Utilization Pattern of Selected RCH Services among Women in Slums of Delhi, India: An Observational Study

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Abstract

Introduction: Under the NHM, both supply side and demand side interventions are implemented to improve accessibility and utilization of RCH services by the urban and rural population. These interventions have contributed in improving utilization of RCH services. However, utilization of RCH services and adverse health outcomes among slum population remains a cause of concerns. Objectives: This study aims to find out the role of institutional and community level factors in deciding accessibility and utilization of RCH services. Result: The study finding reveals that 90.5% got ANC registration in which 82.9% in government hospital and 7.6% in private hospital. Among study population 33% got ANC registration in first trimester and 48% in second trimester, 90.3% mother got two T.T injections, 68.6% of mothers got regular iron and folic acid tablets and 1.2 % mothers done four or more USG. The study population had institutional delivery of 83%. Conclusions and Recommendation: The study finding reveals a statistically significant association between distances of health facility and number of ANC. There is statistically significant association between mother education, spouse education and distance of health facilities with number of USG done. Distance of health facility and place of delivery are also statistically associated. So, specific intervention program need to be planned and conducted to improve the maternal health practices and eventually improve the health status.

Keywords: Antenatal care, Accessibility of RCH services, Utilization of RCH Services.
services like ANC, institutional delivery and immunization services in slum population. Therefore, it has been decided to undertake this study aims to find out the role of institutional and community level factors in deciding accessibility and utilization of RCH services which influence the decisions and practice of accessing selected RCH services.

**METHODS**

The present research work is descriptive and cross sectional type of study done in three selected slums of Delhi. The data was collected over a period of three months from October to December 2018 over a sample size of 421 women living in slums having child of age from 0 to 6 months. The sample size was calculated as 381 considering a recent study by Devasenapathy *et al.*, [6] where they found 46% women getting registered during first trimester. Considering 10% non response, a total sample of 421 mothers were interviewed during data collection.

Probability sample was used for selection of slums as this is the only sampling method that allows drawing valid conclusion about population. A Multi-stage random sampling design was used to select the mothers from selected slums in Delhi as this is the most feasible approach for large population. There are 11 Districts in Delhi, at the first stage, 25% (3) Districts were randomly selected for this study. In the second stage, from each selected District, list of slums published by Delhi Government was compiled and from the list one slum of approximately 5000 population was randomly selected from three selected districts. Two remaining slums were also selected using same process.

In the third stage, from each selected slum, list of households having recently delivered mother (within 6 month) was prepared. From that list, households were randomly selected for the interview of mothers regarding utilization of selected RCH services. Thus, the study covered 421 mothers from three different slums of Delhi by using inclusion criteria of mother who delivered the baby within six months and exclusion criteria was mothers who were severely ill. Primary data were collected using interview schedules developed for mothers. USAID tool [7] which was first pre-tested in a different slum of Delhi based on the finding of pre-testing, tool was modified appropriately. Data collected from mothers were analyzed using descriptive and analytical techniques with the help of statistical software SPSS version 20. The Chi-square was applied to show the association as per the objectives of the study.

**RESULTS**

The finding of the study shows that, among 421 mothers, 56% were married before age of 20 yrs, and 39% were married between age of 20 to 25 years, 76% had 2 to 3 children and 18% had one child. The sociodemographic characteristics includes 92% mothers belonged to Hindu religion, 91% belonged to schedule caste. Also out of 421 mothers, 36% mothers were just literate, 27% were up to primary level, nearly one third (33%) spouse were educated up to primary school, and almost same (34%) were educated junior high school level.
Table-1: Distribution of mothers by utilization of RCH Services

| Type of RCH services                  | Utilization       | Frequency | Percentage |
|--------------------------------------|-------------------|-----------|------------|
| Place of ANC Registration            | Not registered    | 40        | 9.5        |
|                                      | Private hospital  | 32        | 7.6        |
|                                      | Govt. hospital    | 349       | 82.9       |
| Trimester at which registered        | First trimester   | 126       | 33.1       |
|                                      | Second trimester  | 183       | 48.0       |
|                                      | Third trimester   | 72        | 18.9       |
| Number of ANC done                   | 1 time            | 44        | 11.5       |
|                                      | 2 to 5 times      | 219       | 57.5       |
|                                      | 6 to 8 times      | 91        | 23.9       |
|                                      | 9 to 10 times     | 27        | 7.1        |
| Iron and Folic Acid Tab received     | Yes               | 289       | 68.6       |
|                                      | No                | 132       | 31.4       |
| No. of T.T inj. get during pregnancy | 1 T.T/ No TT      | 41        | 9.7        |
|                                      | 2 T.T             | 381       | 90.3       |
| No. of USG done during ANC           | No USG            | 63        | 15.0       |
|                                      | 1 USG done        | 154       | 36.6       |
|                                      | 2 USG             | 123       | 29.2       |
|                                      | 3 USG             | 76        | 18.1       |
|                                      | ≥ 4 USG           | 5         | 1.2        |
| Transport used during delivery       | Own vehicle       | 4         | 1.1        |
|                                      | Private vehicle   | 269       | 76.9       |
|                                      | Govt. vehicle     | 77        | 22.0       |
| Place of delivery                    | At home by Relative | 5       | 1.2        |
|                                      | At home by SBA    | 66        | 15.7       |
|                                      | Govt. hospital    | 312       | 74.1       |
|                                      | Private hospital  | 38        | 9.0        |
| Distance of Healthcare Facility      | Less than 2 km    | 283       | 67.2       |
|                                      | ≥ 2 km            | 138       | 32.8       |

Table-2: Association between background characteristics and place of delivery

| Background Characteristics | Category of responses     | Place of Delivery | p Value |
|----------------------------|---------------------------|-------------------|---------|
|                            |                           | Home Delivery     | Institutional Delivery | Total   |         |
| Mother’s Education         | Up to high school         | 70                | 340                | 410     | 0.985   |
|                            | More than high school     | 1                 | 10                 | 11      |         |
| Partner’s Education        | Up to high school         | 69                | 340                | 409     | 0.485   |
|                            | More than high school     | 2                 | 10                 | 12      |         |
| Mother’s Occupation        | Housewife                 | 71                | 339                | 410     | 0.130   |
|                            | Working Women             | 0                 | 11                 | 11      |         |
| Distance of Health Facility| Less than 2 km            | 55                | 228                | 283     | 0.044*  |
|                            | 2 or more than 2 km       | 16                | 122                | 138     |         |

*p value ≤0.05 is statistically significant
The present study finding shows that out of 421 mothers, 36% mothers were just literate, 27% were up to primary level. In slum areas, most of people belonged to low socio-economic group therefore difficult for parents to educate their children specially girl child more than primary as they start sharing many domestic responsibilities. The low female literacy with early age at marriage makes them vulnerable to many risks during reproductive age. As per our findings nearly 72% of mothers when got sick used to go to nearby private doctors who were conveniently available and only 10.5% mothers went to nearby government health facility. A similar finding by Madhura et al., who found that nearly 56% of sick people in the slums go to private doctors when they got sick [8]. The present study shows that 83 % of mothers got registered in government hospital for ANC and 7.6% mothers got registered in private hospital which is in consistent with finding by a study done by Gupta S where, they found 90% of mothers got registered in government hospital for ANC [9]. The present study shows that 33% mother registered during first trimester, 48% of mothers registered for ANC during second trimester, and 18.9% of mothers got registered during third trimester, which is consistent with study done by Bayou YT et al., who found that half (50.3%) of women had started the first antenatal visit in the first trimester [10]. Our study shows that 90.3% mother got two TT injections and only 9.7% mothers either got one TT or no TT injections which is in consistent with findings by Dadi L. S et al., [11]. The present study finding shows that 74% mothers delivered in government hospital, 9% in private hospital, and about 17% mothers delivered at home which is in consistent with findings of study done by Divya V. Pai et al., who reported that majority (86.1%) of mothers had institutional deliveries [12].

The analysis of present study findings shows that the association between number of USG done with mother education, partner education and distance of health facility is statistically significant which is in consistent with study by Huang et al., [13]. In another study in China, it is found that women who give birth at home have an average of 2.3 ultrasound scans, whilst women delivering in hospital tend to have more antenatal visits and more ultrasound scans [14]. The present study findings show that association between places of delivery with distance of health facility is statistically significant. Findings are consistent with the
facts that slums have issues related with institutional delivery and uniformly related with all the inhabitants irrespective of their cast, religion and economic status. A similar cross sectional community based study done by Khanal V et al., on utilization of maternal and child health services in western rural Nepal found that the mothers who had higher education were more likely to deliver their child at the health facility than the mothers of lower educational status [15]. A study done by Indrajit Hazarika also found the probability of ANC visits depends significantly on the level of education and economic status [16]. Present study findings show the association between distances of health facility with number of ANC is statistically significant. Similar Study done by Chapagain S et al., found that 97.7% of respondents had visited ANC clinic. Majority (87.8%) of the respondent had visited ANC clinic more than four times [17].

CONCLUSIONS
This descriptive and cross sectional type of study was done to find out the accessibility and utilization pattern of selected RCH services among women having 0 to 6 months of child. The slum community has majority of Schedule Caste population because most of schedule caste belonged to poor family background so they are forced to live in slum area as they cannot afford living in other than slums. Most of mothers are educated up to junior high school in our study. This shows that there is need to strengthen of female awareness among slum population. Present study show that most of workers are daily wages worker. This shows that government should increase employment in the slum population by implementing skill India program properly. Our study findings show that most of mothers when got sick go to private doctors. All the mothers have RCH facility nearby house but only OPD. There is need of 24x7 facilities nearby slum. Finding of study suggest that 89.3% of mothers who were aware about the benefits of iron and folic acid tablets. Among them 80.3% mothers got information from government health staffs. Who did not get regular iron and folic acid tablets; most of them feel that this was not necessary, so there is need to explain in detail about the use and complication of not taking tablet when mother was anemic. Mothers need to explain about how to counter-act the side effect of taking iron tablet. Present study shows only 1.2% mothers got four or more than four USG done so government should extend the facility of USG in government dispensary in nearby slum population.

The study reveals that there is significant association between distance of health facility and place of delivery so there is need to extend the 24x7 delivery point near slum and better transport facility for pregnant mother at the time of delivery. The study findings also reveal that there is significant association between mother’s education, spouse education and distance of health facility with number of USG done. There is need to provide USG facility in health center near slum areas. There is significant association between distances of health facility with number of ANC. People avoid using ANC checkup due to wage loss during those days so need to overcome this problem by doing ANC facility both morning and evening shift. The present study revealed that role of education, especially of female education is important contributing factor associated with utilization of postnatal care. The study shows that their knowledge on certain aspects of ANC was still poor especially regarding the importance of early antenatal check-up, health screening and complications during pregnancy.

RECOMMENDATIONS
Specific intervention program need to be planned and conducted to improve the maternal health practices and eventually improve the health status. The potential limitations in this study were all information on ANC services received was based on recall which might have led to recall bias. The sampling frame was only from three slum clusters from one of the districts of Delhi, which might not be representative of entire urban poor population.

A sustained and focused IEC campaign to improve the awareness amongst community on MCH will help in improving community participation leading to sustaining and improving the quality, accessibility, and utilization of maternal health care services provided by the government agencies. There is a need to increase availability and accessibility of medical facilities in and around slums as the government facilities are poor. In absence of this, the slum dwellers have to visit private doctors or unqualified quacks for consultation and medicines. Municipal Corporation of Delhi should provide adequate dispensaries in various slum pockets to increase its accessibility. Further research on this aspect in the urban Indian context is required to demonstrate the effectiveness of role of community health worker in RCH services under NUHM and improving health outcomes through community participation.

DECLARATIONS
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Ethics Approval
Written informed consent was obtained from all the study participants and ethical approval was granted by the National Institute of Health and Family Welfare, New Delhi.
Authors’ Contributions
Dr. Anand Kumar Verma contributed to the study concept, study design, conduct of the study, collection and interpretation of the data. Dr. Prakash Ranjan conducted statistical analysis and preparation of the manuscript. Prof. V. K. Tiwari contributed to the study concept and overall conduct of the study.

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