Original article

Socio economic differentials in utilization of maternal health care services: A study in urban slums of District Dehradun

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Abstract:

Background: Health inequity is becoming an emerging issue all over the world. Improving maternal health is one of the UN Millennium Development goals. Pregnant women inhabiting urban slums are a "high risk" group with limited access to health facility. **Objective:** To study the socio economic profile of the mothers and to study the differentials in utilization of maternal health care by the beneficiaries. **Study Design:** Descriptive, observational cross-sectional field based study in two purposively selected urban slums of district Dehradun. **Results:** About 70.9% of mothers belonged to social class II and III and 66% of them belonged to nuclear families. Teenage pregnancy was seen in 8.5%. 93.8% of women received complete antenatal care, majority preferring government hospitals. 93.2% of the women received 100 IFA tablets or more but only 63.7% consumed them for 100 days. Majority of the deliveries were institutional and 79.9% were conducted by trained personnel. About 68.5 % received postnatal care. **Conclusion:** Although usage of ANC service was high, opportunity to deliver important health services was not fully utilized. Policy and programme to improve the quality and care of antenatal mothers, especially for the poor and under privileged are essential to improve maternal health care. Special interventions should be undertaken on priority basis so as to achieve millennium developmental goals in all population groups.

Keywords: urban slums; antenatal care; skilled delivery care; institutional deliveries

Introduction

Urbanization is a growing phenomenon worldwide, but response to this situation has been inadequate in low income countries1. Indian cities have experienced population growth particularly among the disadvantaged population groups living in the slums2-3. In the last decade, India grew at an average annual growth rate of 2% but urban population grew at 3% , megacities at 4% and slum population rose by 5-6%4.

Slums have often been conceptualized as social clusters that engender a distinct set of health problems5. The poor environmental condition coupled with high population density makes them a major reservoir for a wide spectrum of adverse health conditions such as under nutrition, delivery-related complications, postpartum morbidity, etc. In India, there have been limited efforts to study the health of individuals especially women living in slums. There is very sparse evidence on socio•economic differentials in the quality of antenatal care in developing countries6. Most of the studies in India7-10 and in

other developing countries11-13 have attributed socio-economic differentials in antenatal

care utilization to a combination of poor access to health services, low education levels and poor demand. Few studies examined the socio economic differentials in the quality of antenatal care and its association with utilization. Some studies, however, have suggested poor quality, unfriendly treatment and less information sharing by health providers to the poor and disadvantaged women14-16. These studies also suggested that the perception of poor quality of care m a y lead to underutilization of health services by the poor women. Inequity in health poses a major challenge to achieve the millennium d e v e l o p m e n t goals, particularly those related to maternal

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health as existing programs are often not able to reach the most needy17. Therefore, assessment of the coverage of disadvantaged populations under reproductive and child health programs should receive priority. This study was planned with the objective of studying socio demographic status of the mothers and estimating utilization of maternal health service by the beneficiaries living in slum areas.

Material and methods

The present observational, descriptive cross - sectional study was conducted in two purposively selected urban slums of Dehradun district from May 2010 to March 2011. The selected slums formed the field practice area of the department and also were located near to HIHT Satellite Clinic, Rishikesh.

The slums were divided into 12 areas and each community health volunteers (CHV) were given approximately 200 – 250 families from the area. Before administering the pre designed, pre tested semi structured questionnaire to the participants, the purpose of the study were explained to them. The data were collected after taking informed consent of the mothers by the CHV's trained for the study. The study was restricted only to mothers who had a child less than one year. This was done to minimise the recall bias and to avoid the mix up of the responses with the earlier delivery, if any. The utilization of service was

done at one point of time. Modified Kuppuswamy scale18 i.e. education of the head of the family, occupation of the head of the family and total monthly income of the family was used to determine the socio economic status of the family. To ensure the quality of the data, 10% of the questionnaire was randomly cross–checked by the principal investigator. After checking the questionnaire for errors, the data were entered into computer database and analyzed using SPSS version 18.0 Software. Chi- square test was used for categorical variables. Differences were considered to be statistically significant at 5% level.

Results

Table I shows the socio demographic profile of the study subjects. Seventy one (70.9%) percent of the mothers belonged to social class II and III. Most of the mothers were young (91.5% being less than 30 years of age) and two thirds (66%) lived in nuclear family. Teenage pregnancy accounted for 8.5% in our present study. Approximately three- fifth (58.7%) of the mothers had completed school education while approximately one third

(34.7%) were illiterates.

Table – I: Socio–demographic profile of the respondents

Parameter	Number (N= 203)	(Percent)
Age of mothers		
15 – 20	17	8.5
20 – 25	115	56.8
25 -30	70	34.7
30 -35	1	0.5
Literacy status of mothers		
Illiterate	71	34.7
High School	119	58.7
Graduation	13	6.6
Religion		
Hindu	174	86.1
Muslim	23	11.2
Sikhs	6	2.7
Type of family		
Joint	69	34.0
Nuclear	134	66.0
Socio Economic Status*		
Class – II (upper middle)	76	36.9
Class – III (lower middle)	69	34.0
Class – IV (upper lower)	58	29.1

*Socio economic status as per modified Kuppuswamy scale

Table II shows the service utilization maternal health by the mothers which included antenatal check up, delivery practices and postnatal check up.

Antenatal check up: More than four fifth (84.7%) of the mothers had received minimum of 3 antenatal care. Two doses of tetanus toxoid/ booster were received by 94.2 % irrespective of the source of service. IFA tablets was distributed to 93.2% women but only two third (63.7%) had consumed 100 tablets for prophylaxis. Any antenatal service had not been received by 6.2% mothers.

Place of delivery: Almost three fifth (61.5%) of the delivery took place in the hospital while two fifth (38.5%) was home delivery. Delivery at Government institution was 41.3% while 20.2% delivery took place in private institution.

Home delivery: Delivery by unskilled birth attendants was seen in one fifth of the cases. 97.3 % mothers had no complication during delivery.

Table II: Utilization of maternal health services

Parameters	Number (N=203)	Percentage (%)
3 ANC	172	84.7
TT2/Booster	191	94.2
Consumed 100 IFA tablets	129	63.7
Place of ANC		
Home	10	4.9
Govt facilities	98	48.1
Private facilities	83	40.8
None	12	6.2
Place of delivery		
Home	78	38.5
Govt. hospital	84	41.3
Private hospital	41	20.2
Birth attendants		
Skilled	162	79.9
Unskilled	41	20.1
Postnatal check–up		
Yes	139	68.5
No	64	31.5

ANC- Antenatal check up, TT – Tetanus toxoid
IFA- Iron Folic Acid

Only 6 (2.7%) mothers had complication of which 4 had prolonged labour which was managed at home and 2 had retained placenta which were managed at

Table III: Education of mother and antenatal care utilization

Education of mothers	Antenatal care utilization		Total
	Yes	**No**	
Illiterate	66 (92.5)	5 (7.5)	71
High School	112 (94.0)	7 (6.0)	119
Graduate	11 (90.0)	2 (10.0)	13
	189 (93.1)	14 (6.2)	203

X^2 =1.63, d.f=2 (p>0.05)

d.f = degree of freedom

government facilities.

Post-natal check up within 2 days of delivery: About one third of the mother did not receive any post natal care by any health personnel within 2 days of delivery. The traditional birth attendant in other cases visited the mothers for massage and oil bath but they did not examine the mother.

Table III shows the utilization of antenatal service according to their level of education. In present study 92.5% of births related to illiterate women received antenatal care compared to 90% of births related to women who were graduate. The educational differentials in utilization of antenatal care services was however not significant statistically (X^2=1.63, p > 0.05).

Table IV shows the place of delivery and the socio economic status of mother. A total of 61.5% (125/203) deliveries were institutional of which 84 (67.2%) took place in government hospital and 41 (32.8%) in private hospitals. Home delivery was preferred by 38.5% (78/203) of study respondents. The differentials regarding place of delivery (home/ govt. hospital/private hospital) was however statistically significant when the socio economic status of the family was taken into consideration (X^2= 10.4, 4 df, (p<0.05).

Table V shows the relationship between education of mother and source of post natal care. It was observed that a total of 68.4% (139/203) mothers had availed postnatal care within 2 days of delivery, whether home or hospital, while 31.6% (64/203) had not received post natal care. The pattern of maternal education and utilization of postnatal care utilization was however not significant statistically (X^2 = 11.89, 6df, p>0.05).

Discussion

Education is an important indicator of women's health. Utilization of ante natal care (ANC) is an important intervention for reducing maternal and perinatal morbidity and mortality. The utilization of antenatal care by the mothers in the present study was 93.8%. The antenatal care service utilization in urban slums of our country varies from 50 – 90 %. Although the literacy rate of the mothers was 65% in the present study, they were well aware of the importance of antenatal services which can be considered as a positive indicator.

The percentage of pregnant women with three antenatal checkups in the present study was found to be more than the National Family Health Survey3 (NFHS) 2005-06 (84.7% and 50.7% respectively)19. TT immunization was found to be 86.2% in slums

Table IV: Socio-economic status and place of delivery

Socio-economic status	Place of delivery			Total
	Govt. Hospital	Private	Home	
	N (%)	N (%)	N (%)	
II	22 (26.2)	14 (34.1)	39 (50.0)	75 (36.9)
III	32 (38.1)	16 (39.0)	21 (26.9)	69 (34.0)
IV	30 (35.7)	11 (26.9)	18 (23.1)	59 (29.1)
Total	84 (100)	41 (100))	78 (100)	203 (100)

X2=10.4 , d.f = 4, (p 0.05)

Table V: Education of mother and source of postnatal care

Education of the mother N (%)	Source of Post natal care utilization					Total
	Govt. Hospital	Pvt. Hospital		Home	Not Received	
		N (%)		N (%)	N (%)	
Illiterate	28 (37.8)	18	(52.9)	12	(38.7)	13 (20.3)	71
High school	42 (56.7)	13	(38.2)	19	(61.3)	45 (70.3)	119
Graduate	04 (5.5)	03	(8.9)		---	6 (9.4)	13
Total	74 (100)	34	(100)	31	(100)	64 (100)	203

X^2 = 11.89, d.f=6, (p>0.05)

of Bangalore 20 while it was 100% in Kolkata 21 slums which is almost similar to our finding. tablets consumption for 90 days or more when they were pregnant with their last child varied from 10% to 81% 19-23 in various studies done in urban slums across the country. In the present study IFA tablet for 100 days was consumed by only 67.3%. Importance of taking regular IFA tablets needs to be emphasized to the mothers to prevent nutritional an aemia which is a well recognized public health problem.

Safe delivery practices by trained care providers along with essential new born care and appropriate referral are the main stay of new born survival and wellness of mother and child. In the present study 61.5% deliveries were institutional. Home delivery has been the norm in urban slums and the same is also seen in the present study but in our study most of the home deliveries were conducted by trained Red Cross birth attendant. The main reason cited out by the mothers for home delivery was "Tradition" which reflects lack of knowledge about the importance of safe delivery practices. The other possibility could be due to the a ttitude of health workers and their "rude behaviour" at times which also turns the mothers away from institutional delivery to "traditional" home delivery practices. Although the emphasis of the National Reproductive and Child Health Programme is to promote institutional deliveries, the poor infrastructure, and limited government health facilities also makes women opt for home deliveries. In the private sector poverty and out of pocket expensed is a major hindrance towards institutional delivery. Awareness of the mothers about various government incentives like JSY and JSSK and also their accreditation with the private institution can go a long way in promoting institutional delivery.

Postnatal care provides an excellent opportunity to find out how a mother is getting along with her child and also to see the woman recuperating both physically and emotionally from her experience of child birth24. Post natal check up within 2 days of delivery was observed in 68.5% in our study. Similar finding was observed by Reddy et al25 in Andhra Pradesh. NFHS 2005-0619 reports only 36.8% women receiving post natal check up within two days of delivery. Postnatal complication in our study was 2.7% only which could

be due to the fact that most of the home delivery was carried out by trained Red Cross attendant.

In spite of availability of government and private health facilities within the vicinity of the slums areas, coverage indicators especially for institutional delivery and postnatal care was poor. Slum dwellers had poor literacy and most were employed in less paying unskilled manual labour. Hence, slum populations were an economically and socially disadvantaged group. Illegality of slums and social exclusion hampers health service development in the slums. Preferences of public health institutions for child birth instead of private services reflects good provision of government health facilities, but access of these facilities to slum population is usually poor as they have to buy most of the prescription. MDG has highlighted the multidimensional nature of poverty and connection between health and social mission. Identifying health disparities can go a long way in assisting public health authorities in India in developing policies and programmes targeting persons or communities at greater risk of advers e events. Prime Minister of India has recently announced an initiative in lines of NRHM 26 to improve the health services of urban poor in view of glaring inequalities in urban health settings. Jawaharlal Nehru National Urban Renewal Mission has also been l aunched to augment basic services for the urban poor 27 in terms of availability, accessibility, affordability, adequacy and acceptability .

Conc lu sio n:

The urban health centres being located in the heart of the service area are often utilized by the slum dwellers. Inequity does exist in utilization of these services and poor maternal and child indicators reflect this inequality . Health staff, local and political leaders with their effort and commitment should try to bridge these gaps. More a wareness regard ing array of services being provided by these centres should be disseminated so that the maternal and child health indicators shows improvement.

Conflict of interest : Nil

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