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UTILIZATION OF MATERNAL HEALTH CARE SERVICES: A STUDY AMONG SLUMS DWELLING WOMEN IN KOLKATA METROPOLITAN

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ABSTRACT

Maternal health refers to the state of complete physical, mental, and social well-being of women during pregnancy, childbirth, and the postpartum period. While motherhood is often a positive and fulfilling experience, for many women it is associated with suffering, ill health, and even death. According to the World Health Organization (WHO), approximately 800 women die from preventable causes related to pregnancy and childbirth every day. Out of all maternal deaths, 99 percent occur in developing countries. Further, maternal mortality is higher among women living in rural areas and among poorer communities. In India this disparity is visible among urban slums as well. In a city like Kolkata of West Bengal the number of slums is very high and the residents are mostly migrants from various parts of India and thus the population density in the areas is also very high. In these areas there is limited scope of maternal and child health care because of lack of proper services, lack of education as well as lack of proper access to health care services.

Aim: This study aimed to find out the status of maternal health care services utilization and associated factors among women who had recently delivered in urban slums of Kolkata.

Subjects and Methods: A cross sectional study was carried out among 251 women who had recently delivered residing in urban slums of Kolkata. Utilization of maternal health care services including antenatal care during pregnancy and provision of safe delivery was assessed among them.

Results: This study identified that the migration and socio-economic status, woman's education, the partner's education, respondent's age at birth, birth order, and financial conditions were significantly associated with the utilization of selected maternal health-care services.

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Conclusion: The present study shows low utilization of pregnancy-related health care utilization among the study population; especially in case of antenatal care. This study can provide vision for program implementers and policy makers to devote resources for achieving the best possible quality of maternal and child health services.

Key Words: Antenatal Care, Institutional Delivery, Maternal Health Care Utilization, Urban Slum

INTRODUCTION

Due to rapid urbanization and economic opportunities migration of people from rural areas to urban areas is a common sight. People often travel to the cities for a better life and end up staying in squalor in the city outskirts. The unplanned movement of a large number of people leads to formation of slums. Slums are usually characterized by poor housing conditions, inadequate physical infrastructure, deprivation in socio-economic conditions, health, hygiene and lack of safety and security.

The health of the people living in urban slums are often neglected under the excuse of availability of big tertiary level hospitals in urban settings. Primary health care is often more neglected and ignored in the process. The health of the slum population matters a lot for several reasons. First, it has high significance as nearly 1 billion people and counting! live in slums across the country. In 2011, 65.5 million or 22.5% population lived in slums which are distributed among 2,613 towns/cities (Chen et al, 2014). According to "Primary Census Abstract for Slum, Census 2011" 122 towns in West Bengal have been reported of slums having a total population of 6.4 million. This is around 32.55% of total population of Kolkata (Chopra, Campbell and Rudan, 2012).

As per the World Health Organization, half a million women die every year due to pregnancy and childbirth in the world. Among these deaths, 99% occur in the low- and middle-income countries. Antenatal care (ANC) provides an opportunity to deliver different services which are important in improving maternal survival.

The WHO's definition of antenatal care includes recording medical history, assessment of individual needs, advice and guidance on pregnancy and delivery, screening tests, education on self-care during pregnancy, identification of conditions detrimental to health during pregnancy, first-line management and referral if necessary. The WHO measures "antenatal care" as the "percentage of women who utilized antenatal care provided by skilled birth attendants for reasons related to pregnancy at least once during pregnancy among all women who gave birth to a live child in a given time period."

Effective antenatal care (ANC) can improve the health of the mother and give her a chance to deliver a healthy baby. Regular monitoring during pregnancy can help detect complications at an early stage before they become life-threatening emergencies. However, one must realize that even with the most effective screening tools currently available, one cannot predict which woman will develop pregnancy related complications. Hence, every pregnant woman needs special care.

The world has experienced irregular progress in reducing the Maternal Mortality Ration (MMR) since 1990. Global leaders from 189 countries signed the Millennium Declaration in 2000, promising to reduce the Maternal Mortality Ration (MMR) by 75% from 1990 to 2015, requiring a yearly rate of decline of 5.5% through innovative and effective strategic directions.

According to estimates by the WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division, the South Asian region in total has managed to reduce 64% of maternal deaths—from 530 deaths to 190 deaths per 100,000 live births between 1990 and 2013 (World Health Organization, 2014). Globally, India, Bangladesh, and Pakistan together comprised over 20% of all Maternal deaths in 2013 (World Health Organization, 2014).

Regional estimates show that haemorrhage and hypertension are responsible for over half of maternal deaths in South Asia, even though most such deaths are preventable by improving coverage of comprehensive family planning programmes and antenatal, childbirth, emergency obstetric and postnatal care (World Health Organization and UNICEF, 2013). Indirect causes, that include deaths due to conditions such as malaria, HIV/AIDS and cardiac diseases, account for about one fifth of maternal deaths in the region.

India has made remarkable progress in reducing maternal mortality ratio in last two decades. MMR in India has declined from 556 per one lakh live births 1990 to 174 in 2015. However, India is still contributing to 15% of global maternal deaths- 45,000 women in India are dying every year due to pregnancy and delivery related causes.

MATERIALS & METHODS

A cross-sectional study design was adapted for this study by applying a two-stage Lot Quality Assurance Sampling (LQAS) method. LQAS provides a robust study design for a household level survey to capture RMNCH+A and nutrition knowledge & practice level information. Four number of administrative wards has been selected from the Borough VII of Kolkata Municipality Corporation. Those Wards has been defined as Lot. Lot is usually defined as geographical or administrative boundaries, usually at district or sub-district level. In this study, ward is defined as lot.

SAMPLE SIZE

A population listing of selected Administrative Wards (Four Administrative Wards) of Kolkata was done by the CINI. These Four wards were identified as “lot” where “CINI” the organization was implementing the project. In two sets, from each selected Lot, i.e. ward, equal numbers of children were selected. As the study intended to access key MCH indicators hence the key respondent for the study mothers was mothers with 0-2-year-old child. As per line listing done by CINI in the four wards of Kolkata Municipal Corporation, there was identified 4,319 number of children aged less than equal 2 years. Using the following formula, an overall sample of 251 House Holds from Kolkata program area with 0-2-year-old child was calculated to get an estimate of critical indicators, with a confidence level of 95%, and confidence interval of 6. Written consent form has been prepared and each respondent was informed and taken consent before interview for the study.

SAMPLE SELECTION

There was total four wards in which the study was implemented. From each ward cluster, four slums were selected based on PPS (Probability Proportionate to the Sample) methodology. Slums with larger population had more chance to be selected. Altogether 16 slums were covered. From each slum equal number of samples was selected and interviewed i.e., around 15 to 16 HHs. From eligible HHs maximum one interview was conducted. The eligible HH was the one with Mother having children with 0-2-year-old child.

The data was collected from the study population by using a validated, predesigned, pretested, semi-structured interview scheduled, which was administered by the investigators during a face-to-face interview. By initial translation, back-translation, and re-translation, the interview schedule was customized for the study. Pre-testing of the questionnaire was carried out on a convenience sample of 10 postnatal women attending the Urban Health and Nutrition Day for routine immunization in Ward No. 58 of Kolkata Municipal Corporation. The questionnaire consisted of three parts including socio-demographic and obstetric profile of the respondent, utilization of maternal health care services and barriers to utilization of services.

TOOLS OF DATA COLLECTION

The study was conducted after clearance from the Institutional Ethical Committee of Child in Need Institute (CINI) and permission from the Chief Medical Officer of Health (CMOH) and District Program Officer (DPO – ICDS) of Kolkata District. Informed consent was obtained from beneficiaries before interviewing. A pretested structured interview schedule was used to collect required information. Among independent variables, age, religion, caste, type of family, education, socio economic status (SES), parity, and timing of registration were considered. Four ANC visits were taken as outcome variable. It was considered adequate ante natal care, as per the national norm.

DATA PROCESSING AND ANALYSIS

Data entry and analysis were done using IBM Statistics 20. Descriptive analysis was done and Frequency & Percentage for categorical variables were calculated. Simple and multiple logistic regressions were applied to find out the predictors. Results were expressed in terms of odd's ratio (OR) and confidence interval (CI).

RESULTS

The literacy between male and female shows the disparity (female literacy 90.64 % while male 68.53 %). 10 and more year of education is significantly low (30.08 %) among female in the community. With regards to the religion, 61.35 % population is Muslim followed by 38.65 % is Hindu. The distribution of the respondents revealed that most (94.67 %) of the households with an improved drinking water facility. A majority of households were without personal toilet facility (58.4 %) while 45.56 % households using safe fuel for cooking. Majority (91.97 %) respondents were able to ensure at least three meals in a day.

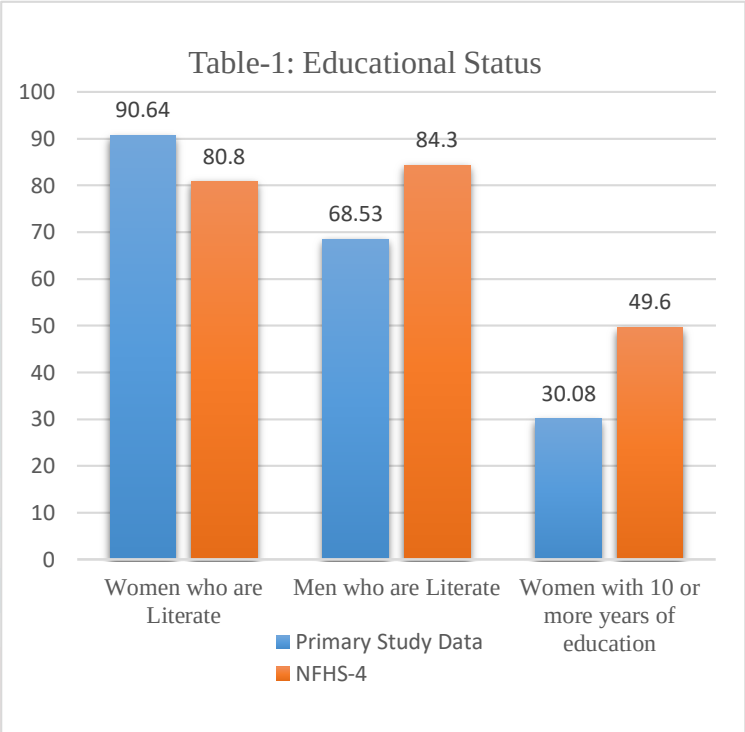


Table-1.1: Background Characteristics of Respondents		KOLKATA (2019)
Population and Household Profile		
1	Women who are literate (%)	90.64
2	Men who are literate (%)	68.53
3	Women with 10 or more years of education (%)	30.08
4	Religion – Hindu (%)	38.65
5	Religion – Muslim (%)	61.35
6	Household with an improved drinking water source (%)	94.67
7	Household with personal toilet facility (%)	41.60
8	Household using safe fuel for cooking (%)	45.56
9	Family ensured 3 or more meals in a day (%)	91.97

PREGNANCY AND DELIVERY OUTCOMES

Table 2 shows the percentage distribution of women respondents conceived in lifetime. 28.23 % of respondents had conceived 3 or more times while 19.18 % women respondents had 3 or more live births. About 13.15 % women reported of having abortion history. Unfortunately, neonatal deaths have been reported 2.79 %. Data has shown that 96.77 % respondents had Institutional Delivery which shows significant improvement since last five years in compares to State average 75.2 % (NFHS-4, 2015-16) Caesarean section delivery is increasing day-by-day in urban and rural locations but compare to rural areas urban is far ahead of C-Section delivery. Unfortunately, 22.58 % children are still taking birth with less than 2.5 kg birth weight.

Table 2; Pregnancy and Delivery Outcomes		KOLKATA (2019)
Pregnancy & Delivery Outcomes		
1	Women conceived 3 or more times (%)	28.23
2	Women who are given 3 or more live births (%)	19.18
3	Women who are having history of abortion (%)	13.15
4	Women who are given births to twins (%)	0.80
5	Children who died before completing age of 28 days (%)	2.79
Delivery Care		
6	Institutional Births (%)	96.77
7	Caesarean or C- Section Delivery (%)	42.97
8	Low Birth Weight (LBW) (%)	22.58

UTILIZATION OF MATERNAL HEALTH CARE SERVICES

As per the WHO, Early Registration of pregnancy is very crucial to avail full ANC during pregnancy period. 88.75 % mothers had delivered after full term of pregnancy. Only, 68.46% mothers had registered their pregnancy within 12 weeks of pregnancy while 86.06% respondents said that they have received Mother & Child Protection Card (MCP Card). Utilization of ANC services among slum dwelling mothers is significantly high. Mean age of the respondents who never went for ANC check-ups is 23 years. 91.26% respondents had taken 2 TT injection during pregnancy. 73.42 % respondents had received 180 Iron and Folic Acid (IFA) tablets during pregnancy but only 30.44% respondents were consumed 180 IFA during pregnancy. At the same time, 54.26% respondents had received 360 Calcium tablets as per the government recommendation but only 23.30% respondents were consumed all the recommended tablets during pregnancy. Vomiting was the major problem for less intake of IFA and calcium, few respondents were reluctant to take medicine regularly. Another reason for not taking calcium or Iron tablet is home delivery or no registration at health service centre. Prevalence of Caesarean section delivery is significantly increasing as per the findings.

More than 70% respondents said that their children had all three birth doses of immunization. 58.09% respondents said that they had provided colostrum to their new born. Majority of respondents said that they only feed their children once or twice in a day though most of the participants said they breastfeed their children for 5-7 times in a day. 22.46% respondents said that they feed their children with bottle. Many respondents stopped breastfeeding and most common reason they cited is lack of production of breast milk. Other reasons for not breast feeding are illness of mother, working mother, skin problem of mother etc. Acute Respiratory Infection (ARI) and diarrhoea found as the most common reason behind illness in Kolkata. 83.78% of the respondents said they wash their hand with soap and water. 85.19 % respondents said that they feed their children from separate plate.

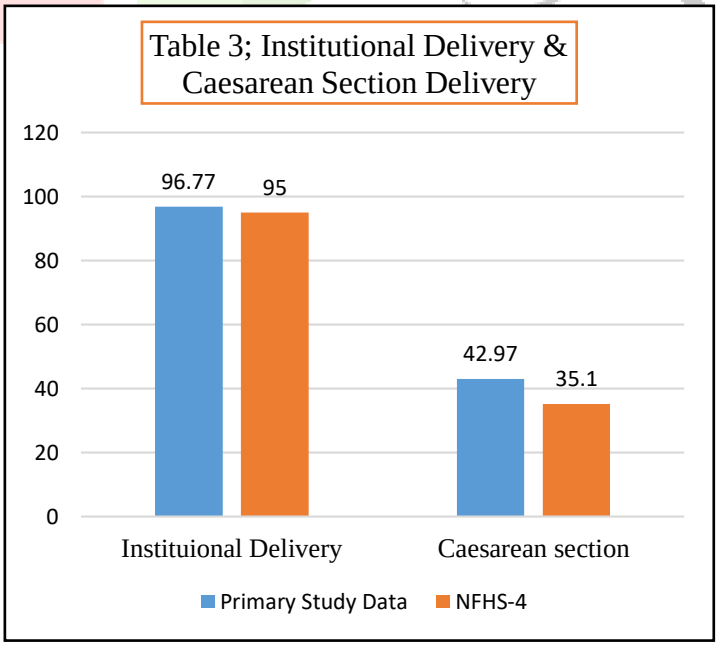
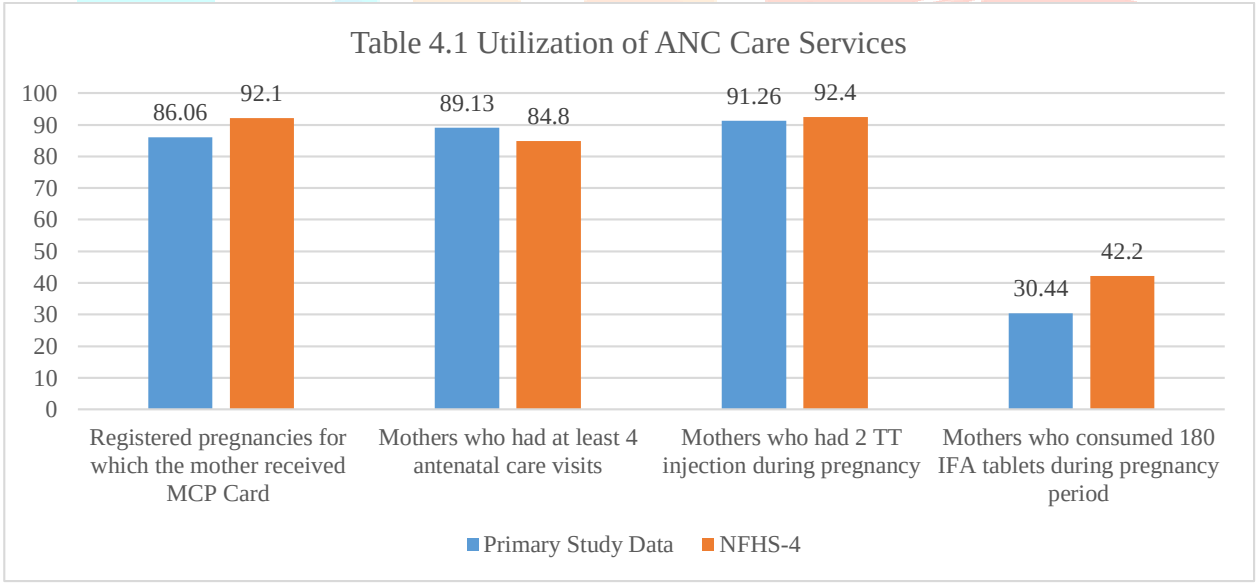


Table 4; Utilization of Maternal & Child Health Care Services		KOLKATA (2019)
Maternal Health and Child Health		
1	Mothers who had delivered after completing 9 months of pregnancy (%)	88.75
2	Mothers who had registered within 12 weeks of pregnancy (%)	68.46
3	Registered pregnancies for which the mother received MCP Card (%)	86.06
4	Mothers who had at least 1 antenatal check-up during pregnancy (%)	100.00
5	Mothers who had completed 4 antenatal check-ups during pregnancy (%)	89.13
6	Mothers who had 2 TT injection during pregnancy (%)	91.26
7	Mothers who received 180 IFA tablets during pregnancy period (%)	73.42
8	Mothers who consumed 180 IFA tablets during pregnancy period (%)	30.44
9	Mothers who received 360 Calcium tablets during pregnancy period (%)	54.26
10	Mothers who consumed 360 Calcium tablets during pregnancy period (%)	23.30
11	Mothers who heard about Anganwadi Centre (%)	48.95
12	Children who get services on regular basis from Anganwadi Centers (%)	30.91
13	Mothers who had observed any danger signs during pregnancy (%)	22.89



AWARENESS OF ANTE NATAL CARE (ANC)

Awareness of the importance regarding ANC check-ups and its repercussion for the target population is to screen pregnant women to detect early signs of, or risk factors for abnormal conditions or disease and to follow this detection with effective and timely intervention. And it has been found that mothers are more conscious regarding the ANC as they know that ANC check-ups do more than just deal with the complications of pregnancy. It provides an opportunity to establish a birth plan, promotes a healthy lifestyle that improves long-term health outcomes for the woman. And this awareness is generated by the government, NGOs working is the field, interestingly 96% of women has knowledge and awareness regarding the importance of ANC.

AWARENESS OF EARLY REGISTRATION OF PREGNANCY

Majority of the mothers believe that early registration should be done within 12 weeks of the pregnancy, as early registration helps to prevent the complications during pregnancy and at birth. They can plan their check-ups and ensure their birth-preparedness. Therefore, 73.7% women believe registration should be done within the 12 weeks of pregnancy and 16.2% believe it should be done in 2nd trimester of pregnancy and unfortunately 10% doesn't know the exact time period to get registered for ANC.

AWARENESS OF TETANUS TOXOID (TT) INJECTION

Awareness about importance of TT during pregnancy and the number of TT injections being given is known to all women in each Ward. Utilization of TT is significantly higher in four Wards of Borough VII under Kolkata Municipal Corporation. 85% women has awareness in 56 Ward, 75 % women has awareness in 58 Ward, 85% in 65 Ward and 70 % in 66 Ward. Women in these Wards has the awareness that TT is essential during pregnancy period but some women doesn't know the exact number being given i.e. 15% in 56 Ward, 25% in 58 Ward, 15% in 65 Ward and 30% in 66 Ward.

AWARENESS OF IRON FOLIC ACID (IFA) AND CALCIUM TABLETS

Awareness about the importance and the number of IFA and calcium tablets should be consumed during pregnancy is known by 85% women in 56 Ward, 75% women in 58 Ward, 85% women in 65 Ward and 70% women in 66 Ward. The rest doesn't know the exact number of IFA and calcium tablets to be taken i.e., 15% in 56 Ward, 25% in 58 Ward, 15% in 65 Ward and 30% in 66 Ward.

AWARENESS AND PERCEPTION REGARDING INSTITUTIONAL DELIVERY

There are almost 98% institutional deliveries happening in the slums of Kolkata and the main reason behind is the awareness of the mothers as well as for the family members. No one is ready to take the risk of home deliveries irrespective of different socio-demographic culture. Although the accessibility and patient's satisfaction in the public hospital is a serious concern, heavy patients load, long time in queue and the restriction in hospitals driving poor families to avail private facilities with higher cost.

AWARENESS OF JANANI SURAKSHA YOJANA (JSY)

Awareness regarding the JSY among urban slums dwelling mothers is incredibly higher but the utilization is significantly less due to proper documentation and Bank Account of mothers who are delivering the hospital. Mostly, mothers residing in the four Wards have come from rural areas of West-Bengal and Bihar, and they don't have acceptable identity card to avail JSY benefits. It has also found that, authorities call several times to submit the documents and it takes several hours and days to fulfil the requirement to get only Rs. 900/- (Nine Hundred Only) under the scheme, hence several families intentionally opted out for the benefits.

DISCUSSION

The study found that all the studied beneficiaries got themselves registered for antenatal care services. The extent of registration was in accordance with the finding of previous studies. However, the findings are different from the observations. The findings which need further attention is highlighted in this section. Lack of secondary data sources over health status of slum dwellers in urban pockets of India posed a major challenge to measure overall progress on key indicators. It is imperative to say that strong advocacy is needed to highlight the present gaps in national level surveys related to capturing health status of slum dwellers.

MCPC card is a major source of information for MCH related services. It has been observed that MCP Card is capturing the records related to immunization properly, however it is not been filled up for other services systematically. ANC check-ups are important from many perspectives, however information related to the ANC check-up is not filled in the MCP card adequately. Hence filling up the MCP card as per norms should be promoted among the front-line workers. Many Migrant labourers do not have personal identity related documents, which restrict their access to the schemes such as JSY. Most of the schemes transfer the support amount to the beneficiary's bank accounts directly but often these migrant labourers do not have bank accounts. Improvement of services in healthcare delivery may not be enough to provide all the benefits to the community members. Allied sector needs to work in sync with the health sector to bring a holistic approach.

There is a huge variation in-terms of IFA tables received and consumed among the study participants. This could be for various reasons. However, anaemia is quite widespread and given the poor nutritional status of Indian status; the consumption of IFA tablets should be promoted. High percentage of C-section cases even in govt. health facility poses a serious challenge as it can overwhelm the govt. health system. This may be because high risk pregnancies are not identified in advance, which result in more C-Section cases. Further exploration is needed to understand the reasons for such high number of C-Section cases.

CONCLUSION

Urban health is often viewed from the perspective of access to healthcare and completely undermining the affordability aspect for the urban poor, especially people living in slum areas. Inadequate data in this regard even plays a major challenge to highlight the poor health status of urban poor especially slum dwellers. CINI India has been working on issues around maternal and child health in selected slums (Wards) in Kolkata city over the years. The reviewed project was designed during first 1,000 days of life which refers to the time spanning roughly between conception and one's second birthday providing a unique period of opportunity when the foundations of optimum health, growth, and neurodevelopment across the lifespan are established. As the study focused more on taking details around reproductive history, it was found that on an average there were smaller number of pregnancies among women in study population. Given that the average age of the respondent is around 25 years, average pregnancy rate of 2.13 for these respondents could be considered quite high. This also reflects lack of proper information on reproductive services especially Family Planning services.

Institutional delivery rate is quite high among the study participants, however C-Section cases are equally high (almost 50%); this is alarming given that mostly the respondents delivered in govt. health facility. High risk pregnancy tracking is key to reduce number of C-Section cases. Number of ANC visits reported by the study participants is significant and encouraging; but unsure regarding quality of such visits and what services are rendered during these routine ANC visits. There were very few respondents who received financial benefit under the various govt. schemes related to pregnancy and childbirth, broadly due to lack of proper documents and unavailability of bank account. Duration of hospital stay post-delivery is very short; hence critical child health practices such as Kangaroo Mother Care (KMC), breastfeeding practices are hampered considerably. The study found that more than 50% of the respondents practised KMC during hospital stay; however mere 13% at home settings. Similarly, around 50% study participants in Kolkata study area provided colostrum to their new-born children. Other than Rotavirus vaccine (rotavirus was introduced at a later stage within the immunization schedule), coverage of other vaccines is above 90% in both the study area. Knowledge around contraceptive method among the study participants are quite high; however still 16% did not wanted the last child they delivered. Around 62% respondents in Kolkata study area admitted that they used contraceptive methods post-delivery and 85% among them used modern contraceptive method. Coverage of IUCD/PPIUCD is also quite encouraging.

This study identified a number of factors, including place of residence, migrated population, and women's education, partner's education, respondent's age at birth, birth order and financial conditions, as being significantly associated with the utilization of selected maternal health care services in urban slums of Kolkata. Mothers with two or more child having significantly more likely to utilize maternal health care services compared to women with first pregnancy. The study also empirically examines the positive impact of education, especially women's education on maternal health care service utilization. The positive association between women's education and utilization of healthcare services has always been conjectured and established in different studies. A small percentage of women not ready to take the benefits of ANC the reasons given by those individual women were found to be absence of illness (being healthy), being too busy, long waiting time and their perception that during pregnancy medicines shouldn't be taken hence they don't even take the IFA and Calcium tablets. Moreover, the use of ANC also varied with women's exposure to previous pregnancy related illness, unwanted pregnancy and their perceived susceptibility to pregnancy related illness in their future pregnancies. The women who have faced these problems before were willing to take the ante natal care and they were more conscious regarding their health and their child's health.

The problem of maternal health care utilization in India has become more complex because of vast differences in socio- demographic, economic and cultural factors across the Indian states. This study was conducted to assess the knowledge, awareness and utilization of maternal health care service among the slum-dwelling mothers of urban slums of Kolkata.

In conclusion, to amplify the utilization of maternal health care services, emphasis needs to be placed on the determinants of coverage, including policy and health care system, financial flows and different socio-economic groups as demonstrated within this study. Awareness regarding maternal health care services must

be strengthened to maximum and service utilization must be escalated by enhancing community involvement and improving condition among urban health care system. Advancing maternal health care utilization also demands a comprehensive contextual as well as programmatic understanding to bring necessary behavioural change among different population resides in the urban slums.

LIMITATIONS OF THE STUDY

The present study has certain limitations that need to be taken into consideration, though these limitations can be perceived as fruitful opportunities for future research under the same theme. First, the information collected on maternal-care services utilization may be affected by recall errors of respondents, as the reference period for the reporting was 2 years preceding the survey. Secondly, there is the potential for a social desirability bias, whereby women may know that they should seek maternal health-care services and do not admit while reporting that they did not receive the services. The reader should keep in mind that the aforementioned limitations are the result of the survey protocol designed and reviewed by the committee of a reputed organization thus, minimizing errors. Caution should be used while interpreting the results and establishing causality.

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