

## A STUDY OF MATERNAL CARE SERVICES UTILIZATION IN DISTRICT AGRA

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## ABSTRACT:

A cross-sectional, community based study was conducted in the year 2008 on 120 rural, 120 urban elite and 120 urban slum areas mothers, who delivered within last three months. The study reported that mothers who received three or more antenatal visits were 52 percent. Regarding in different areas, 80% of the urban area women received antenatal checkups as compared to the 61.7% urban slum and 52.5% rural mothers. In district Agra, it was found in the study that 58.3% mothers received full doses of TT while 40.5% mothers not received any dose of TT. IFA tablets acts as a limiting factor which lowers down the overall ANC utilization. In the present study, more than three-fourth (78.3%) mothers had home deliveries. Maximum deliveries were conducted by the trained or untrained dais (rural-50%, urban-32.5% slum-43.3% and district-44.8%). Postnatal services were utilized by one-fourth (23.8%) mothers.

## Introduction :

Maternal deaths are only a tip of iceberg. Many women survive pregnancy, childbirth or abortion, but suffer from serious physical impairment of infections that lead to long term health problems. While half a million women die each year from the complications of pregnancy and childbirth, other ten million suffer from non fatal health problems that may affect their health. According to a survey carried out in five developing countries, seven out of ten women reported health problem related to last pregnancy, delivery, or postpartum period or due to chronic conditions resulting from childbirth. 11 to 17 percent of maternal deaths happen during child-birth itself and 50-71% in the postpartum period. Most of these mortalities and morbidities are due to conditions that are preventable.

The Millennium Development Goals place health at the heart of development. Goal 5 of the Millennium Development Goals is 'Improvement of Maternal Health' and target 6 is to reduce maternal mortality ratio by three quarters before 2015 with reference to MMR in the year 1990.

So it is important to enquire into the factors that are leading to this high mortality and the steps required for containing it. Proper antenatal, natal and postnatal care is a sure way which can substantially reduce maternal mortality. So this study has been taken up to know the status of maternal care services utilization by mothers of Agra district.

## Materials and Methods :

A cross-sectional, community based study was conducted in the year 2008. The sample size was drawn by making the use of data on maternal care from National Family Health Survey-III (2005-2006), which reported that mothers who received three or more antenatal visits were 52 percent. The sample size came to be 93 with 20% margin of error, which was increased and rounded off to 120. 120 mothers were taken from each area i.e. rural, urban elite and urban slum areas, so a total of 360 respondents were selected through multi-stage random sampling technique, in district Agra. The respondent's women were who delivered within

last three months in these selected areas. The informed consent was obtained from all the mothers taken in the study. Respondent women were interviewed using pre-designed schedule and data, thus collected, was analyzed using SPSS 16.0 version and valid inferences were drawn. In district Agra, rural population is 57% and urban population is 43%. Urban elite and urban slum populations are almost equal. So according to the distribution of population, U-R population adjusted rate was calculated for the district and depicted as District percentage.

## Results and Discussion :

In the present study, it was found that 60% of the respondents have been registered for antenatal check-ups. Regarding in different areas, 80% of the urban area women received antenatal checkups as compared to the 61.7% urban slum and 52.5% rural mothers. NFHS-III data for UP for antenatal coverage is 66% which is comparable to our findings. Other studies<sup>1,2,3</sup> also reported almost similar findings. 22.3% of women received only single visit while 21.7% of mothers had three or more antenatal visits. More ANC's were observed in urban mothers as compared to the urban slum or rural mothers. However, other studies<sup>1,4,5,6,7</sup> found much higher rates of antenatal visits as compared to our study which was due to higher educational status of mothers or their husbands in those study areas and also inter-state variations (Table-1).

In district Agra, it was found in the study that 58.3% mothers received full doses of TT while 40.5% mothers not received any dose of TT. In urban elite, full TT coverage was 80% while in urban slum and rural nearly half of the mothers had it while NFHS-3 for India reported that more than three-fourth (76%) mothers received TT which is higher than our results but for UP, this survey reported that two or more TT doses were received by 65% of mothers which is consistent to our findings. About 50% of mothers purchased and consumed some IFA tablets (56.1% and 45.6% respectively). In rural and urban slums, 51.7% and 42.5% mothers received some IFA tablets while in urban elite this percentage was 76.7.



Regarding consumption, about 40% mothers in rural and urban slum (40% and 42.5%) were found consuming IFA tabs, while in urban elite, 63.3% consumed it. All these differences in different areas were found to be statistically significant ( $p < 0.0001$ ). The rate of consumption of 90 or more IFA tabs was found to be very low in all the three areas being 3.3%, 16.7% and 0.8% in rural, urban and urban slum areas respectively. Sharma RK et al (2007)<sup>14</sup> in his study among tribes of MP found that nearly half of the mothers had not taken any IFA tablets. However, other studies<sup>10,12,13</sup> reported higher vaccination status of respondents and IFA consumption, as the study area was different where respondents were more educated and also the better availability of health services. So it is the need of time to upgrade the maternal health services and increase the level of knowledge in the reproductive age group women, as majority of the women in UP are not even aware of getting services and others are not allowed or permitted by social customs to utilize the services. Other step may be by increasing educational status of females to make them empowered to make decisions for utilizing maternal and other health services.

Full antenatal package i.e. three or more antenatal checkups, two doses/ booster of TT and  $\geq 90$  days IFA was consumed by only 6.3% mothers. Studies conducted in Kerala<sup>4</sup> and Kolkata<sup>5</sup> reported it to be more than 80% which is much higher than our findings while the data of UP for the same provided by the NFHS-3<sup>8</sup> is consistent with our observation denoting still very high scope of work to be done in this field. In our study we observed that the coverage of other component of ANC package was high but the supply and consumption of IFA tablets are not adequate thus IFA tablets consumption acts as a limiting factor which lowers down the overall ANC utilization. It needs the efforts targeted to increase the awareness level among providers (ANM, etc.) and also to increase the acceptability among the beneficiaries.

In the present study, more than three-fourth (78.3%) mothers had home deliveries. Institutional deliveries were 21.7%, which were 11.7%, 46.7% and 23.3% in rural, urban elite and slum area respectively. Among institutional deliveries, in district Agra, almost similar percentage had delivery at government (11.5%) or private centre (10.1%), in rural more deliveries took place at government centres (8.3%) than private while in urban elite private institutional deliveries (26.7%) outnumbered govt centres and in slum areas equal number of deliveries at government or private centers (11.7%) (table-2). Bhasin SK et al<sup>11</sup> (2007) in urban Delhi reported that except three deliveries (0.7%) which were domiciliary deliveries, rest were institutional deliveries. Banerjee B<sup>3</sup> also reported very high number of institutional deliveries. The reasons for these differences are probably due to differences in literacy levels or presence of better primary health-care facilities in these study areas.

NFHS-III (2005-06)<sup>8</sup> reported for India that less than forty percent (38.7%) of births in India take place in health facilities. Births in health facilities are almost equally divided

between those take place in private (20.2%) or public (18.0%) institutions. Two-thirds of deliveries in urban areas (67.5%) and 29% of deliveries in rural areas take place in health facilities. Same survey<sup>8</sup> reported that four out of every five births in UP takes place at home; only one in five births take place in a health facility. However, the percentage of births in a health facility during the last three years have increased from 15% in NFHS-II to 22% in NFHS-III, which is almost identical to our study.

Nandan D et al<sup>2</sup> in a study in Agra slums found that the majority of deliveries (57.50%) were conducted at home, 10.83% of deliveries at government hospital, and 0.83% at sub center (D-type center) and 30.85% at private hospitals. Institutional deliveries are more in our study due to time lag and study area variations.

Maximum deliveries were conducted by the trained or untrained dais (rural-50%, urban-32.5% slum-43.3% and district-44.8%). The respondents could not differentiate between trained/untrained dais. The second commonest person performing the delivery was family members/relatives in rural and slum area (38.3% and 17.5% respectively) while in urban elite, it was private doctor (26.7%) which was least common in rural and urban slum. Skilled birth attendant (nurse/ ANM and doctors) was seen in 27.4% of home deliveries (i.e. 11.6% in rural, 57.5% in urban and 39.2% in slums) (Table-2). Agarwal P et al (2007)<sup>16</sup> reported that majority had hospital delivery conducted Doctor or nurse/ ANM (68.2%) and by a trained dai in home delivery (66.6%), while in our study delivery by a doctor is only 17.4%, the lower figures in our study are due to over all better availability of services in Delhi and also that all stratas of district are included in our study.

Singh A et al<sup>15</sup>, Banerjee B<sup>5</sup>, Sreelatha S<sup>4</sup> all reported more number of institutional deliveries compare to our study due to high literacy or socio-economic of their study group.

NFHS-III (2005-06)<sup>8</sup> reported for India that 47% of births were assisted by health personnel, including 35% by a doctor & 10% by ANM, nurse, midwife or LHV. More than one-third of births (37%) were assisted by a traditional birth attendant (TBA) and 16% were assisted by only friends, relatives or other persons. Same survey in UP<sup>8</sup> reported that only a little over one quarter (27%) of births during the past five years took place with assistance from a health professional and 40% were delivered by a traditional birth attendant. The remaining 33% were delivered by a relative or other untrained person. Nine percent of home births were assisted by health personnel which is almost identical to our observations.

Postnatal services were utilized by one-fourth (23.8%) mothers which were as low as 13.3% in rural areas while it was 50% in urban elite area. Among the women who received postnatal services, mostly were those who delivered at the medical health facilities (21.7%). All the mothers receiving postnatal care from health facilities naturally got it within first two days. However, one third of home delivered mothers received it after two days, the proportion in urban elite being



only one-fourth (2.5% and 0.8%) while one half in rural area (0.8% and 0.8%) (Table-2). Agarwal P et al (2007)<sup>16</sup> in New Delhi reported that PNC was not sought by 84% mothers, and only 16% receiving ANC visited either hospital or PHP for PNC. NFHS-III (2005-06)<sup>8</sup> reported for India that majority of women (58%) did not receive any postnatal checkup after their most recent birth. Births to be followed by a postnatal check-up are almost twice in urban mothers (66%) than rural mothers (34%). For U.P. in the same survey, only 15% of mothers had received post-natal check-ups and 13.3% were within two days of delivery. These all findings are somewhat adjacent to the figures in our study.

Awasthi S et al (2008)<sup>1</sup> in urban slums of Agra district reported that postnatal services were utilized by 44.16% of mothers (i.e. mothers visited any health facility after delivery within two weeks). Banerjee B (2006)<sup>5</sup> and Singh A et al (2007)<sup>15</sup> found in study that more mothers had post-partum

visits to any health facility, which are much more than our study due to variations in the study states.

The very low utilization of PNC services as compared to even the antenatal services, needs special attention. Lot of work ought to be done to increase the demand among mothers for PNC visits, which they felt it to be a least important matter. The health workers should be trained to sensitize the lactating mothers for the increment of these low figures.

Effective safe motherhood interventions need to be implemented at all levels of a country's health system. Research shows, however, that in many settings, improving services that already exist, investing in upgrading the skills and competence of health care providers and enhancing referral systems can have significant impact. The most successful health care programs especially maternal services can be enacted as part of a coordinated effort and with commitment at both the community and government levels.

Table 1  
UTILIZATION OF ANTENATAL SERVICES

Services		Rural n(%)	Urban elite n (%)	Urban Slum n (%)	District (%)	$\chi^2$ -value
Antenatal Registration		63 (52.5)	96 (80)	74 (61.7)	(60.4)	* $\chi^2$ -20.609;df-2
Antenatal Visits	1 Visit	30 (25)	20 (16.7)	25 (20.8)	(22.3)	** $\chi^2$ -37.287; df-8
	2 Visit	7 (5.8)	20 (16.7)	20 (16.7)	(10.5)	
	≥3 Visits	26 (21.7)	56 (46.6)	29 (24.2)	(27.6)	
Tetanus Vaccination	No TT	57 (47.5)	24 (20.0)	52 (43.3)	(40.5)	** $\chi^2$ (Vac: Not Vac) - 24.187; df-2;
	TT1	1 (0.8)	1 (0.9)	2 (1.7)	(1.2)	
	TT2/B	62 (51.7)	95 (79.2)	66 (55)	(58.3)	
IFA consumed	Nil	72 (60)	44 (36.7)	69 (57.5)	(54.4)	** $\chi^2$ -34.145; df-4
	<90	44 (36.7)	56 (46.7)	50 (41.7)	(39.9)	
	≥90	4 (3.3)	20 (16.7)	1 (0.8)	(5.7)	
Blood for Haemoglobin		6 (9.5)	51 (53.1)	27 (36.5)	(27.9)	** $\chi^2$ -31.379;df-2
Urine Examination		5 (7.9)	45 (46.9)	11 (14.9)	(20.5)	** $\chi^2$ -31.379;df-2
Antenatal Problem Faced		30 (25)	11 (9.2)	18 (15)	(19.4)	$\chi^2$ -11.230;df-2;p-0.0036
Complete ANC Package		4 (3.3)	20 (16.7)	1 (0.8)	(5.7)	** $\chi^2$ -26.909;df-2

\*p<0.001; \*\*p<0.0001 Percentages in parenthesis; [% in bracket are drawn out of registered women].

Table 2  
UTILIZATION OF NATAL AND POSTNATAL SERVICES

Services		Rural n(%)	Urban elite n (%)	Urban Slum n (%)	District (%)	$\chi^2$ -(df-2)
Place of Delivery	Home	106(88.3)	64(53.3)	92(76.7)	(78.3)	$\chi^2$ -(Home Vs Inst)- 38.473; df-2; p<0.0001; $\chi^2$ -(overall)-77.337; df-10; p<0.0001
	Government Institution	10(8.3)	24(20.0)	14(11.7)	(11.5)	
	Private Clinic/ Nursing home	4(3.3)	32(26.7)	14(11.7)	(10.1)	

Table Contd.



Personnel conducting Delivery	Family/Member/Relatives	46(38.3)	12(10)	21(17.5)	(27.8)	$\chi^2$ -74.694; df-8; p<0.0001
	Trained/Untrained Dai	60(50)	39(32.5)	52(43.3)	(44.8)	
	ANM/LHV/Nurse	9(7.5)	13(10.8)	19(15.8)	(10)	
	Govt. Doctor	1(0.8)	24(20)	14(11.7)	(7.3)	
	Private Doctor	4(3.3)	32(26.7)	14(11.7)	(10.1)	
Postnatal Visits	No	104(86.7)	60(50)	89(74.2)	75.9	$\chi^2$ -(Visit Vs No visit)-39.922 df-2;p<0.0001
	Yes	16(13.3)	60(50)	31(25.8)	23.8	

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