

# Utilization of Maternal Health Services in Slums of Rajasthan

Arvind Singhal

**Abstract—** Utilization of health services is a complex behavioral phenomenon affected by multiple factors including availability, distance, cost and quality of care as well as personal attitudes, cultural beliefs and socio-economic characteristics. Mothers and children constitute a vulnerable group or special risk group in a community. This is more so with those residing in slum where the access to and affordability of healthcare is compromised on account of various reasons. These slums have limited access to basic amenities and the same time living conditions are unhygienic. These unhygienic conditions propagate the number of diseases. Most of these causes of maternal deaths are well known and are largely preventable by increasing access to and utilization of available maternal health services. It is essential that all pregnant women have access to high quality maternal health care throughout their pregnancies.

Present cross-sectional study was carried out to explore the Knowledge, Attitude and Practices of slum dwellers with special reference to utilization of maternal health services and to analyze the relationship of socio-economic and demographic factors influencing utilization of maternal health services. A total of 359 residential households were set as sample size for the study in all selected cities of Rajasthan State. Home deliveries and unsafe deliveries are still widely prevalent in slums. The percentage of utilization of ANC, PNC and Family Planning (FP) services was found to be very poor and THIS IS not only affected by lack of medical facilities but social determinants like education, income, myths and misconceptions prevalent in the society. A sustained and focused IEC campaign to improve the awareness amongst community on MCH will help in improving community participation. The current study also highlighted the importance of access issues to healthcare seeking behaviour. These factors involved costs associated with seeking treatment, distance and the time taken to travel to healthcare facilities.

## I. INTRODUCTION

Utilization of health services is a complex behavioral phenomenon affected by multiple factors including availability, distance, cost and quality of care as well as personal attitudes, cultural beliefs and socio-economic characteristics. This is an outcome of social process in which individual as well as other structural characteristics play an important role. The pattern of association between individual characteristics i.e. knowledge, beliefs, attitude and practices prevalent in the society and the utilization of maternal healthcare services depends on the social context of society. There are numerous factors which

determine the behavior of the particular individual seeking health services.

Mothers and children constitute a vulnerable group or special risk group in a community. This is more so with those residing in slums and rural areas where the access to and affordability of healthcare is compromised on account of various reasons. Pregnancy and child birth are special events in a women's life but during this period they are more vulnerable to morbidity and mortality. India is amongst those countries which has high Maternal Mortality Rate (MMR). Statistics reveal that every seven minutes an Indian woman dies from complications related to pregnancy and child birth. Most of these causes of maternal deaths are well known and are largely preventable by increasing access to and utilization of available maternal health services. Availability, accessibility, acceptability and affordability of maternal services are important to reduce maternal mortality as well as morbidity. Though the maternal health indicators of urban population are better than those of rural population; however conditions of urban slums are worse than rural areas.

The rapid urbanization has lead to increase in migration of population from rural to urban areas in search of livelihood and created shortage of houses in urban areas. This has lead to development and enhanced growth of slums. These slums have limited access to basic amenities and at the same time living conditions are unhygienic. These unhygienic conditions propagate a number of diseases. Women in slums live in unhygienic and unsanitary conditions without basic amenities like safe drinking water, sanitation, lightening and toilet facilities. These conditions are the breeding grounds for diseases and are responsible for maternal mortality and morbidity. The fast growth of slums has deleterious repercussions on health of the urban poor and because of this maternal health status of urban slum women is worse as compared to rural women. Therefore it is necessary to identify issues which have greater impact on maternal health and contribute towards maternal mortality and morbidity. Looking to the rapid rate of urbanization of cities of Rajasthan and poor health conditions among slum dwellers, which comprise a large section of our population especially in cities, it becomes very crucial to understand health seeking practices of slum residents and also identify key factors which influence utilization (availability, accessibility, acceptability & affordability) of maternal health services. As health and other aspects of living are much neglected components in the urban slum population, thus leading to neglect and ignorance of health issues especially amongst women of the reproductive age and children which constitute a major "high risk" group amongst this population.

Arvind Singhal, Research Scholar, Department of Population Studies, MDS University, Ajmer, Rajasthan.

## II. OBJECTIVES

Keeping in mind the above facts, the present study was carried out with the following objectives:

1. To study the availability of healthcare delivery system in urban areas.
2. To study the availability of Maternal Health services in slums.
3. To explore the Knowledge, Attitude and Practices of slum dwellers with special reference to utilization of maternal health services by women residing in the slums.
4. To analyze the relationship of socio-economic and demographic factors influencing utilization of Ante-Natal Care.
5. To analyze the relationship of socio-economic and demographic factors influencing utilization of safe delivery & Post Natal Care services.
6. To find out the socio-economic and demographic factors governing Family Planning services.

## III. METHODOLOGY

The study was undertaken in the slums situated in Jaipur, Jodhpur, Ajmer and Kota cities of the Rajasthan State. These cities were selected based on the level of urbanization. The present study is population-based 'Cross-Sectional Design' in nature and Systematic Random Sampling technique was used for identifying slums i.e. Primary Sampling Units (PSUs). To have a good representative sample of the target group, 2-3 slums i.e. Primary Sampling Units (PSUs) were selected from the selected cities. However a minimum of 2 PSUs were selected in Ajmer, Kota and Jodhpur city but 3 PSUs were selected in Jaipur looking to the size of urban population, number of slums available and level of urbanization as compared to other cities. Thus, in total 9 slums were selected from the four identified cities. Within each PSU, 41 residential households were selected by using systematic random sampling procedure after house listing. Thus, in all around 359 ( $\pm 5$ ) residential households were set as sample size for the study in all selected cities. Sample size was calculated using survey method with 95% confidence level and 5 confidence interval. The household listing was carried out in each of the selected Primary Sampling Unit (PSU) prior to data collection for providing frame for selecting the households. Non-residential households were not included during the listing of households. The first household was selected near to landmark of the slum. Sampling interval was calculated dividing total number of households available in particular slum by the number of households to be interviewed and interval household was selected for interview target group so that representative sample may be obtained.

Quantitative research method was used in the study and primary data was collected from the women of 15-49 years of age who are pregnant and mothers having children less than one year of age with the help of interview schedule. The secondary data regarding availability of health services, demographic and socio-economic profile were also gathered from the data published by the Census department,

reports/records of Medical & Health Department and district statistical handbook of Government of Rajasthan for study purpose. Three types of interview schedules for pregnant women & lactating mother and household were developed to gather relevant information to get desired output.

Informed consent of the women was taken before the administration of the schedule. Ethical clearance was obtained before commencing the study. Data were entered into the computer with IBM SPSS PASW 18.0 trial version software and were analyzed using this software. Results are presented in the form of tables and percentages.

## IV. FINDINGS

### A. Socio-Economic Profile

Findings shows that 23% of the household population was in the age group of 25-29 years. 95.80% head of the households were male and 4.20% were female. The average household size was calculated 4.49 persons per household. 58.54% of the head of the households are in the age group of 20-30 years and about one fourth i.e. 23.53% of the head of the households were educated up to middle level. 89.92 % of the household population belonged to the Hindu religion and 55.74% of households were from Schedule Caste (SC) community. 85.99% households earn their bread and butter through daily wages and 68.63% of families belonged to the class III (Rs. 1671-2785) group according to modified B. G. Prasad's classification for socio-economic status. The average monthly income was calculated Rs. 4552.66 per household. 27.45% of households live in Kaccha house, 27.45% households had semi-pucca and 27.73% households had pucca house. Remaining 17.37% households did not have any type of house and stays in streets and pavements. Two third 69.75% of the households did not have source of electricity in their houses and 27.45% households had electricity. 38.93% households were dependent on community/public tap for drinking water. 22.97% of the households used piped water in their premises but 77.03% households did not have piped water in their residential premises. 57.70% households did not have toilet facility in their houses and this population was using open fields for defecation. 41.46% of the households had toilet facility using either piped water or water from a bucket for flushing in their households. 65.83% of the households cooked their meals by using wood/dung cakes. 58.26% households possess Television and 34.73% Radio as a source of entertainment in their households. 44.82% had mobile phone facility in their households. Bicycle was the most commonly owned means of transport in slums of selected city in the study. 74 % of the target women were in the age group of 21-30 years. The Mean age of the women was calculated 24 years. More than 50% of target population was informally educated or had no education.

Table2 (a): Socio-Economic Profile of the Study Population

Housing Characteristics	Percentage
<b>Type of House</b>	
• Kachha	27.45
• Pucca	27.73
• Semi-Pucca	27.45
• No House	17.37
<b>Source of Lighting</b>	
• Electricity	69.75
• Kerosene	27.45
• Nothing	2.80
<b>Source of Drinking Water</b>	
• Piped Tap(Govt./Private)	22.97
• Public Tap	38.93
• Hand pump/Tube well/Bore well	27.45
• Water Tanker	10.64
<b>Sanitation Facility</b>	
• Availability of Toilet (Any type)	41.46
• Non-availability Toilet	57.70
• Public Toilet	0.84
<b>Type of Fuel Used for Cooking</b>	
• Wood/Dung cakes	65.83
• Kerosene	12.04
• Coal	1.12
• LPG	21.00

Table2 (b): Availability of Household Amenities

Assets	Percentage
<b>Household Assets</b>	
Fan	72.82%
Television	58.26%
Radio	34.73%
Refrigerator	15.40%
Washing Machine	3.36%
Telephone	1.96%
Mobile Phone	44.82%
<b>Means of Transport</b>	
Bicycle	27.45%
Motorcycle/Scooter	23.24%
Car/Jeep/Tractor	0.84%

Health Facilities in Slums: 76.40% women opined that any type of government health facility was not available in their residential areas. 57.36% of the slum dwellers preferred to utilize government health facilities for getting maternal health services and 11.67% women preferred to go to private hospitals/clinics for seeking maternal health services. The reasons for preferring the health facility for maternal health services were availability of free of cost services.

#### B. Maternal Health Services

The maternal health service includes Ante-natal Care Services, Delivery Practices, Post-Natal Care Services and Family planning services.

#### C. Ante-Natal Care

More than half, 52.79% of the women living in slums visited government hospital for registration during Ante-Natal Care (ANC) period as compared to 9.90% women who like to register themselves in private hospital/clinics for ANC. The provision of ANC registration was found to be significantly

higher among the educated women as compared to illiterate women. 46.57% women replied that they had no time to go for registration during pregnancy and 37.5% women reported carelessness of staff as most important reasons for not utilizing government hospitals during pregnancy. 62.94% women were registered either in government or private hospitals/clinics/RMPs for receiving ANC services and 37.06% women did not registered themselves in any healthcare institution. 72.58% women received Ante-Natal Care services in the registered institutions and the association between utilization ANC services and literacy of pregnant women was found to be statistically significant. 72.78% women visited hospital for first ANC in the second trimester of the pregnancy and 44.44% women had one ANC visit during pregnancy period. 55.84% women received Iron and Folic Acid (IFA) supplements from government hospital and 58.88% women received two doses of TT injection during Ante-Natal Care. There was association between receiving IFA tablets & TT injections during ANC services by illiterate and literate women were found to be statistically significant.

Table 3: Ante-Natal Care Services Utilized by Slum Women

ANC Variables	Percentage
Total Registration in hospitals	62.94%
Registration in Govt. hospitals	52.79%
ANC Received	72.58%
ANC Received in 1 <sup>st</sup> Trimester	22.22%
3 ANC visits during pregnancy	16.67%
IFA Tablets received from Govt. hospitals	55.84%
2 TT Injections received during pregnancy	58.88%

**D. Delivery Care**

42.36% slum women preferred to go in government hospital for delivery. 48.91% women opined that their deliveries were conducted at home and out of that 78.57% home deliveries were assisted by un-trained women/relatives at home. During the study it was found that 51.09% institutional deliveries were conducted in the study area and there was not significant difference in the place of delivery by literate and illiterate women but in contrast to this there was statistical significant between religion of women and utilization of institutional delivery. 32.57% women reported distance of hospital for not utilized the government institutions for delivery. There was a statistically significant difference between economic status of household and type of health facility utilized for delivery services; women who had high income preferred to go to private hospitals for seeking treatment.

Table 4: Delivery Services Utilized by Slum Women

Delivery Practices	Percentage
Delivery at Govt. Institution	42.36%
Institutional Delivery	51.09%
Delivery Assisted at Home by untrained female	67.87%
Delivery conducted by TBAs	6.25%

**E. Post-Natal Care Services Utilized by Slum Women**

55.46% women opined that they did not visit hospital for

getting PNC services after delivery and lack of knowledge (66.14%) of slum women about the maternal health services was the major reason. 44.54% women reported that they visited hospital for seeking PNC services after delivery. 86.27% women visited hospital once for getting PNC after delivery. 55.01% women did not go for immunization of children during PNC. 44.99% women immunized their children against the Vaccine Preventable Diseases (VPD) and found to be statistical significant between illiterate and literate women. The main reason for not immunization was found to be lack of knowledge (37.30%).

Table 5: Post-Natal Care Services Utilized by Slum Women

PNC Variables	Percentage
PNC received	44.54%
Two times hospital visited for PNC	10.79%
PNC received at govt. institutions	56.86%
Immunization Received	44.99%

**F. Family Planning Services Utilized by Slum Women:**

Most of the women 75.98% did not use any contraceptive method. 25.76% and 16.16% women opined protest by husband and fear of not having sex after use was the major reason for not using contraceptive methods. 65.46% slum women reported the condom as most popular family planning method. 60% women obtained methods from private shops. 36.36% women received contraceptive methods from government institutions and 37.14% women had no time to visit government health facility for getting family planning methods due to fear of wages loss.

Table 6: Family Planning Services Utilized by Slum Women

Family Planning Variables	Percentage
Use of any contraceptive methods	24.02%
Most commonly use FP Method	
Female Sterilization	3.63
IUD/Copper-T	5.45
Pills	25.46
Condom	65.46
Source of Contraceptive Methods	
Govt. Institution	36.36
Private Institutions	63.64

Accessibility to Maternal Health Services: 62.69% women viewed that hospital timings of government hospital are suitable to them. 81.73% women said that nearest government health facility were present within 2-3 kms from their residence. 62.43% women said minimum time taken to reach the nearest hospital is 1 to 2 hour.

Quality Issues Related to Maternal Health Services: 80.96% women waited for more than 60 minutes or more before services were given to them. 55.84% women reported that sitting arrangements were poor in government hospitals. About 44.61% and 46.95% women opined condition of wards and toilet facilities were poor. 41.88% women said average

drinking water facilities at government health institutions. 57.36% women reported that privacy was not maintained during treatment and 54.82% women opined that sufficient time was not given in the Government hospitals. 49.75% and 57.87% women mentioned the behavior & attitude of doctors and Para-medical staff was poor during availing services at govt. institution. 72.84% of the women ranked average the maternal health services rendered at government institutions.

Table 7: Quality Issues Related to Maternal Health Services

Quality Issues	Percentage	Comments/Ranked
Waiting Time	80.96%	(high >1 hour)
Sitting Arrangement	55.84%	poor
Condition of Wards	44.61%	poor
Privacy in Govt. Hospitals	57.36%	Poor
Complete Information about the Illness	63.20	Poor
Time Given by Doctor	54.82	Poor
Behavior of Service Providers	Doctor (49.75) Para-Medical Staff (57.87)	Poor
Toilet Facilities	46.95	Poor
Drinking Water Facilities	41.88	Average

## V. DISCUSSION

In the present study, proportion of population below 15 years and above 60 years constitutes 42.08% and 1.99 percent respectively depicting a young population in slums. Male population in the age group of 25-29 years and female population in the age group of 20-24 years were more in the slums of study area. Highest population of male and female was in the age group of 25-29 years. In a study done in Calcutta, 44.9% of population was in the age group of 15-44 years<sup>1</sup>. Education is an important indicator with regards to the women's health. Generally women with more education have better health. 50% of slum women were informally educated or had no education. 89.92 % of the women belonged to the Hindu religion. This is because that majority of population of Rajasthan is from Hindu community therefore maximum sample size were from Hindu religion. 76.40% women were of the opinion that any type of government health facility was not available in the slums, whereas, according to the study conducted at Mumbai by P. Nangia, K. Gupta & N.C. Tiwari, health facilities exists in more than half of the slums 56.40%.<sup>2</sup>

57.36% of the slum dwellers preferred to utilize government health facilities and Similar findings were observed in the study conducted in urban slums of Delhi, where 62% used government health facilities.<sup>3</sup>

Availability and knowledge have been identified as a major structural variable that could influence the decision on whether to utilize Maternal Health Services. The present study found that 62.94% slum women visited hospitals for registering themselves during Ante-Natal Care (ANC) period. Similar to this, study conducted at Aligarh observed that 57.20% of the ANC were registered.<sup>4</sup> 85.99% of the household were dependent on daily wages work to earn their livelihood and fear of wage loss prevented from registration in health institution during ANC period. The important reasons for not utilizing government health institutions were carelessness of staff 37.5% and distance of institution 30% and similar to this in a study<sup>3</sup> carried out the reasons for non-utilization of govt. health centers were prolonged waiting time (42.25%), heavy work load at home (23.35%) and long distance (15.49%) and timings of health centers were not suited (3%). 72.58% registered women received Ante-Natal Care services in the registered health institutions and similar to this in a study conducted in Delhi, very high proportion of women (70-90 percent) availed of ANC care during pregnancy<sup>5</sup>. ANC services received by registered women was found to be significant (p=0.000).

Study found that 36.76% women did not seek ANC services due to lack of knowledge about ANC services and similar to this study conducted at Aligarh by found lack of knowledge (11.4%) was the important reason for non-availing of ANC services<sup>4</sup>. 22.22% women got first ANC service in first trimester of the pregnancy. Similar to this, study conducted in Shindoli in Belgaum by C.S. Metgut, S.M. Katt, M.D. Mallapur & et al found 30% of them were registered in Ist trimester of pregnancy.<sup>6</sup> In the present study, 95.4% women received IFA tablets during the pregnancy either from govt. hospitals or private institutions. In contrast to this, study conducted in Delhi revealed that 27.2% women did not receive any IFA tablets.<sup>7</sup> 58.88% women received two doses of TT injection during Ante-Natal Care and similar to this study<sup>1</sup> conducted at slum community of Calcutta found 64.5% women received two doses of TT injection. These differences could be due to illiteracy of women and lack of knowledge regarding TT immunization.

The present study revealed that 48.91% women opined that their deliveries were conducted at home, whereas, in a study conducted in urban areas of Chandigarh by M.K.Sharma, N.K. Goel, K. Dinesh & et al found that 72% deliveries took place at home of which 57% were delivered by untrained persons.<sup>8</sup> 32.57% (43) of women reported that government health facilities were too far from their residence. Place of delivery by literate and illiterate women was not found to be significant, as place of delivery is influenced by socio-economic condition of the households, availability of health services near to residence, distance of health centers, cultural practices, family environment and past experiences of relatives and family members but economic status of household and type of health facility utilized for delivery services was found to be significant (p=0.000). 78.57% home deliveries were assisted by un-trained women/relatives at home and Similar to this study<sup>9</sup> found that un-trained

personnel conducted around (70%) of the deliveries in rural and 33% in urban areas.

PNC services were received by 44.54% women after delivery. In a study conducted in slum of Agra city found 44.4% of women received postnatal care.<sup>10</sup> During the study 66.14% women replied that PNC services were not necessary. Utilization of PNC services by literate and illiterate women was found to be significant ( $p=0.001$ ). 44.99% women immunized their children against the Vaccine Preventable Diseases (VPD) and similar to this study conducted in Madhya Pradesh by R.J. Yadav & P. Singh revealed that 48.7 of children of illiterate women were immunized. In the present study, 37.30% women reported that immunization was not necessary. In a study conducted at Madhya Pradesh found lack of information (40.82%), fear of complications (33.2%) and lack of motivation (25.97%) were the main reasons for non-immunization of children.<sup>11</sup>

The present study found that 75.98% of women did not use any type of contraceptive method and similar to this study<sup>4</sup> conducted in rural areas of Aligarh found among the ever married women, 72% did not use any method of contraception. Protest by husband was the major reason for not using contraceptive methods. 65.46% women reported the condom as most popular family planning method and in contrast to this, in a study conducted in rural area of Aligarh revealed that 38.3% used condoms as contraceptive method.<sup>4</sup> 36.36% women obtained contraceptive methods from government institutions and similar to this study conducted at urban Delhi found that 85% of the respondents received services from family planning centre of nearby hospitals.<sup>12</sup>

### VI. CONCLUSION

The study found that utilization of maternal health services is dependent on social determinants and attitude related factors. Social and cultural barriers are more common in slums where healthcare services are not reachable. Home deliveries and unsafe deliveries are still widely prevalent in slums. Skilled birth attendants are not reaching to those who need them the most. Accessibility to healthcare services of slum population must be taken into account in the health planning process. All the above findings are suggesting that accessibility to maternal health services still remain as a dream for women residing in slums. There is still a gap between what the real need is and what is provided. To address this problem, we need to focus on the social determinants rather than concentrating on medical interventions. Attitude of service provider always remained as a problem. The current study also highlighted the importance of access issues to healthcare seeking. These factors involved costs associated with seeking treatment, distance and the time taken to travel to healthcare facilities. The role of education and literacy in the use of maternal services and the perception of receiving all the services needed is evident in this study. Most of the maternal and infant death and disabilities could be prevented if adequate maternal health services were provided. In conclusion, comprehensive approach to improve the utilization of maternal health services in the study area is needed.

### REFERENCES

- [1] Biswas, R., Biswas, A.B., Chatterjee, S., Chowdhury, G., & Bhandari, A. (1991). Study of the health status of an urban slum

- community at Calcutta. *Indian Journal of Community Medicine*, 16(3): 126-9.
- [2] Nangia, P., Gupta, K., & Tiwari, N.C. (1996). Emergence of slums: a case study of Thane urban agglomeration. *The Indian Journal of Social Work*, 57(4), 554-5.
- [3] Kapil, U., Bharel, S.M., & Sood, A.K. (1989). Utilization of health care services by mothers in an urban slum community of Delhi. *Indian Journal of Public Health*, 33(2): 79.
- [4] Ranjan, D., Amir, A., & Nath, P. (2001). Utilization and coverage of services by women of Jawan block in Aligarh. *Indian Journal of Community Medicine*, 26(2): 94-9.
- [5] Bajaj, J. (1999). Knowledge and utilization of maternal and child health services in Delhi slums. *Journal of Family Welfare*, 45 (1), 44-52.
- [6] Metgut, C.S., Katt, S.M., Mallapur, M.D., & Wantamutte, A.S. (2009). Utilization patterns of antenatal services among pregnant women: a longitudinal study in rural area of north Karnataka. *Al Ameen Journal of Medical Science*, 2, 58-62.
- [7] Agarwal, O.P., Kumar, R., Gupta, A., & Tiwari, R.S. (1997). Utilization of antenatal care services in peri-urban area of East Delhi. *Indian Journal of Community Medicine*, 22 (1), 29-32.
- [8] Sharma, M.K., Goel, N.K., Dinesh, K., Swami, H.M., & Rajbir, G. (2007). Utilization of reproductive child health services by slum population of Chandigarh. *Indian Journal of Preventive Social Medicine*, 38(1-2), 42-46.
- [9] Rajeshwari. (1996). Gender bias in utilization of healthcare facilities in rural Haryana. *Economic and Political Weekly*, 31(1), 489-94.
- [10] Awasthi, S., Chaturvedi, M., Nandan, D., Jha, S.K., & Mehrotra, A.K. (2010). Assessment of quality maternity care in urban slums of Agra: a population based study. *Indian Journal of Public Health Research & Development*, 1,2.
- [11] Singh, P., & Yadav, R.J. (2000). Antenatal care of pregnant woman in India. *Indian Journal of Community Medicine*, 25(3), 112-116.
- [12] Gongopadhyay, B., & Das, D.N. (1997). Quality of family planning services in India: the user's perspective. *The Journal of Family Welfare*, 43(3), 5-12.

**Arvind Singhal**, Research Scholar, Department of Population Studies, MDS University, Ajmer, Rajasthan.