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

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Abstract **Original Research Article**

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.

INTRODUCTION

Reproductive and Child Health (RCH) program is a comprehensive sector wide flagship program under the umbrella of the Government of India's (GOI) National Health Mission (NHM) to deliver the RCH targets for reduction of maternal and infant mortality and total fertility rates [1]. The key strategy is to ensure care of the pregnant mother and newborn during the period from conception up to 42 days of delivery [2]. The Government of India, in accordance with the recommendation of ICPD Cairo Conference initiated the RCH program aimed to provide integrated health and family welfare services [3]. Government of India during 1997-98 launched the RCH Program for implementation by integrating Child Survival and Safe Motherhood (CSSM) Program with other Reproductive and Child Health (RCH) services. In addition, a new component for management of Reproductive Tract Infection (RTI) and Sexually Transmitted Infection (STI) has also been incorporated. The RCH Program was partly funded by World Bank, UNICEF, UNFPA and European Commission etc. The main aim of the RCH program was to reduce infant, child and maternal mortality rates. Second phase of the RCH program was launched in 1st April 2005. First Joint Review Mission (JRM) of the RCH II Program, led by the MOHFW, was held during February 14 - March 1, 2006. The Government of India launched the NRHM, in April 2005 which sought to provide accessible, affordable and quality health care to the rural population, especially the vulnerable sections [4]. RCH indicators before starting the RCH services in 1990 in world is IMR-63, MMR-380, TFR-3.5 but in India IMR-80, MMR-437, TFR-3.8. Thus RCH indicators improve in India after RCH services implementation [5]. Under the NHM/NRHM, both supply side and demand side interventions are implemented to improve access 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. This is evident from the available data which indicates lower utilization of

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.

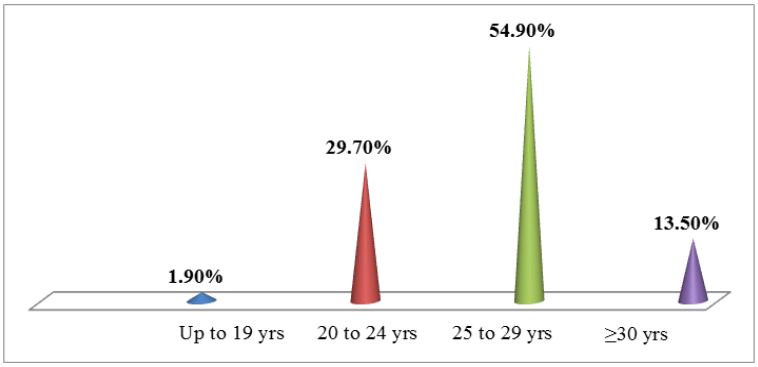

Fig-1: Age distribution of mother

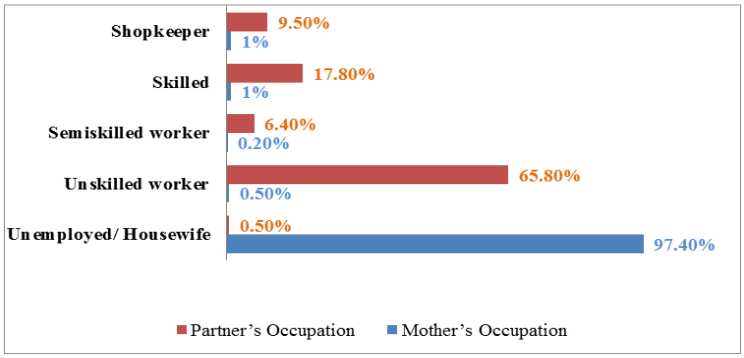

Fig-2: Distribution of occupation of mother and spouse

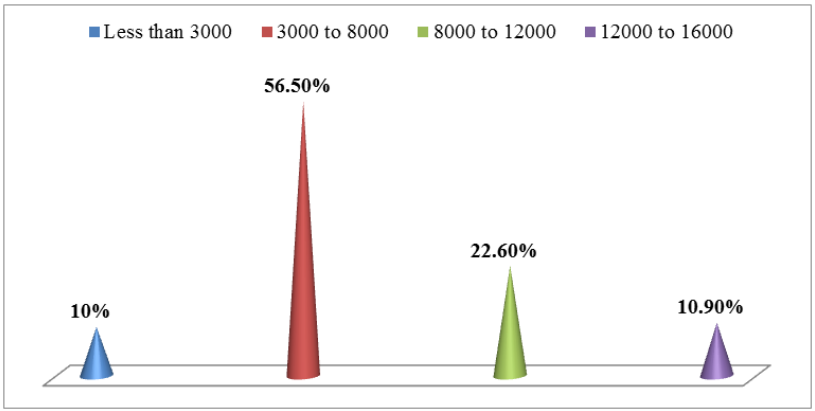

Fig-3: Distribution of monthly family income in Rupees

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

Table-3: Association between background characteristic and number of USG done

Background Characteristics		Number of USG			Total	p Value
		No USG	1- 2 USG	> 2 USG		
Mother's education	Up to high school	62	274	74	410	**0.001***
	More than high school	1	3	7	11	
Mother's occupation	Housewife	62	270	78	410	0.724
	Working Women	1	7	3	11	
Partner's education	Up to high school	62	273	74	409	**0.002***
	Above high school	1	4	7	12	
Distance of Health Facility	Less than 2 km	32	198	53	283	**0.006***
	≥ 2 km	31	79	28	138	

*p value ≤0.05 is statistically significant

Table-4: Association between background characteristics and no. of ANC done

Background Characteristics		Number of ANC			Total	p Value
		No ANC	1- 5 ANC	> 5 ANC		
Mother's education	Up to high school	25	117	185	327	0.294
	More than high school	0	1	6	7	
Mother's occupation	Housewife	24	117	186	327	0.451
	Working Women	1	1	5	7	
Partner's education	Up to high school	24	116	184	324	0.586
	Above high school	1	2	7	10	
Distance of Health Facility	Less than 2 km	19	60	139	218	**<0.001***
	≥ 2 km	6	58	52	116	

*p value ≤0.05 is statistically significant

DISCUSSION

The rapidly growing population had been a major concern for health planners and administrators in India since independence. The result was the launching of national family planning program by the government of India. A changed policy named as target free approach came into existence from 1st April 1996. Thereafter, following the recommendations of the international conference on population and development (ICPD) held in CAIRO in 1994, the Govt. of India introduced the reproductive and child health (RCH) package to supplement the MCH services in the country. Reproductive and child health program is a major initiative in 9th five-year plan from April, 1999 following the international conference of population development in CAIRO [1].

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 24×7 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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Conflict of Interest: None of the authors of this paper have financial or non-financial competing interests with regards to the content of this paper.

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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