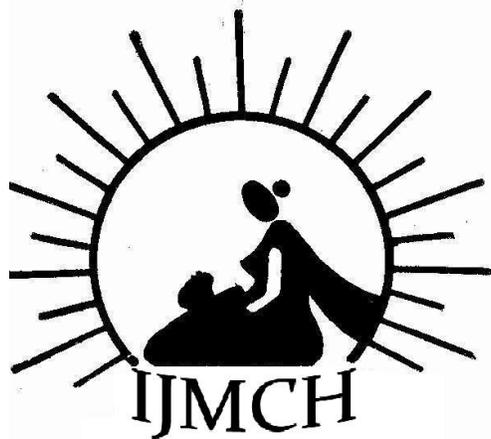


**Comparative Study of Utilization of Antenatal Health Care Services between Urban Slum and Rural Population of Aurangabad District, Maharashtra**

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## **INDIAN JOURNAL OF MATERNAL AND CHILD HEALTH**

Is there any difference between utilization of antenatal care services between urban slum and rural population?

## Comparative Study of Utilization of Antenatal Health Care Services between Urban Slum and Rural Population of Aurangabad District, Maharashtra

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### Abstract

**Research question:** Is there any difference between utilization of antenatal care services between urban slum and rural population?

**Settings:** Study was undertaken from August 2010 to July 2011 in 5 urban slums of Aurangabad Municipal Corporation & 4 villages of Paithan taluka, of Aurangabad district.

**Study design:** A community based, descriptive cross-sectional study

**Participants:** Mothers who had less than 1 year child and should be resident of particular area for previous 2 years or more at the time of interview.

**Methodology:** Simple random sampling was used for selection of urban slums and villages. Antenatal care services which were received was recorded and analyzed.

**Results:** Out of 108 participants from urban slums and 103 participants from rural population, 67.6% and 53.4% had their first ANC visit in 1<sup>st</sup> and 2<sup>nd</sup> trimester respectively. Majority, 88.9% and 76.7% participants from urban and rural population respectively had received two doses of TT. 50.9% from urban slums & 17.5% from rural population respectively had consumed equal to or more than 100 IFA tablets.

**Key words:** *Antenatal care, TT, utilization*

**Introduction:** Pregnancy and birth of a baby is generally a celebrated event in most of the communities. However, in many families, these events may become a symbol of sorrow and grief where mothers depart from their babies and families because of inadequate and poor or nil maternal health services provided to these innocent mothers. These maternal deaths could be prevented by applying simple preventive measures.<sup>[1]</sup>

Preventable maternal deaths indicate gross violation of the basic human right of survival and highlight gross failure of health services on almost all fronts particularly in terms of choice of strategic interventions and their extent of coverage in population.<sup>[2]</sup> Routine antenatal visits may raise the awareness about the need for care at delivery or give women and their families, familiarity with health facilities that enable them to seek help more efficiently during crisis.<sup>[3]</sup>

Maternal mortality and morbidity continue to be high despite the existence of national programs for improving maternal and child health in India<sup>[4]</sup> There is a sharp distinction

between states and between rural and urban areas. It is estimated that 26% live under the poverty line and majority of them in rural areas and urban slums.<sup>[5]</sup>

This could be related to several factors, an important one being non-utilization or under-utilization of maternal health-care services, especially amongst the rural poor and urban slum population due to either lack of awareness or access to health-care services. Understanding of the knowledge and practices of the community regarding maternity care during pregnancy, delivery and postnatal period is required for program implementation.<sup>[4]</sup> In urban poor though services are accessible they may not avail them due to unaffordability, unawareness, feasibility etc and in rural people they may not utilize them due to unaccessibility, illiteracy and cultural factors etc.

So the present study was carried out to compare the utilization of antenatal health care services between urban slum and rural population of a Aurangabad district.

**Material and methods:** Present descriptive community based cross sectional study was conducted for the period of 1 year from Aug 2010 to Aug 2011 after approval of Institutional Ethical Committee, Government Medical College, Aurangabad. For urban setting slums under Aurangabad Municipal Corporation and for rural, villages from randomly selected taluka were taken. Informed consent was obtained from all mothers interviewed. Key indicator for determination of maternal health care delivery utilization is, minimum three antenatal care visits to health care facility. According to NFHS-3 survey 86.3 % and 65.5 % women in urban and rural area respectively had at least three antenatal care visits for their last birth, in Maharashtra.

So for the calculation of sample size rural percentage 65.5 was used as it was less than urban. Sample size was derived with the help of WHO publication on sample size determination.<sup>[6]</sup> Thus the sample size derived was 87 so it was decided to take sample size of > 87 from urban and from rural area each. There were total 53 slums in Aurangabad Municipal Corporation of which 5 urban slums was selected by simple random sampling naming Jaybhim Nagar, Indira Nagar (Baijipura), Fulenagar (Usmanpura), Sanjaynagar and Nagnesen Nagar and for rural first one of the taluka in Aurangabad district selected randomly from the list of talukas in Aurangabad district. Paithan was the taluka selected randomly. List of villages from Paithan taluka was arranged alphabetically and by simple random sampling 4 villages of Taluka Paithan selected naming Pimpalwadi, Dhorkin, Chitegaon and Bidkin. Total 108 and 103 urban and rural respondent women were enrolled for the study.

#### **Data collection in field:**

Before the actual commencement of the study in any slum or village a preparatory visit was made by the investigator to the particular area. A meeting with the Anganwadi Worker (AWW) was made after taking permission from the Child Development Project Officer. The purpose of study was explained to the AWW and medical social worker. One of them was accompanying with the investigator during study in slums. A house to house survey was carried out in all the selected slum areas to identify the women who had less than one year child. The locked houses were revisited twice.

At the time of visit, in every household Anganwadi worker or other medical social worker was accompanying with the investigator. On seeing the familiar personnel, the respondent

women were co operative. The utilization of antenatal health care services was assessed with the help of predesigned pretested questionnaire. Questions were asked regarding her age, literacy status, occupation and income, religion, registration of pregnancy, number of ANC visits paid, time of first ANC visit, administration of TT injection, consumption of iron and folic acid tablets, place of delivery etc.

The data was compiled, analyzed and tabulated with the help of Percentages. Chi square test, Fisher exact test was applied for the analysis.

### Observations:

**Table I: Comparison of urban and rural respondent women according to sociodemographic variables**

Variables	Urban n=108	Rural n=103	$\chi^2$	d (f)	P value	Statistical significance
<b>A) Age group (in Years)</b>						
≤ 20	18 (16.7)	24 (23.3)	7.25	3	> 0.05	NS
21-24	34 (31.5)	43 (41.8)				
25-28	36 (33.3)	27 (26.2)				
≥ 29	20 (18.5)	9 (8.7)				
<b>B) Educational status</b>						
Illiterate	21 (19.4)	24 (23.3)	8.56	4	>0.05	NS
Primary School	8 (7.4)	17 (16.5)				
Middle School	43 (39.8)	41 (39.8)				
High School	24 (22.2)	17 (16.5)				
Intermediate	9 (8.3)	2 (1.9)				
Graduate	2 (1.9)	2 (1.9)				
Post graduate	1 (0.9)	0 (0.0)				
<b>C) Religion</b>						
Hindu	25 (23.1)	23 (22.3)	48.71	2	<0.01	HS
Muslim	20 (18.5)	63 (61.2)				
Buddhist	61 (56.5)	17 (16.5)				
Christian	2 (1.9)	0 (0.0)				
<b>D) Occupational status</b>						
Housewives	96 (88.9)	82 (79.6)	2.77	1	>0.05	NS
Non agricultural worker	7 (6.5)	4 (3.9)				
Agricultural worker	4 (3.7)	13 (12.6)				
Owner & Cultivator	1 (0.9)	4 (3.9)				
<b>E) Socio-economic class</b>						
Class I	5 (4.6)	1 (0.9)	22.16	2	<0.01	HS
Class II	38 (35.2)	16 (15.5)				
Class III	44 (40.7)	38 (36.9)				
Class IV	21 (19.4)	44 (42.7)				
Class V	0 (0.0)	4 (3.9)				

In the present study out of 108 urban and 103 rural respondent women 16.7% and 23.3% are less than 20 years respectively. 19.4% women in urban area and 23.3% women in rural area are illiterate. About 10.2% women in urban and 21.6% women in rural area are worker by occupation. Most of the women 40.7% in urban area are belonging to class III socioeconomic class and most of the women in rural area 42.7% are belonging to class IV socioeconomic class and this difference is found to be stastically significant.

**Table II: Difference between urban and rural participants according to number of antenatal visits paid**

Number of Antenatal visits	Urban	Rural	
No visit	1 (0.9)	6 (5.8)	$\chi^2=7.88$ d.f.=2; p < 0.05
< 3 visits	32 (29.6)	42 (40.8)	
$\geq 3$ visits	75 (69.4)	55 (53.4)	
<b>Total</b>	<b>108 (100)</b>	<b>103 (100)</b>	

(Figures in parenthesis indicates percentages)

0.9% women in urban and 5.8% women in rural area had not taken any antenatal visit. 29.6% women in urban and 40.8% women in rural area have paid less than 3 antenatal visits. 69.4% and 53.4% women in urban and rural area respectively have paid 3 or more than 3 antenatal visit.  $\chi^2$  test revealed significant difference between urban and rural respondent women and number of antenatal visits paid showing significantly more urban respondent women paid equal to or more than three antenatal visits.(p<0.05).

At least 3 antenatal visits should be paid by pregnant women; it is vital to start it in 1<sup>st</sup> trimester. Table 2 shows most of the women 67.6% paid their first antenatal visit in 1<sup>st</sup> trimester in urban area and most of the women 53.4% had their first antenatal visit in 2<sup>nd</sup> trimester in rural population.

$\chi^2$  test observed highly significant difference between urban and rural respondent women and time of first antenatal visit showing more number of urban women attended antenatal care in 1<sup>st</sup> trimester than rural (p<0.01)

**Table III: Distribution of urban and rural respondent women according to time of first antenatal visit**

Time of first antenatal visit	Urban	Rural	
1) 1 <sup>st</sup> trimester	73(67.6)	42(40.8)	$\chi^2$ with Yates correction = 14.23 d.f.= 1; $p < 0.01$
2) 2 <sup>nd</sup> trimester	33(30.6)	55(53.4)	
3) 3 <sup>rd</sup> trimester	1(0.9)	0(0.0)	
4) No	1(0.9)	6(5.8)	
<b>Total</b>	<b>108 (100)</b>	<b>103 (100)</b>	

(Figures in parenthesis indicates percentages)  
(Row 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> were pooled together)

**Table IV: Comparison of urban and rural respondent women according to TT doses received.**

TT immunization	Urban	Rural	
Complete immunization	101 (93.5)	84 (81.5)	$\chi^2 = 7.04$ d.f.=2; $p < 0.05$
Incomplete immunization	4 (3.7)	12 (11.7)	
Not immunized	3 (2.8)	7 (6.8)	
<b>Total</b>	<b>108 (100)</b>	<b>103 (100)</b>	

(Figures in parenthesis indicates percentages)

In present study majority of the women 93.5% and 81.5% from urban and rural area respectively had completely immunized with tetanus toxoid. While 2.8% women in urban area and 6.8% women from rural area had not immunized with tetanus toxoid.  $\chi^2$  test shows significant difference between urban and rural respondent women and tetanus toxoid immunization taken.

**Table V: Difference between urban and rural participants according to IFA tablets consumed.**

IFA tablet Consumed	Urban	Rural	
1) $\geq 100$	55(50.9)	18(17.5)	$\chi^2 = 26.11$ , d.f.= 2; $p < 0.01$
2) $< 100$	45(41.7)	71(68.9)	
3) Not taken	8(7.4)	14(13.6)	
<b>Total</b>	<b>108 (100)</b>	<b>103 (100)</b>	

(Figures in parenthesis indicates percentages)

Of 108 urban respondent women majority 50.9% had consumed equal to or more than 100 IFA tablets and of 103 rural respondent women majority 68.9% had consumed less than 100 IFA tablets

Significant difference found between IFA tablets consumed by urban and rural respondent women. In urban higher number of respondent women consumed more than 100 IFA tablets than rural counterpart ( $p < 0.01$ ).

**Table VI:- Distribution of urban and rural respondent women according to place of delivery.**

Place of delivery	Urban	Rural	
Hospital	107 (99.1)	93 (90.3)	Fisher exact test $p < 0.01$
Home	1 (0.9)	10 (9.7)	
<b>Total</b>	<b>108 (100)</b>	<b>103(100)</b>	

(Figures in parenthesis indicates percentages)

Of 108 urban and 103 rural respondent women as many as 99.1% and 90.3% had hospital delivery respectively.

Fisher exact test showed highly significant difference between urban and rural women with respect to Place of Delivery ( $p < 0.01$ ).

**Discussion:** Present study shows differences between urban and rural areas with respect to Antenatal care utilization. More number of urban respondent women paid 3 antenatal visit compared to rural areas. Rural study done by Das R et al<sup>[7]</sup> showed 25.4% women paid more than 3 ANC visits which is less than our study. In our study 67.6% and 40.8% paid their first antenatal visit in 1<sup>st</sup> trimester in urban and rural area respectively. Urban (Indore) study carried out by Agarwal S et al<sup>[8]</sup> found that 70.5 % women had their first antenatal visit in first trimester which is more than our study. Sagir A et al<sup>[9]</sup> in his rural study showed 38.4% women had their first antenatal visit in first trimester these findings were similar with our study.

In present study majority of 88.9% urban women had received two doses TT and in rural majority 76.7% had received two doses TT. Urban study carried out by Khan Z et al<sup>[10]</sup> showed, 78.2% women received two doses dose of TT whereas only 2.2% received one doses dose of TT and 19.6% women did not receive TT dose. Das R et al<sup>[7]</sup> in rural study observed that 53.4% women received two doses or one booster dose of TT.

Urban study carried out by Agarwal S et al<sup>[8]</sup> found that 76.3% participants consumed less than 100 IFA tablets while 11.5% participants consumed more than 100 IFA tablets and rest 12.2% did not consume IFA tablets.

Agarwal N et al<sup>[11]</sup> in his rural study showed 90.6% women had received two doses of tetanus toxoid which is similar to our study. In our study 50.9% women had consumed equal to or more than 100 IFA tablets while in rural area 68.9% had consumed less than 100 IFA tablets. Varma GR et al<sup>[12]</sup> in his rural study observed that 53.1% women consumed less than 100 IFA tablets which is less than our study.

**Conclusion:** In rural area awareness regarding three or more antenatal visits and registration of pregnancy in first trimester should be emphasized through health education campaign. Importance of consumption of more than 100 IFA tablets during pregnancy period should be stressed in rural women by increasing their educational status and through strengthening primary health center activities and health education. Present study showed

more number of urban women has got assistance of obstetrician during delivery; government should take steps to provide specialized obstetric care in rural areas where majority of population lives.

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