©Human Biology Review
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Human Biology Review (ISSN 2277 4424) 3 (4) 2014
Original scientific paper (Thakur and Kumar, pp 282-291)
Revised and Accepted on July 9, 2014

Impact of Utilization of Maternal Health care services: A study of Ganda Community in urban slums in Raipur, Chhattisgarh

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Citation: Thakur N and Kumar A. 2014. Impact of Utilization of Maternal Health care services: A study of Ganda Community in urban slums in Raipur, Chhattisgarh. Human Biology Review, 3 (4), 282-291

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***ABSTRACT*:**
Objectives: *1.To study the impact of utilization of maternal health care services among the Ganda mothers an urban slums community. 2. To find out the factors influencing the utilization of maternal health care services.* ***Study Design****: Cross sectional study.* ***Setting****: 6 urban slums of Raipur Districts.* ***Sample size****: All 160 available lactating mothers (15-49 years age).* ***Statistical Analysis****: Proportions and Chi-square.* ***Observation:*** *Most (63%) mothers received full antenatal check-up, 76.2% had received 2 dose of TT injection, and only 29% consumed prescribed IFA tablets. Majority (80.6%) of mothers had delivered at home and 91.4 % of the deliveries were conducted by senior ladies****.*** *The important factors associated with low utilization of antenatal care services were belonging to mother's education, occupation and parity.* ***Conclusion:*** *The present study revealed low utilization of maternal health care practices among the study population; especially in case of consumption of IFA tables and delivery practices. The study can provide new insight for policy makers to devote resources for achieving the best possible quality of maternal and child health services.*
Key words: Antenatal Services, TT Injection, IFA Tables, Slum, Ganda community, Maternal health

INTRODUCTION

Globally, the total number of maternal deaths decreased by 45% from 523 000 in 1990 to 289 000 in 2013. Country-level estimates are shown two countries accounted for one third of all global maternal deaths and India is one of them (17%, WHO, UNICEF, UNFPA, World Bank and the United Nations Population Division, 2014). Such a discrepancy poses a huge challenge in meeting the fifth Millennium Development Goal to reduce maternal mortality by 75% between 1990 and 2015 (Carine and Wendy 2006).

It was shown that use of maternal health services helps in reducing maternity morbidity and mortality and antenatal care has a great impact on health of the mother and child (Sinha, 2006 and Carroli et al., 2001). However, the utilization of maternal health services is an influenced by number factors. International study (Gabrysch and Campbell, 2009) and national research studies have recognized socio-economic factors and maternal education as an important determinant for the use of maternal health services (Kesterton et al., 2010; Navaneetham and Dharmalingam 2002). Although the analysis based on death records, censuses, survey and published studies found that maternal mortality rate (MMR) in India decreased by 59% between 1990-2008, the nation still has the highest number of maternal deaths in the world due to both obstetrics causes and to conditions aggravated by pregnancy or child birth (UN Report,2010).

The present study highlights the utilization of maternal health care practices among the Ganda mothers an urban slum of Raipur district and identify the socio-demographic factors that affect the utilization of maternal health care practices.

MATERIALS AND METHODS

The Ganda, a scheduled caste community, was concentrated in Raigarh and Raipur districts of the Chhattisgarh state. The study was based on 160 available lactating mothers (15-49 yrs age). Standard research tools, namely, observation, pre-structured schedules, interviews and documentation were employed to collect relevant data. Socio-economic variables, namely, identification data, educational status, details of antenatal care, delivery practices and perceived barriers for non-utilization of maternal health-care have been collected through interview using a pre-structured schedule.

Data has been coded, entered and analyzed using SPSS (version 10.0) package. It is expressed in percentage. Chi-square test is used for evaluating association between intake of TT injection and consumption of IFA tablets and categorical variables. ‘P’ value less than 0.05 has been considered statistically significant.

OBSERVATIONS

A total of 160 lactating mothers were included in the study. More than half (53.7%) of the mothers in the study population were in the less than 20 year of age group. Most mothers were educated beyond primary level (41.5%), followed by up to middle and secondary level 36.2% and 8.1 % respectively. As many as 39.3 % of the mothers were working as maid servants and daily wage labourers.

As seen in table 1, out of 160 lactating mothers, 124 (77.5%) mothers had received ANC check-ups. Most (75.8%) of ANC services were utilized by the mothers through private hospital and 22.5% through government hospital. More than half (54%) of the mothers made their first antenatal visit in their first trimester of pregnancy, while 33% of mothers had their first antenatal visit in their second trimester and 12.9% had in their third trimester. Out of 124 mothers who received antenatal check ups, 78 (62.9%) mothers had more than three antenatal visits during their pregnancy. Out of 160, 118 (73.7%) mothers had received TT injection and out of 118, 90 (76.2%) had completed 2 doses/ booster dose of injection tetanus toxoid. Similarly, 62 (38.7%) out of 160 mothers received IFA tablets while only 29.0% (18/62) received stipulated number of tablets (100). Most (80.6%) mothers delivered at home; and among these, 91.4% were assisted by senior ladies, comprising, close relatives and neighbours. High awareness of using sterilized instrument was observed in the surveyed area. All of them (100%) were found using new blade for cutting placenta. The incidence of using modern antiseptic was found rather low (26.2%). Majority (73.7%) of them still prefer traditional method for drying up the wounds.

Table 1. Antenatal care practices among the mothers

Antenatal practices	**Number**	**Percentage**
Antenatal visits		
Yes	124	77.5
No	36	22.5
Institute		
Government	28	22.5
Private	94	75.8
Anganwadi	2	1.6
No of ANC check ups		
</=2	46	37
3-4	58	46.7
=/ > 5	20	16.1
Time of first ANC check ups		
I	67	54

II	41	33
III	16	12.9
Intake of IFA tablets		
Yes	62	38.7
No	98	61.2
Incidence of complete course of IFA tablets		
Complete	18	29.0
Incomplete	44	70.9
Intake of TT injection		
Yes	118	73.7
No	42	26.2
Incidence of complete course of TT injection		
Complete	90	76.2
Incomplete	28	23.7
Place of delivery		
Home	129	80.6
Medical Institute	31	19.3
Delivery conducted by		
Dr / Nurse	8	6.2
Trained Mid Wife	3	2.3
Senior Ladies /	118	91.4

Reasons for choosing home delivery

More than half (53.4%) of the mothers mentioned that they did not find it necessary to deliver the baby in medical institution, while 18.6% felt that it was too costly. Other reasons that contributed for their not going to medical institute for delivery were its being non-traditional (9.30%), lack of awareness (7.7%), not customary (9.3%), not permitted to go (6.2 %), time constrains (4.6 %) & so on. When we asked for the reasons for choosing senior ladies or

untrained dais almost all told since ladies were local and experienced and we had trust on them so they preferred her.

Factors associated with Antenatal care practices

To identify the factors associated with utilization of maternal healthcare services namely, full antenatal check-ups, 2 dose TT injection and IFA tables, we examined the chi-square test of the selected socioeconomic characteristics.

Table 2 shows the effect of education, occupation and parity on the antenatal practices. Mothers with middle and above (63.3%) education were more likely to utilize full antennal care than mothers educated up to primary level (36.3%, χ^2=9.98; d.f =1, p<0 0.002). The reasons could be higher educated mothers have greater exposure to access relevant information and knowledge regarding importance of ANC Check-ups . Similarly, mothers from working class were more likely to utilize prescribed minimum antenatal check-ups (59.2%) compared to non- working mothers (33.7%)(χ^2=4.63; d.f =1, p<0.031). Parents generally, tend to be extra-cautious and enthusiastic in case of first child in comparison to subsequent ones. Traditionally, first delivery takes place at maternal home in case of many Indian communities. Parents of new-born receive lot of useful counselling and assistance related to pregnancy from close relatives. The trend was also witnessed among the Ganda mothers. Incidence of the mothers receiving prescribed minimum three antenatal check-ups was found in greater proportion in case of primiparae (69.2%) to that of multiparae (39.8%). The variation, thus recorded, among the Ganda mothers in regard to receiving prescribed minimum three antenatal check-ups between primiparae and multiparae was found statistically significant (χ^2=9.93; d.f =1, p<0 0.002).

Table -2: Socio –demographic characteristic of the participants in relation to ANC check-ups

Variables	ANC Check-up		χ^2	P value
	<3	**≥ 3**		
Education				
Primary	63.6 (42)	36.3 (24)	9.98*	0.002
Middle and above	36.6 (26)	63.3 (45)		
Occupation				

Working	40.7 (22)	59.2 (32)	4.63*	0.031
Non Working	66.2 (55)	33.7 (38)		
Parity				
Primiparae	30.7 (12)	69.2 (27)	9.93*	0.002
Multiparae	60.1 (65)	39.8 (43)		

Level of significance: * p<0.05

There was a significant difference in the rate of TT injection among the mothers who were working and non working (Table 3). The number was significantly higher in those mothers who were working (87.3%) (χ^2=9.85; d.f =1, p<0 0.002). The reasons were occupation besides; playing an important role in determining the economy of home provides an opportunity to improve one's awareness level through interacting with various persons. Similarly, the utilization of TT injection was higher among the mothers with primiparae (90.4%) as compared to multiparae (67.7%). (χ^2=8.22; d.f =1, p<0 0.004). No association was found between mothers education with utilization of TT injection.

Table -3 Socio-demographic characteristic of the participants in relation to TT injection

Variable	**Intake of TT Injection**		χ^2	**P valve**
	Yes	No		
Education				
Primary Level	52.5 (62)	64.2 (27)	1.7306	0.188
Middle and above Level	47.4 (56)	35.7 (15)		
Occupation				
Working	87.3 (55)	12.6 (08)	9.85*	0.002
Non Working	64.9 (63)	35.0 (34)		
Parity				
Primiparae	90.4 (38)	9.5 (04)	8.2298*	0.004
Multiparae	67.7 (80)	32.2 (38)		

Level of significance: * p<0.05

Table 4 shows that the education of the mothers and consumption of IFA tablets were statistically significant at p< 0.005. Mothers educated up to middle and above level (88.8%) were more likely to consume IFA tablets compared to mothers educated upto primary level (11.1%). The reasons were uneducated mothers discontinued the course mid way because of large size and bad taste of tablets. Another belief that too much consumption of IFA tablet increases the fetus size which may create problem during the delivery.

Similarly, consumption of IFA tablets was much higher among the primiparae mothers (80%) than the multiparae mothers (15%). χ^2=20.93; d.f =1, p<0 0.000) . There was no significant difference between mothers occupation and consumption of IFA tables.

Table 4: Socio-demographic characteristic of the participants in relation to IFA tablets

Variable	**<100 IFA Tablets**	**=/>100 IFA Tablets**	χ^2	**P valve**
Education				
Primary Level	36.3 (16)	11.1 (2)	3.9537*	0.047
Middle and above Level	63.6 (28)	88.8 (16)		
Occupation				
Working	58.3 (07)	41.6 (05)	0.56	0.455
Non Working	69.7 (30)	30.2 (13)		
Parity				
Primiparae	20.0 (03)	80.0 (12)	20.93*	0.000
Multiparae	85 .0(34)	15.0 (06)		

Level of significance: * p<0.05

DISCUSSION

Result of the present study shows that the utilization of maternal health care practices was low among the Ganda community. Intake of recommended antenatal care is an important intervention for reducing maternal and perinatal mortality. In the present study, 77.5% mothers received at least one antenatal check-ups during the last pregnancy. This is similar to the figures of 77% reported in national data (NFHS-3, 2005-06) while lower as compared to

the observation made by Gupta et al. (2010), in the study done in urbanized village in east Delhi (92%) and Khan et al. (2009), in a study in the slums of Aligarh, where 80.4% mothers did have at least one antenatal check-up.

As many as 62.9% of the respondent mothers had three or more than three antenatal check-ups which is higher than what has been reported by corresponding national data (52%) (NFHS-3). However, the rate is lower than a study conducted in urbanized village in east Delhi (76.5%) and an urban slum of Bangalore (90.5%) (Gupta et al., 2010 ; Ranganath and Poornima 2011). In the present study, more than half (54%) of the mothers got registered during first trimester while NFHS-3 reported it to be 44%. About three-quarters (76.2%) of the mothers had received two doses of tetanus toxoid injection which was much higher than the observation made by national data (NFHS-3), where 44% of mothers practiced it.

A study from urbanized village in east Delhi has reported that 72.6% mothers received two doses of tetanus toxoid (Gupta et al., 2010) and a cross-sectional study conducted in the periurban area of Nabi Nagar reported 78.2% mothers received two doses of tetanus toxoid (Khan et al., 2009). However, a study done in urban slums of Bangalore shows 96.9% mothers have taken TT2 / booster (Ranganath and Poornima 2011).

The present study revealed that the consumption of recommended iron folic acid tables was not satisfactory; the proportion of mothers who consumed iron and folic acid tablets was only 29%, which is slightly higher (23.1%) as compared to the national data (NFHS-3). Almost similar finding (31%) was observed in a study done in urbanized village of east Delhi (Gupta et al., 2010). However, the findings have reported lower intakes in the present sample as compared to the study reported in urban slums of Bangalore, which reports 65.6% (Ranganath and Poornima 2011) and a study reported from Maharashtra, which shows 68.9% of their samples (Dabade et al., 2013). There is a need to educate the mothers about the advantage of the IFA tablets.

In our study, 80.6% of the mothers preferred delivery at home, often by untrained birth attendants which is higher than reported by national data (61%) (NFHS-3). An earlier study in urbanized village in east Delhi has reported 49% mothers had home deliveries (Gupta et al., 2010). Agarwal et al. (2007), in a study done in urban slums of Delhi, have reported 31.7% mother's preferred home delivery. Majority (91.4%) of the deliveries in the present study were conducted by elders of the family members/ neighbour and relatives. Similar finding

were observed by a community based case control study in Delhi slum (Aggarwal et al., 2007).

It was observed that mother education, occupation and parity increase the utilization of maternal health care services in the present study. Similar finding was observed by the study reported by urbanized village in east Delhi (Gupta et al., 2010). A study from rural India have shown that women with middle and higher education were two to three times more likely to utilize full antenatal care than uneducated women (Singh et al.,2012)

CONCLUSIONS

The present study revealed low utilization of maternal health care services among the Ganda mothers. It also highlighted the socio-demographic factors play a significant role in utilization of maternal health care services. Some of the factors governed maternal health utilizations were education of mothers, occupation of mothers and parity in the present study. Thus, it may be concluded that, there is an urgent need to inform and educate the pregnant, lactating mothers and family members about availability of free medical health services in government health centres and benefit of the antenatal check-ups to help overcome traditional attitudes and other hurdles that prevent them from seeking the maternal health services during their pregnancy. Health workers should also sensitize about the importance of maternal care services and consistent monitoring and evaluation of the on-going programs may be measured as some of the crucial steps for the betterment of maternal health status of young women in India.

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