



## Research Article

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# Utilization of Antenatal Care Services in Urban Slums of Nanded City

Sunita P. Pawar<sup>1</sup>, Geeta S. Pardeshi<sup>2</sup>, Shriram Gosavi<sup>3</sup>

<sup>1</sup> Assistant Professor, Dept. of Community Medicine, Dr. Vasantao Pawar Medical College Hospital and Research Centre, Adgaon, Nashik, Maharashtra 422003, India

<sup>2</sup> Professor, Dept. of Community Medicine, Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi, Delhi 110029, India

<sup>3</sup> Associate Professor, Dept. of Community Medicine, Government Medical College, Dhule, Maharashtra 424001, India

## Abstract

**Background:** Complications during pregnancy and delivery are well documented and can be prevented and managed effectively especially with adequate antenatal care. Women in urban slums represent a marginalized community and improving health care utilization in this group remains a challenge. **Objective:** To study existing antenatal care practices and study the factors associated with it among women of reproductive age group in urban slums of Nanded city. **Methods:** This is a community based cross sectional descriptive study carried out from March 2010 to April 2011 in which 400 women reporting delivery in past two years were selected using Probability Proportionate Sampling. Data on Sociodemographic factors and different components of antenatal care were collected using a Semi structured questionnaire. Analysis was done using chi square test. **Results:** Among the 400 women included in the study, coverage of full Antenatal care (ANC) services was reported by 80 (20%) respondents. While 381 (95%) women were immunized with Tetanus Toxoid, only 98 (25%) women had consumed 100 or more Iron and Folic acid tablets, 315 (79%) women had three or more antenatal check-ups and 213 (53%) had registered themselves in first trimester of pregnancy. There was significant association between full antenatal care and woman's education, husband's education and occupation, religion and socio-economic status of family ( $p < 0.05$ ). **Conclusion:** There is a need to improve the utilization of full antenatal care package among women in urban slums with a special focus on early registration and IFA consumption. Sociodemographic variables of reproductive age group women have impact on utilization of antenatal care services. The risk factors identified for low antenatal care service utilization were low educational status of women and their husbands and low socioeconomic status. Special efforts should be made to motivate this group for antenatal care service utilization.

**Keywords:** Antenatal care, Pregnancy, Slum.

## INTRODUCTION

Pregnancy and childbirth pose the risk of morbidity and mortality for women and newborns in developing countries. Complications during pregnancy, delivery and during postnatal period are well documented and many of them can be prevented and managed effectively<sup>1</sup>. Care during pregnancy is important for the health of the mother and the development of the unborn baby.

Antenatal care is the care of woman during pregnancy which is usually provided by a doctor, an ANM, or another health professional<sup>2</sup>. Antenatal check-ups also provide opportunities to health care providers to encourage women to opt for institutional deliveries<sup>3</sup>.

Maternal mortality and morbidity is still high despite the existence of national programs for improving maternal and child health in India. Non-utilization or underutilization of maternal health care services amongst rural poor and urban slum population due to either lack of awareness or access to health care services could be a reason for it<sup>4</sup>.

Urban growth has been exponential in India over the last few decades<sup>5</sup>. Women of childbearing age and children pose risk of ill health and premature deaths in urban slums which lack basic health infrastructure and outreach services<sup>6</sup>.

Urban slum population constitutes a marginalized section of the society. Health status and access of reproductive and child health services of slum dwellers is poor. The information on existing pattern of

### \*Corresponding author:

Dr. Sunita P. Pawar

Assistant Professor, Dept. of Community Medicine, Dr. Vasantao Pawar Medical College Hospital and Research Centre, Adgaon, Nashik, Maharashtra 422003, India  
Email:

drsunitapawar@gmail.com

antenatal care service utilization in urban slums is essential for planning need based health care delivery services to urban slums. The present study is an attempt in that direction.

**Aim & Objectives:** To study existing antenatal care practices among women in urban slums of Nanded city. To study the factors associated with utilization of antenatal care services.

## METHODOLOGY

**Study design and setting:** This community based cross-sectional study was conducted in urban slums of Nanded city from March 2010 to April 2011. There were 58 slums in Nanded city with total population of 1,54,020 as per records obtained from City Municipal Corporation office<sup>7</sup>. The study area situated in the perimeter of 8-10 km away from Government Medical College, Nanded.

**Study population** were women in the reproductive age group (15-45 years) who had delivered in the period January 2008 to December 2009.

**Study Variables:** Socio-demographic variables like age, education, occupation, religion, type of family, socioeconomic status according to Modified Kuppaswamy Status Scale, obstetric history, and different components of antenatal care were recorded.

Full Antenatal Care was defined as registered in First trimester of pregnancy, received at least three antenatal check-ups, two doses or booster dose of tetanus toxoid and consumed 100 or more Iron and Folic Acid tablets.

**Study tool:** The data were collected using a pretested semi-structured questionnaire in local language.

**Sample size:** According to National Family Health Survey-3 (2005-2006) percentage of mothers with three antenatal check-ups was 86% and 31% had consumed IFA tablets for 90 days when they were pregnant for their last child in urban Maharashtra<sup>8</sup>. Considering  $p=31$ , 5% level of significance, 5% absolute error and 20% non-response rate the sample size calculated was minimum of 395 women.

**Sampling procedure** Probability Proportionate Sampling (PPS) was used for deriving appropriate sample from slums<sup>9</sup>.

All 58 slums of the city were arranged as per the list obtained from city Municipal Corporation from 1 to 58 with their respective population and total cumulative population was calculated. It was decided to include 20 slums in the sample. Sampling interval was calculated to be  $7701 = (154,020 / 20)$ . Random number smaller than the sample interval i.e. 1080 was selected by using Random Number Table. As random number 1080 was smaller than total population of 1<sup>st</sup> slum i.e. 3687, thus 1<sup>st</sup> PSU was the 1<sup>st</sup> slum in the list. The sample interval was added to random number to get 8781, which corresponded to the total cumulative population of slum Number 4 which was included in the sample. Likewise the 20 PSUs selected from 58 slums were slum numbers as: 1, 4, 9, 17, 23, 26, 31, 32, 33, 36, 40, 43, 46, 48, 49, 51, 53, 55, 57, and 58

20 respondents were selected from each of 20 PSUs to meet sample size. While selecting households the selected PSUs were surveyed to identify any temple, hospital, mosque or restaurant situated approximately at the centre of the slum and a bottle was rotated there. Survey was started from the lane towards which mouth of the bottle was directed. Each house along the lane was visited and at the end of the lane, survey was continued on lane on left turn to the initial lane till sample size of selected slum was completed. Before commencement of the study, community leaders, Anganwadi workers, ANM, link workers in the study area were visited and rapport was developed with them. They were informed regarding the conduct of study. Information as per

pretested schedule was collected by interviewing women who had delivered in the period from January 2008 to December 2009. If there was no woman in the house satisfying the inclusion criteria then that house was skipped and next house was visited. If there were more than one woman in the house satisfying the inclusion criteria, then all were selected to participate in the study. This survey method was adopted in all selected PSUs.

**Ethics approval:** Before starting the study, methodology and procedure was reviewed and approved by the Institutional Ethical Committee. All the informants were informed about the nature & consequences of the study. After obtaining informed verbal consent, they were interviewed. They were assured of confidentiality about information obtained from them.

**Analysis** was done using chi square test to assess the difference between various proportions.

## RESULTS

A total of 400 women from the selected PSUs were included in the study.

Table 1 describes the distribution of study population according to socio-demographic factors. Maximum number of women (84.25%) were in the age group 20-29 years and husbands (74.94%) were in the age group of 25 to 35 years. Nearly one third (36%) of women were educated up to secondary school. While 30% husbands were educated up to secondary school and nearly half of them (52.63%) were unskilled workers. 67.25% women belonged to socioeconomic class IV according to Modified Kuppaswamy scale. Majority of the deliveries were of the birth order  $\geq 2$  (71%).

Table 2 describes the antenatal care utilization of the respondents. Out of 400 women, 53.25% had registered themselves in first trimester of pregnancy; 78.75% had three or more antenatal check-ups; 95.25% were immunized with tetanus toxoid. Only 24.50% women had consumed 100 or more Iron and Folic acid tablets and only 20% had received full antenatal care.

Table 3 describes the factors associated with complete antenatal care. Higher levels of education of women and husband, occupation of husband, better socio-economic status of family and religion were found to be significantly associated with utilization of antenatal care. There was no significant association observed between antenatal care service utilization and age of women, women's occupation, type of family, birth order.

## DISCUSSION

Full antenatal care service utilization among reproductive age group women was 20% in our study. While ANC utilization was higher in studies conducted at Meerut City, Uttar Pradesh<sup>10</sup> (49.5%), Bhopal, Madhya Pradesh<sup>11</sup> (63.8%), Aligarh<sup>12</sup> (74.3%), Bijapur, Karnataka<sup>13</sup> (87%). One of the reasons for this could be the difference in the definition of full antenatal care. Our operational definition was very stringent and needed fulfilment of all the four criteria to be considered to have received full antenatal care.

The component of antenatal care which had the lowest coverage was IFA consumption. Only one fourth of the women reported consumption of 100 IFA tablets and half had registered their pregnancy in the first trimester. Special efforts are needed to ensure early antenatal registration and improve coverage and compliance of women for consumption of IFA. 24.50% women consumed 100 or more iron folic acid tablets during their pregnancy. IFA consumption was found to be 5.7% in Meerut, Uttar Pradesh<sup>10</sup> and 11.5% in Indore, Madhya Pradesh<sup>15</sup> which was lower than that of our study while higher consumption was seen in study conducted at Aligarh<sup>12</sup> (55.8%), East

Godavari, Andhra Pradesh<sup>14</sup>(76.7%) and Vellore, Tamil Nadu<sup>16</sup> (87.2%). 78.75% women had three or more antenatal check-ups during their

pregnancy while study conducted at Aligarh<sup>12</sup> found 51.4% women had three or more antenatal check-ups.

**Table 1:** Sociodemographic profile of Study population (n = 400)

Sociodemographic characteristic		Frequency	%
Age of Women	<20 years	26	6.5
	20-24 years	220	55
	25-29 years	117	29.25
	≥30 years	37	9.25
Age of Husband	<25 years	23	5.76
	25-29 years	182	45.61
	30-34 years	117	29.32
	≥35 years	77	19.30
Education of women	Illiterate	51	12.75
	Up to Primary school	27	6.75
	Up to High school	260	65
	Intermediate /Diploma	48	12
	Graduate & above	14	3.5
Education of Husband	Illiterate	54	13.53
	Up to Primary school	32	8.02
	Up to High school	188	47.18
	Intermediate/Diploma	85	21.30
	Graduate & above	40	10.03
Occupation of women	Housewife	365	91.25
	Working	35	8.75
Occupation of Husband	Unemployed	4	1.00
	Unskilled	210	52.63
	Skilled/Semiskilled	116	29.07
	Clerk, shop-owner, farmer	40	10.03
	Professional	29	7.27
Religion	Hindu	90	22.5
	Muslim	179	44.75
	Buddhist	131	32.75
Type of family	Joint	226	56.50
	Nuclear	174	43.50
Birth order	1	116	29
	2	133	33.25
	3	87	21.75
	4	44	11
	>4	20	5
Socioeconomic status	Upper (I)	4	1
	Upper middle (II)	35	8.75
	Lower middle (III)	92	23
	Upper lower (IV)	269	67.25

**Table 2:** Antenatal care utilization among reproductive age women (n=400)

Antenatal care	Frequency	Percentage
Registration in first trimester of pregnancy	213	53.25
≥3 Antenatal check-up	315	78.75
≥100 IFA tablets	98	24.50
TT Immunization	381	95.25
Full ANC Care	80	20

**Table 3:** Association of various Sociodemographic factors with antenatal care

Socio demographic factors		ANC				X <sup>2</sup> value	P value
		Yes		No			
		n	%	n	%		
Age of women	< 20 years	5	19.23	21	80.77	0.31	>0.05
	20-24 years	47	21.36	173	78.64		
	25-29 years	20	17.09	97	44.09		
	≥30 years	08	21.62	29	78.38		
Education of women	Middle school & below	26	13.13	169	86.67	10.57	<0.05
	Secondary school & above	54	26.34	151	73.66		
Women’s occupation	Housewife	77	21.10	288	78.90	2.39	>0.05
	Working	3	8.57	32	91.43		
Socioeconomic status	I,II,III	40	30.53	91	69.47	13.51	<0.05
	≥IV	40	14.87	229	85.13		
Husbands education	Middle school & below	24	15.58	130	84.42	7.34	<0.05
	Secondary school	21	17.5	99	82.5		
	Higher secondary school & above	35	28	90	72		
Husbands occupation	Unskilled & below	29	13.55	185	86.45	12.16	<0.05
	Semiskilled & above	51	27.57	134	72.43		
Type of family	Joint	49	21.68	177	78.32	0.92	>0.05
	Nuclear	31	17.82	143	82.18		
Religion	Hindu	17	18.89	73	81.11	9.41	<0.05
	Muslim	47	26.26	132	73.74		
	Buddhist	16	12.21	115	87.79		
Birth order	1	28	23.93	89	76.07	3.71	>0.05
	2	29	22.14	102	77.86		
	≥3	23	15.13	129	84.87		

95.25% women were immunized with Tetanus toxoid in our study which was similar to 89.4% women at Aligarh<sup>12</sup>, 87.2% women at Bhopal, Madhya Pradesh<sup>11</sup> and 76.2% women at Meerut, Uttar Pradesh<sup>10</sup> who were immunized with Tetanus toxoid. 100% coverage was found in studies of East Godavari, Andhra Pradesh<sup>14</sup>

Women's education, husband's education and occupation, religion and socio-economic status of family were found to be significantly associated (<0.05) with antenatal care service utilization. In a study conducted by Neyaz et al.<sup>12</sup> at Aligarh, significant association was reported between antenatal care service utilization and education of women and husband and occupation of husband. Agrawal et al.<sup>17</sup> observed significant association of antenatal care service utilization and education and occupation of husband while age of women was not significantly associated.

The findings of the study can be generalized to slums with similar socio demographic characteristics and availability of health services. The awareness and perception of the community about need for antenatal care has not been studied. This needs in-depth study for which qualitative research methodology is suitable.

## CONCLUSION

The coverage of full antenatal care services was only 20% with 25% reporting consumption of 100 IFA tablets and 53% having registered their pregnancy in first trimester. Some of the sociodemographic variables like low educational status of women and their husbands and low socioeconomic status had an association with utilization of antenatal care services. While there is a need to improve the overall coverage of full antenatal care services in urban slums special focus is needed for this group of women to ensure better utilization of antenatal care services. Initiatives are needed to encourage early

registration of pregnancy along with dispensing and compliance of IFA tables.

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