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## Study of Utilization of Antenatal Care Services in Slum and Non- Slum Areas of Vijayawada City

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### ABSTRACT

Availing antenatal care services appropriately contributes to the prevention of maternal morbidity and mortality both among women and children. As part of antenatal care women receive two doses of tetanus toxoid vaccine, adequate amounts of iron and folic acid tablets, or syrup, to prevent and treat anaemia, and at least three ante-natal check-ups. This study was conducted to know the utilization of antenatal care services by the mothers in slum and non-slum area. Among 304 women 250(82.24 %) women had three or more than three antenatal visits for their last child birth. All women in non-slum area and 98 (64.47%) women in slum area had more than 3 antenatal visits. Complete dose of TT injection was taken by 257 (84.54%) women. Institutional delivery was conducted in 295(97.04 %) women and only 9 women had home delivery. More than half (54.2%) of the deliveries were conducted in private hospitals another 42.8% were conducted in government hospital and 2.9% deliveries were conducted at home. Antenatal care indicators in the present study are higher compared to the national level data. Emphasis should be made to improve the utilization level in order to attain the millennium development goals.

**Keywords:** Antenatal care, Institutional delivery, Iron and folic acid

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## INTRODUCTION

The primary aim of the antenatal care is to achieve a healthy mother and healthy baby at the end of the pregnancy. Health of the mother and child constitutes one of the most serious health problems affecting the community, particularly in the developing countries. Maternal and child health services have seen a spectrum of changes dating from antiquity to the most recent development reproductive and child health program [1]. Despite the international emphasis in the last few years on the need to address the unmet health needs of pregnant women and children, progress in reducing maternal mortality has been slow. Higher utilization of basic maternity health services is necessary for improving the health of the mother [2, 3].

Antenatal care services include provision of at least three antenatal care visits, iron folic acid tablets, two injections of tetanus toxoid, detection and treatment of anaemia and management and referral of high risk pregnancies [4, 5]. First visit should be at 20 weeks or as soon as the pregnancy is known, second visit at 32 weeks and third visit at 36 weeks of pregnancy. Tetanus toxoid first dose (TT-1) given early in pregnancy and second dose (TT-2) is given one month after first dose. Under national nutritional anaemia prophylaxis program pregnant women are provided with iron and folic acid tablets with 100mg of elemental iron and 0.5 mg of folic acid [6].

This study was aimed at assessing the ante natal care services utilized by the mothers during pregnancy in slum area and non-slum areas.

## MATERIAL AND METHODS

After taking an ethical clearance from the institution a cross study was conducted in Vijayawada city from a period of June 2010 to May 2011. Vijayawada city had total population of 8.45 lakh according to census 2001, in which slum population was 2.6 lakh. According to Municipal Corporation, Vijayawada city has 109 slums and 59 wards. Permission was taken from the chief medical officer of Municipal Corporation to conduct the study. Among 109 slums and 59 wards, 10 slums and 10 wards were selected randomly by lottery method. Population of each ward and slum ranged from 5000 to 25000. definition of slum was according to census 2001 and non slum area was defined as the area which had proper housing condition, proper sanitation and water supply with availability of social and health services.

After reaching each slum or non- slum area, all the lanes were numbered and out of them one lane was selected randomly. Within the selected lane all the houses were numbered. The first household was selected randomly, from this house subsequent houses were visited following right hand rule. Mothers who delivered in last 23 months were included in the study. The same procedure was followed till desired Sample of 15 mothers in each ward and slum was obtained. Sample of 16 was collected from last 2 wards and slums to get complete sample of 152. The purpose of study was explained and consent was taken from each participant. Data collection was done by interviewing the mothers of children aged less than 24 months by house to house visit. The information regarding the study variables were recorded on pre-tested structured questionnaire.

Data analysis was done by using MS excel spread sheet. Chi-square test was applied to test the significance .Statistical significance was accepted at  $P < 0.05$ .

## RESULTS

In the present study 154 (50.66%) mothers were in the age group of 21 and 25 years, 53(17.43 %) mothers were below 20 years and only 28(9.21%) mothers were above 30 years . Among 28 mothers who were more than 30 years 26 mothers were from non- slum area. It was observed that 233(76.64 %) women

were literates and only 71 (23.36%) were illiterates. About 214(70.39%) women were from nuclear family, 72 (23.68) were from three generation family and only 18 (5.93) women lived in joint family. About 109 (35.86%) women married before the age of 18 years and 195(64.14%) mothers were married after 18 years.

Among 304 women 250(82.24 %) women had three or more than three antenatal visits for their last child birth. All women in non-slum area and 98 (64.47%) women in slum area had more than 3 antenatal visits. Only 70 % of the women received the antenatal care during the first trimester as recommended and 23 % had first antenatal care visit around fourth or fifth month of the pregnancy. Another 14.5% of women had two or one antenatal visits and 3.3% had no antenatal care visits. Iron and folic acid consumption was 75.66%, which included women who had consumed at least 100 IFA tablets. IFA consumption was higher in non-slum area (85.53%) compared to slum area (65.79%) and this difference was statistically significant ( $p < 0.0001$ ). Complete dose of TT injection was taken by 257 (84.54%) women. TT coverage in non slum area was 94.08% were in slum area it was only 75% and this difference was statistically significant ( $p < 0.0001$ ). Percentage of women who had complete antenatal care was 71.4%. Significantly higher number of mothers in the non-slum area (71.4%) had complete antenatal care compared to the mothers in slum area (57.9%). Almost 42.1% of the mothers in slum area did not utilize all the components of antenatal services.

Institutional delivery was conducted in 295(97.04 %) women and only 9 women had home delivery. more than half (54.2%) of the deliveries were conducted in private hospitals another 42.8% were conducted in government hospital and 2.9% deliveries were conducted at home. Majority of the institutional deliveries (84.7%) were conducted by doctor, another 15.3 % were conducted by other health personal (includes ANM, nurse, LHV). One home delivery was conducted by a relative and rest of the home deliveries were conducted by trained dais. Normal deliveries were 203 (66.73%) and Caesarean section was performed for 101 (33.22%) of women. Significantly higher number of women in non-slum area underwent Caesarian section compared to the mothers in slum area ( $p < 0.05$ ).only 36.9 % of the women had received benefits under janani suraksha yojana.

**Table .1 Socio demographic distributions**

Variable	Slum area (%)	Non-slum area (%)	Total (%)
<b>Age</b>			
15-20 yrs	25.66	9.21	17.43
21-25 yrs	54.60	46.72	50.66
26-30 yrs	18.42	26.97	22.70
31-35 yrs	1.32	17.1	9.21
<b>Education</b>			
Literate	56.58	96.71	76.61
Illiterates	43.42	3.29	23.39
<b>Occupation</b>			
Employed	25.00	26.97	25.99
Unemployed	75.00	73.03	74.01
<b>Economic status</b>			
APL	75.65	100	87.83
BPL	24.35	0.0	12.17
<b>Religion</b>			
Hindu	63.16	72.37	67.76
Christian	31.58	19.74	25.66
Muslim	5.26	7.89	6.58
<b>Type of family</b>			
Nuclear family	71.05	69.74	70.39
Three generation family	19.74	27.63	23.68
Joint family	9.21	2.63	5.93

**Table 2: Distance of the health facility from the residence**

Distance( kms)	Slum (%)	Non slum (%)	Total
< 1	53(34.8)	62(40.7)	115(37.8)
1-2	70(46)	66(43.4)	136(44.7)
3-4	16(10.6)	14(9.3)	30(19.7)
>5	13(8.6)	10(6.6)	23(15.13)
Total	152(100)	152(100)	304(100)

**Table 3: Distribution of the mothers according TT injection taken during pregnancy**

TT injection	Slum No (%)	Non –slum No (%)	Total No (%)	
In complete dose	38(25.00)	9(5.92)	47(15.46)	$\chi^2$ value : 21.17
Complete dose	114( 75.00)	143(94.08)	257(84.54)	p<0.0001
Total	152(100)	152(100)	304(100)	SIGNIFICANT

**Table 4: Distribution of the mothers according to consumption of IFA tablets during pregnancy**

IFA tablets	Slum No (%)	Non-slum No (%)	Total No (%)	
≥100	100(65.79)	130(85.53)	230(75.66)	$\chi^2$ value :16.08
<100	52(34.21)	22(14.47)	74(24.34)	p< 0.000 1
Total	152(100)	152(100.00)	304(100)	SIGNIFICANT

**Table 5: Distribution of the mothers according to their ANC visits**

No of visits	Slum No (%)	Non –slum No (%)	Total No (%)
<3 visits	54(35.53)	0(0.0)	54(17.76)
≥3 visits	98(64.47)	152(100)	250(82.24)
Total	152(100)	152(100)	304 (100)

**Table 6: Distribution of the mothers who had complete antenatal care**

Complete ANC *	Slum	Non-slum	Total	
Yes	88 (57.9%)	129(84.9%)	217(71.4%)	$\chi^2$ value
No	64(42.1%)	23(15.1%)	87(28.6%)	p<0.0001
Total	152(100)	152(100)	304(100)	SIGNIFICANT

\*Complete ANC: three or more than three antenatal visits, 2 TT injections or one booster if 2 TT injections was taken in previous pregnancy within 3 years and minimum intake of 100 IFA tablets

## DISCUSSION

Women are encouraged to register with health functionary as soon as their pregnancy is confirmed in order to receive antenatal care services, in the present study 96.7 % of the women registered their past pregnancy. Our results were higher compared to Coverage Evaluation Survey done by UNICEF [5]. Percentage of women who had three or more than three ANC visits were 82.2 % , results are similar to NFHS-3 Andhra Pradesh (85.4 % ) national level data shows less coverage ( 68.7 % , 62.0%, 49.9%) [5,7,8] were as a study done in Ahmedabad reported higher coverage (89.7 % ) .[3] Were as only 64.7 % of women in slum area had three or more than three visits and 3.3 % of the women had no antenatal care visits , which highlights that women in slum area should be educated and motivated regarding the utilization of services . Percentage of women who received antenatal care in first trimester (70%) were slightly higher compared to coverage evaluation survey 2009 (59.2%) and NFHS -3 Andhra Pradesh (66.1%). [4, 5] Iron deficiency anemia is a threat to safe motherhood and to the health and survival of infants because it contributes to low birth

weight and lowered resistance to infections. IFA consumption rate was higher (75.66%) in our study compared to NFHS 3 (41.2%), CES 2009 (31.6), DLHS-3(46.6%) and study conducted by Seth .J. K at all (62.3%). [3,4,5,8] Appropriate dose of TT immunization was taken by 84.54% of women, similar observation was made by other studies though the immunization coverage was on the higher side more efforts are still required for full coverage of antenatal Tetanus immunization. [3, 4, 5] Percentage of mothers who had full antenatal checkups were 71.4 % lower level of coverage was reported by Padam Singh et al (52.5%), Seth.J.K et al (51.9%) and in CES 2009 (45.7%) [3,7,5]. Study done the urban area of Ahemadabad shows 94.4 % deliveries were conducted in the institutions, similar observation was made in our study ( 97.04%) were as lower results were observed in CES ( 72.9%) , NFHS -3 ( 64.4%) , DLHS-3 (47.0%) this difference may be because of increased awareness and higher accessibility of services in urban area. [3,4,5,8] Among the institutional deliveries majority of the deliveries were conducted in private hospitals (57.2%) as compared to government institutions (42.8%) this could be due to unawareness of various government schemes, poor compliance due to low quality of care at government Health facilities, inadequate referral services. More number of mothers underwent cesarean section in the present study compared to other studies. [5, 8]

Present study shows better indicators among non-slum mothers compared to slum area.

### CONCLUSION

The present study shows higher indicators compared to the national level data but emphasis should be made to improve utilization of services in order to achieve millennium development goals. Utilization of maternal services was higher in the non-slum areas compared to slum areas. More emphasis should be given to increase the utilization of services in the slum area. The health education program needs to be strengthened and a well functioning and feasible referral system should be adopted.

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