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RESEARCH ARTICLE
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STUDY OF DETERMINANTS OF MATERNAL HEALTH CARE COVERAGE IN RURAL AREA OF DISTRICT BARABANKI, UTTAR PRADESH

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Abstract

Background: Women and children constitute a large proportion of any population. They are the most vulnerable to morbidity and mortality especially in developing countries. In many situations the problem of poor maternal and child health stems from the poor use of available services even when they are not of optimum quality.

Methods: The study used a cross-sectional analytic design. Pretested semi structured questionnaires were administered by interviewers to 540 women from a rural area of district Barabanki. Chi square analysis was done to identify factors associated with Maternal and Child Health Service utilization. Logistic regression was used to identify determinants of utilization patterns.

Results: The study revealed that increasing age, educational level, occupation of both women and their husbands were associated with increased MCH service utilization

Conclusions: Improved use of MCH services is related to socio economic challenges women face such as illiteracy and low income. The way health facilities and their staff are perceived by rural women affect how they use some of these services and should be considered in programs which seek to reduce maternal and child mortality.

Keywords: Maternal and child services, Utilization, Rural women, Factors

1.Introduction

International human rights law includes fundamental commitments of states to enable women to survive pregnancy and childbirth as part of their enjoyment of sexual and reproductive health and rights and living a life of dignity. The World Health Organization (WHO) envisions a world where

"every pregnant woman receives quality care throughout the pregnancy, childbirth and the postnatal period" (1)

Maternal health care embraces antenatal, intranatal and postnatal care. Quality intranatal care and is crucial to achieve the aim of a healthy mother and a healthy baby at the end of a pregnancy. (2) Maternal and child health remain an intimidating challenge to the health-care system worldwide. The ability to reach and maintain high rates of coverage for priority interventions among the general and disadvantaged population is an indication of the strength of the health system in a country. (3,9) Maternal health-care use varies within developing countries, with differences between affluent and poor women, and between women living in urban and rural areas. Factors related to place of residence and socioeconomic status may account for variations in use of maternal health care. These factors include women's age, education, religion, costs, location and quality of health services etc. (4,10) The people residing in rural areas are disadvantaged in terms of availability, accessibility and affordability of health-care services when compared with urban counterparts. In India, majority of its population living in rural areas (roughly 70%), devoid of even subsidized health services provided by the government on account of complex socioeconomic circumstances, requires targeting the underserved population in specific areas. (3)

Despite the observed benefits of appropriate ANC utilization globally, its use remains low in developing countries, with significant variations across regions. (6)) Evidence from rural India indicates that only 44.8% of pregnant women receive at least four ANC visits, this was even grave in rural Uttar Pradesh where only 21.7 % mothers receive at least 4 ANC visits. (8,12,13)

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2.OBJECTIVES

To identify various socio demographic factors determining maternal health care coverage in rural Barabanki

3.METHODOLOGY

3.1 **Study design**: Cross sectional analytical study.

3.2 Sample size and sampling technique: Using data of ANC care coverage (at least 4 ANC visits) in rural India- 44.8% (NFHS-IV) and level of error 10%, non-response error 10 % The Sample size is 540.

3.3 Sampling technique: Snow ball sampling technique will be used to locate and interview the mothers who have delivered in last one year.

3.4 **Data collection**: House to house survey will be conducted at the villages (16) under RHTC-Hind Institute of Medical Sciences catered area. All the women who delivered within last one year and consenting for the study will be interviewed on a predesigned proforma.

3.5. **Data analysis**: The data collected in proforma will be entered in MS Excel and analyzed using SPSS version 21. Appropriate test of significance will be applied for significance in qualitative data, odds ratio will be calculated (Crude & Adjusted) for risk assessment in multivariate analysis.

3.6 **Ethical consideration**: Ethical clearance will be taken by the ethical committee of HIMS. However, this is a cross-sectional study with no intervention. One female will be accompanying the interviewer-e.g. ANM/ASHA/AWW/Nurse/RA

RESULTS

TABLE 1- Socio demographic characteristics of respondents:

AGE GROUP (YEARS)	FREQUENCY (%)
15- 19	76(14.0)
20-24	149(27.5)
25-29	180(33.3)
30-34	130(24.0)
35-39	24(4.4)
>40	3(.55)
EDUCATION	
illiterate	15(2.7)
primary	98(18.1)
secondary	318(58.8)
graduation	109(20.1)
OCCUPATION	
unemployed	260(48.1)
Government-employed	39(7.2)
Non- government employed	56(10.37)
Self employed (labour/shopkeeper/agricultural)	185(34.2)
HUSBAND's OCCUPATION	
unemployed	8(1.4)
Government-employed	76(14.0)
Non-government employed	116(21.48)
Self employed (labour/shopkeeper/agricultural)	340(62.96)

TABLE: 2 Pattern of MCH service utilization among different age groups and level of education (n=540)

Variable Age (in yrs.)	Total	ANC Freq (%)	ID Freq (%)	FP Freq (%)
15-19	76	57(75)	36(47.3)	3(3.94)
20-24	149	142(95.3)	103(69.1)	6(4.02)
25-29	180	174(96.6)	121(67.2)	25(13.8)
30-34	130	118(90.7)	94(72.3)	27 (20.76)
35-39	24	19(79.1)	3(12.5)	13(54.1)
>40	3	3(100)	1(33.5)	2 (66.6)
X^2		26.131	21.852	55.482
Df		6	6	6
p-value		<0.001	0.006	<0.001
Level of education				
uneducated	15	7(46.6)	3(20)	0(0.0)
primary	98	72(73.4)	37(37.7)	35(35.7)
secondary	318	255(80.1)	165(51.8)	72(22.6)
tertiary	109	84(77.06)	71(65.13)	32(29.3)
X^2		3.321	12.146	11.254
Df		5	5	5
p-value		0.643	<0.001	0.042

TABLE 3: Utilization of MCH services among different occupational groups (n=540)

RESPONDENTS OCCUPATION	TOTAL	ANC FREQ (%)	ID FREQ (%)	FP FREQ (%)
unemployed	260	135(51.9)	124(47.6)	49(18.8)
Self-employed (labour/shopkeeper/agricultural)	185	109(58.9)	98(52.9)	52(28.1)
Non-gov employed	56	39(69.6)	36(64.2)	12(21.4)
Gov-employed	39	32(82.0)	24(61.5)	15(38.46)
X^2		13.112	12.121	9.293
Df		5	5	5
p-value		<.001	0.022	0.141
HUSBANDs OCCUPATION				

unemployed	8	4(50.0)	3(37.5)	1(12.5)
Self employed (labour/shopkeeper/agricultural)	340	250(73.5)	200(58.3)	99(29.1)
Non-gov employed	116	84(72.4)	77(66.3)	43(37.3)
Gov-employed	76	58(76.3)	59(77.6)	25(32.8)
X^2		13.75	21.889	9.474
Df		7	7	7
p-value		0.088	0.001	0.304

TABLE 4: Significant Determinants Of Mch Service Utilization

MCH SERVICE	VARIABLE	OR	p VALUE	95%. C. I	
				Lower limit	Upper limit
ID	EDUCATIONAL LEVEL				
	Uneducated	1			
	Tertiary education	0.495	0.000	1.244	2.164
FP	AGE				
	Age<20 yrs.	1			
	Age 40-44 yrs.	0.115	0.000	0.838	0.948

RESULTS

Table 1 shows that the categories of respondents with the greatest frequency were those aged 25-29 years: 180/540 (33.3%) with mean age (SD) of 27.2 years, those with secondary level of education 318/540(58.8%) those unemployed 260/540(48.1%). The most prevalent occupation among their husbands was self-employed 340/540(62.96%).

Table 2 shows low level of use of family planning and institutional delivery across most age groups. especially in the youngest age groups between 15 and 24 years. There was significant association between age and use of all services ($p<0.0001$ for family planning, ANC and $p= 0.006$ for delivery services). There was higher level of use of family planning, and institutional delivery services among educated women compared with non-literate women. There was also better utilization of ANC and delivery services (84/109; 77.06%, 71/109; 65.13% respectively) among women with tertiary education when compared with their other educated contemporaries. Family planning use was generally poor among all respondents. There was significant association between educational level and use of delivery ($p<0.001$) and family planning (p -0.042)

Table 3 shows use of ANC and institutional delivery among women whose husbands were government servant. there are generally high utilization rates for all services except family planning.it also shows significant association between husbands' occupation and the use of institutional delivery ($p =0.001$)

Table 4, logistic regression identified educational level (OR:0.495, $p<0.001$, CI: 1.244-2.164) was a determinant of increased use of delivery services and age (OR: 0.115, $p<0.001$, CI: 0.838-0.948) was a determinant of increased use of family planning services.

DISCUSSION

Utilization of antenatal care (ANC) were generally high with peak values in older women of 40 years and above and the lowest utilization rates in the 15–19-year age group. women aged between 25 and 34 years were more likely to use antenatal, delivery, family planning than those younger than 25 years with the lowest utilization rates found among women who were less than 20 years of age. Institutional delivery and family planning utilization were generally low, reaching its peak utilization rate among women older than 40 years. This may be attributed to their being more experienced and more enlightened in childbearing and child care activities. Also, women are usually better empowered financially by this age giving them more freedom to take decisions and make personal choices they believe are in their best interest (14,15). Age was identified as a determinant of family planning services among these women. The utilization of family planning services was common among the educated groups of respondents. Utilization rates were highest among government servants and consistently low among the unemployed. This supports previous findings about the influence of financial barriers on utilization of MCH services in developing countries (16).

Utilization of institutional delivery services increased with and was found to have a significant association with husband's occupation reaching its highest rates where the husband was a professional. The study found, once again, an increase in the utilization of ANC, child care and delivery services with increasing level of education of the women themselves up to a peak among those with tertiary school education, and then a decline among non-literate women. Education was also identified as a factor determining use of delivery services. There was significant association observed between education and use of all MCH services. This pattern is similar to the findings of another author (17).

Higher the literacy rate of any population the higher the rate of utilization of MCH services. There is therefore need to ensure access of women to basic education in order to increase national literacy rates in developing countries. Occupation of women was found to have significant effect on service utilization. This is in keeping with findings of studies carried out in the Philippines (18) and Ghana (19) in which occupation was found to strongly influence use of maternal services with civil servants and other professionals found to be more likely to use MCH service.

CONCLUSION

Characteristics of rural women which play major roles in influencing their use of these services are age, education, occupation and their perception of health workers and the facility. The poor levels of utilization among women give cause for concern. It identifies them as a major target for future interventions aimed at achieving a change in attitude and subsequently an improvement in MCH service use. The influence of respondent's husbands on their use of services makes a strong case for increased male involvement in delivery of MCH services.

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