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Original Research Article

Determinants of maternal health care utilization at urban slums in Northeast India: a cross-sectional study

Kunal Chakraborty[1]*, Shantibala K.[2], Brogen Singh Akoijam[2]

[1]Department of Community Medicine, Agartala Government Medical College, Agartala, Tripura, India
[2]Department of Community Medicine, Regional Institute of Medical Sciences, Imphal, Manipur, India

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***Correspondence:**
Dr. Kunal Chakraborty,
E-mail: drkunalchakraborty@gmail.com

ABSTRACT

Background: Factors affecting maternal health care utilization determine maternal mortality rate (MMR). Therefore this study has been carried out to out to assess the level and determinants of maternal health care service utilization in an urban slum of north-east India.
Methods: A cross-sectional study design was used. The study area comprised of four municipal wards with well-defined geographical boundaries. All married women in the age group 18-45 years who were either pregnant and/ or had at least one child under 3 years of age on the day of survey residing in that area for a minimum of one year were the study population. Data collection was done by house-to-house visit. Descriptive analysis and chi-square test was used for data analysis.
Results: Adequate utilization of IFA and TT was 86.3% and 84.4%, respectively. Adequate utilization of maternal health care was found to be 79.8% and 20.2% respectively. Age, educational status, income of the participants and birth order of the relevant child was found to be significantly associated with the maternal health care utilization.
Conclusions: The study concludes that maternal health care utilization was found adequate among 79.8% of study participants, out of which antenatal care, intranatal care and postnatal care utilization rate was found in 85.4%, 89.8% and 82.5% respectively. Age, education, income of the women and birth order of their children were significantly associated with maternal health care utilization.

Keywords: Determine, Health care, Maternal, Slum, Urban, Utilization

INTRODUCTION

A pregnant woman is a dyad-unit of two individuals consisting of mother and the foetus. The unity of the dyad which starts after conception continues through the antenatal and postnatal periods.[1] This unity is multidimensional. It is biological, epidemiological, social and operational.[2] So, the mother's and child's health are considered together while giving services to them.

Mother and children are the major consumers of health care services, of whatever forms because in any community they constitute a priority group comprising approximately 71.14% of the whole population. They not only constitute the largest group but they are also the "vulnerable" or "special risk group". The risk is connected with the child birth in case of a woman. As we have seen earlier that maternal health is the basis of their multidimensional unity, by improving maternal health we can also improve infant and child health and overall the health of the general population considerably. Though much of the sickness and deaths among mothers is largely preventable, some pockets in our country still exist where these sickness and deaths are still above the expected limit.[1,3]

Women's health issues continue to be marginalized with limited or no social standing. Death of a pregnant woman is not only a reflection of access to health in a society but also a matter of grave social injustice. It is time for India to tackle maternal mortality and promise safe motherhood for every women and a healthy mother for every newborn child which is fast becoming a global player.[3]

One of the big gap in health disparities between developed and developing countries is the magnitude of Maternal mortality Ratio (MMR).[4] It is further estimated that for 1 maternal death at least 20 more suffer from severe morbidities. For a developing country like India set to become a leading player in the near future, high MMR is a reflection of poor attention paid to accessible health care.[5] MMR which is widely accepted as a key indicator of health and socioeconomic development is a reflection of the whole national health system.[6] Further reduction of MMR is only possible by utilizing maternal health care services, which are longitudinal programmes of integrated health care services for the pregnant women and their offspring's, more efficiently in less privileged areas like urban slums.[7]

In spite of overall decreasing trends of MMR, it is very relevant and pertinent to find out the factors associated with maternal health care utilization in those areas. Therefore, the present study has been carried out to assess the level of maternal health care service utilization in urban slums and to find out the determinants of this utilization. This information may be helpful for health planners and policy makers of the state and our country for an effective planning of maternal health care delivery system especially for those areas.

METHODS

Study design

This cross-sectional study was carried out at the urban field practice area (comprising mostly the slum population) of Regional Institute of Medical Sciences (RIMS) for 20 days from 3rd April'2023.

Study setting

The study area comprised of the four municipal wards with well-defined geographical boundaries: Thangmeiband Sinam Leikai, Thangmeiband Yumnam Leikai, Langol Tarung, Neikanlong. It is about 2.5 km. from the institute. The study area comprises of 568 households and the total population of the study area was 5100.

Study population

All married women in the age group 18-45 years who were either pregnant and/ or had at least one child under 3 years of age on the day of survey residing in that area for a minimum of one year were the study population.. For women with more than one child, the most recent birth was considered for the study.

Inclusion criteria

Those who gave consent to participate in the study were included.

Exclusion criteria

Women who refused to participate in the study or not available even after two successive visits were excluded.

Sample size and sampling

Assuming the prevalence of maternal health care utilization 78.1%, precision 5%, sample size for this study comes to 263. Samples have been drawn by probability proportionate to size (PPS) method from the four municipal wards, then by simple random sampling (SRS) with replacement technique. A sampling frame of the study populati2on was prepared for this purpose.

Study tool

A pre-designed, pre-tested structured interview schedule was used. The interview schedule consisted of questions pertaining to the domains of socio-demographic, antenatal, intranatal and postnatal characteristics.

Data collection

Data collection was done by visiting the household of the selected study participants.

Statistical analysis

Key parameters of adequate maternal health care utilization were defined if they have received all of the following (as per RCH-II): i) Minimum four antenatal checkup (ANC), ii) Minimun onecheck up in first two trimesters and minimum twocheck up in last trimester, iii) Utilization of 100IFA tablets during ANC period or 200 tabltsfor anaemic participants, iv) Utilization of 2TT or 1TT who had history of previous pregnancy within 3 years of visit, v) Institutional delivery, vi) Received four postnatal check-up (PNC), vii) Counselled about Exclusive breast feeding and breastfeeding practices during PNC, viii) Counselled about Family Planning practices during PNC. Data were analyzed by using descriptive statistics and chi- square test was employed to test the association between maternal health care utilization and selected variables of interest. A p value less than 0.05 was considered as statistically significant.

RESULTS

The number of study participants was 263. Table 1 shows that majority of the study households were from Tarung

66 (33.8%). Meitei constitutes the majority 135 (51.3%) followed by tribals 109 (41.5%). In caste wise distribution, maximum 141 (53.6%) fall in general category. Majority were Hindus 150 (57.0%) followed by Christians 111 (42.2%).

Table 1: Background characteristics of households and study population.

Characteristics	Households (n=195), N (%)	Study population (n=263) N (%)
Category		
Pregnant	54 (27.7)	86 (32.7)
Mother of under three	141(72.3)	177 (67.3)
Residence		
Tarung	66 (33.8)	96 (36.5)
Neikanlong	15 (7.7)	20 (7.6)
Seinam leikai	60 (30.8)	76 (28.9)
Yumnam leikai	54 (27.7)	71 (27.0)
Community		
Meitei	108 (55.4)	135 (51.3)
Tribal	77 (39.5)	109 (41.5)
Others	10 (5.1)	19 (7.2)
Caste		
Schedule tribe	77 (39.5)	109 (41.5)
OBC	13 (6.7)	13 (4.9)
General	105 (53.8)	141 (53.6)
Religion		
Hindu	108 (55.4)	150 (57.0)
Muslim	85 (43.6)	111 (42.2)
Christian	2 (1.0)	2 (0.8)

Table 2: Distribution of study population according to utilization of IFA and TT immunization.

	Number, n=263	Percentage (%)
Utilization of IFA		
Adequate	227	86.3
Inadequate	36	13.7
Utilization of TT immunization		
Adequate	222	84.4
Inadequate	41	15.6

The Table 2 shows that 86.3% of the study women took adequate IFA tablets 84.4% of the study women received adequate TT immunization during their antenatal period.

The Table 3 shows that 159 (89.8%) deliveries took place at institution, and only 18 (10.2%) at home. Out of the institutional deliveries, 96 (60.4%) took place in Government institute and 63 (39.6%) in private institute.

The Table 4 shows that of mothers who delivered at home, only 6 (33.3) were attended by skilled birth attendant.

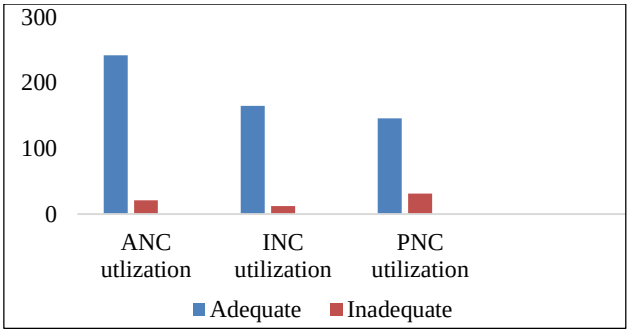

Figure 1: Adequacy of utilization of antenatal care, intranatal care and postnatal care in urban field practice area.

Table 3: Distribution according to place of delivery.

Place of delivery	Number (n=177)	Percentage (%)
Institution	159	89.8
Home	18	10.2

Table 4: Distribution of home deliveries according to type of attendant.

Type of attendant	Number (n=18)	Percentage (%)
Skilled birth attendant	6	33.3
Unskilled birth attendant	12	66.7

Table 5: Distribution of respondents about receipt of breast feeding advice.

Advised about breast feeding	Number (n=171)*	Percentage (%)
Yes	145	84.8
No	26	15.2

*6 did not receive any post natal care

Table 6: Distribution of study population who were counselled about family planning during post natal visits.

Told about family planning	Number (n=171)*	Percentage (%)
Yes	110	64.3
No	61	35.7

*6 did not receive any post natal care

The Table 5 highlights that out of the mothers who received postnatal care, 145 (84.8%) of them were counselled about breast feeding.

The Table 6 shows that 110 (64.3%) of mothers were counselled about family planning.

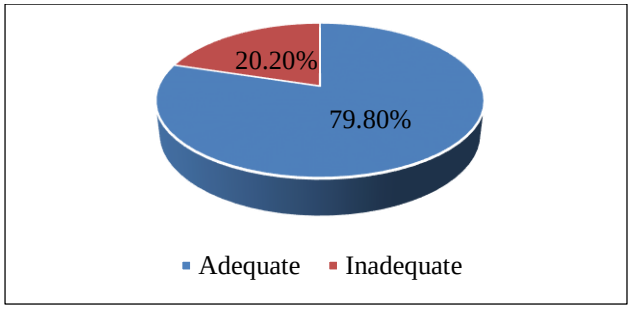

Figure 2: Maternal health care utilization in urban field practice area.

Table 7: Association between overall utilization of maternal health care utilization and selected variables.

Determinants	Maternal health care utilization		P-value
	Adequate N (%)	Inadequate N (%)	
Age (years)			
18-30	166 (86.5)	26 (13.5)	0.000*
31-45	44 (62.0)	27 (38.0)	
Religion			
Hindu	126 (84.0)	24 (16.0)	0.053
Others	84 (74.3)	29 (25.7)	
Education			
Under matriculate	78 (64.5)	43 (35.5)	0.000*
Matriculate and above	132 (93.0)	10 (7.0)	
Occupation			
Housewife	165 (78.6)	45 (21.4)	0.304
Others	45 (84.9)	8 (15.1)	
Income			
<7000	56 (64.4)	31 (35.6)	0.000*
≥7000	154 (87.5)	22 (12.5)	
Family type			
Nuclear	122 (80.3)	30 (19.7)	0.844
Joint	88 (79.3)	23 (20.7)	
Family members			
≤4	122 (80.3)	30 (19.7)	0.844
>4	88 (79.3)	23 (20.7)	
Birth order			
First	72 (87.9)	10 (12.1)	0.000*
More than one	57 (60.0)	38 (40.0)	
Miscarriage			
Yes	29 (80.6)	7 (19.4)	0.768
No	152 (83.3)	30 (16.7)	
Stillbirth			
Yes	9 (69.2)	4 (30.8)	0.935
No	166 (81.1)	39 (18.9)	

*P<0.05

The Table 7 shows that four variables (age, education, family income and birth order) were found significantly associated with overall utilization of maternal health care.

DISCUSSION

This study was conducted after involving 263 women who were either pregnant or at least one child less than three years of age at the time of study to find out the determinants of maternal health care utilization in urban field practice area of Regional Institute of Medical Sciences, Imphal. Maternal health care utilization was found adequate among 79.8% of study participants, out of which antenatal care, intranatal care and postnatal care utilization rate were found in 85.4%, 89.8% and 82.5% respectively. A study done by Ferry et al. in Indonesia showed that the prevalence of service utilization was for antenatal care, intranatal care and postnatal care utilization rate were 90.9%, 79.4%,and 68.9% respectively.[8] There are similarities in different components of maternal health care utilization between the two studies. In our case, antenatal health care utilization rate was slightly lower, but intranatal and postnatal care utilization rate was much higher than the Indonesian study. It is in line as the health care index of India (65.2) is higher than that of Indonesia (60.6). A nation-wide study covering whole India done by Singh et al found that age, education, religion, birth order were significantly associated with maternal health care utilization which is in line with our findings.[9] Study of Banerjee S et al revealed that socioeconomic status of the women is significantly associated with antenatal care utilization which is in line with our study findings.[10] A study conducted by Gebremedhin et al identified the same determinants (age, education, income, religion of the women) which are significantly associated with maternal health care utilization like our study.[11] Study conducted by Wu et al identified adequate antenatal care and presence skilled birth attendant(SBA) as most important s determinants of maternal health care utilization like our study.[12] Study conducted by Singh et al found antenatal and post-natal care utilization were 61% and 26% respectively in rural Uttar Pradesh which is much more in our study because our study area gets dual benefits from the state government and the central government as it is the field practice area of RIMS as well as under the state health department and Imphal Municipal Corporation.[13] Study conducted by Gandhi et al identified education, income, male participation in seeking maternal health care as significant determinants in service utilization which is in convergent with our findings.[14] A study conducted by Shahahuddin et al found out the socioecological factors and approaches as significant modulator to determine the maternal service outcome just like our study.[15] A study conducted by Gupta et al found that educational status of women has important role in maternal health care utilization just like our study.[16] Despite progress in recent years, full antenatal care utilization in India continues to be low and inequitable (in 2015-16, only 51% of women aged 15-49 in India attended antenatal care at least four times during pregnancy), in our study it is higher, as maternal health care services developed and distributed evenly in urban health training centre after that period.

CONCLUSION

The study concludes that maternal health care utilization in urban field practice area of Regional Institute of Medical Sciences, Imphal was found adequate among 79.8% of study participants, out of which antenatal care, intranatal care and postnatal care utilization rate was found in 85.4%, 89.8% and 82.5% respectively. Age, education, income of the study participants and birth order of their children were found to be significantly associated with maternal health care utilization in this study.

Recommendations

As a North-easter state, overall maternal healthcare utilization was found satisfactory as per NFHS-5 data. Though there is still chance of improvement regarding to some areas of post natal care utilization like house-to-house visits by primary health care workers during post-natal period, capacity building of the health-care staff regarding antenatal, intranatal and post-care utilization, iron and folic acid utilization during antenatal period. 100%Implementation of the existing schemes under RCH programme under NHUM with maximum focus on the marginalized urban slum people should be the need of the hour. Women with the age bracket of less than twenty and more than thirty, women with educational qualification under higher-secondary, women from lower-middle and lower class, women with birth order of more than one should be given priority for utilizing maternal-health care services more effectively. These groups should be included as special category during the programme implementation. Because further reduction of MMR can only be done by addressing those only.

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