first time).

The utilization of the antenatal services was initiated by almost all people. 98.18% participants have been for Ante-natal visits minimum once while Sarkar et. al found it to be 82%.[9] 99.39% took Td vaccine while 97.57% consumed Iron folic acid tablets at least once during their Ante-natal period. 69.60% participants received advice on family planning services. Most of the participants uses the Ante-natal packages but the optimal utilization is lacking. Rustagi et. al also find the sub optimal utilization of ante natal service.[10] Less than half 49.24% only took more than or equal to four Ante-natal visits which is minimum requirement given by WHO.[11] >95% mothers started with the tablets only 58.97% took ≥180 Iron Folic Acid tablets showing the lack of compliance while Unnikrishnan et. al found the compliance of the iron folic acid tablets to be 64.7%.[12] In 2016, the World Health Organisation (WHO) developed a new ANC model to improve the quality of antenatal care. It recommends that every pregnant woman should start her first ANC session before the gestational age of 12 weeks. A timely initiation of ANC increases the number of maternal and foetal assessments.[13] However in the current study only 30.40% woman visited for their first Ante-natal visit within 12 weeks. Ante-natal mothers who were employed (daily wage worker) and those belonging to lower middle class visited less than 4 times for ante-natal visits. Ante-natal mother below 20 years of age were having lower consumption IFA tablets. >12 weeks for 1st Ante-natal visit was taken by Ante-natal mothers who were employed and belonging to middle class.

Table 4: Comparison of clinico-socio demographic parameters with optimal utilization of the ANC services.

Particulars	Ante-natal visits			IFA tablets			Timing of first visit (week)		
	<4	≥4	P value	<180	≥180	P value	>12	<12	P value
	N (%)	N (%)		N (%)	N (%)		N (%)	N (%)	
Age (years)									
>30	7 (46.67)	8 (53.33)	0.885	4 (26.67)	11 (73.33)	0.011	9 (60)	6 (40)	0.624
20-30	149 (50.68)	145 (49.32)		109 (38.11)	177 (61.89)		207 (70.41)	87 (29.59)	
Below 20	11 (55)	09 (45)		14 (70)	06 (30)		13 (65)	7 (35)	
Residence									
Rural	141 (49.65)	143 (50.35)	0.311	107 (37.68)	177 (62.32)	0.062	197 (69.37)	87 (30.63)	0.813
Urban	26 (57.78)	19 (42.22)		28 (62.22)	17 (37.78)		32 (71.11)	13 (28.89)	
Religion									
Hindu	163 (51.42)	154 (48.58)	0.219	131 (41.32)	186 (58.68)	0.581	218 (68.77)	99 (31.23)	0.091
Muslim	4 (33.33)	8 (66.67)		4 (33.33)	8 (66.67)		11 (91.67)	1 (8.33)	
Occupation									
Unemployed	43 (34.96)	80 (65.04)	0.000	42 (34.15)	81 (65.85)	0.050	75 (60.98)	48 (39.02)	0.009
Employed	124 (60.19)	82 (39.81)		93 (45.15)	113 (54.85)		154 (74.76)	52 (25.24)	
Socio-economic classification									
Upper Class	1 (33.33)	2 (66.67)	0.022	1 (33.33)	2 (66.67)	0.062	2 (66.67)	1 (33.33)	0.000
Upper Middle Class	5 (27.78)	13 (72.22)		5 (27.78)	13 (72.22)		13 (72.22)	5 (27.78)	
Middle Class	20 (46.51)	23 (53.49)		11 (25.58)	32 (74.42)		33 (76.74)	10 (23.26)	
Lower Middle Class	73 (51.05)	70 (48.95)		58 (40.56)	85 (59.44)		97 (67.83)	46 (32.17)	
Lower Class	68 (55.74)	54 (44.26)		60 (49.18)	62 (50.82)		84 (68.85)	38 (31.15)	
Family type									
Joint	87 (50.29)	86 (49.71)	0.750	65 (31.57)	108 (62.43)	0.108	118 (68.21)	55 (31.79)	0.584
Nuclear	19 (46.34)	22 (53.66)		14 (34.15)	27 (65.85)		27 (65.85)	14 (34.15)	
Three Generation	61 (53.04)	54 (46.96)		56 (48.70)	59 (51.30)		84 (73.04)	31 (26.96)	
Parity status									
Primi	63 (46.32)	73 (53.68)	0.159	55 (40.44)	81 (59.56)	0.957	100 (73.53)	36 (26.47)	0.184
Second Child	47 (48.96)	49 (51.04)		39 (40.63)	57 (59.38)		60 (62.50)	36 (37.50)	
Multi-para	57 (58.76)	40 (41.24)		41 (42.27)	56 (57.73)		69 (71.13)	28 (28.87)	

(IFA: Iron folic acid).

There is significant association between age, residence and occupation with lower consumption of IFA tablets, while occupation & socioeconomic classification is associated with sub optimum visits and timing of visits as well.

CONCLUSION

There is suboptimal utilization of the ante-natal service package. Pregnant woman who were daily wage worker

reported less visits and delay in reporting health facility. Pregnant woman belonging to Lower-middle and Middle class reported less visits and delay in reporting health facility.

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