

ORIGINAL ARTICLE

Maternal Health Care in Rural and Urbanized Villages of Delhi - A Comparative StudyRam Kishore Gupta¹, Anil Kumar², Arvind Pandey³¹Ex-Scientist F, ²Scientist E, ³Director, National Institute of Medical Statistics, Ansari Nagar, New Delhi

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Abstract

Back Ground: No information was available as to how the two rural areas, one that is closer to urban facilities (urbanized villages) and the other one that is purely rural differ in terms of status of maternal care. **Objective:** To test the hypothesis that the pregnancy related care of mothers in urbanized villages is better than that in non-urbanized villages. **Methods:** The desired sample of 420 mothers was selected by adopting two-stage sampling in each of two districts of Delhi: South and South West. In the first stage villages and in second stage 14 eligible mothers with children of age of 6 weeks to one year were selected. Informed consent was received from the mothers before their interview. **Results:** More than two third of the mothers during their pregnancy got registered with government doctors/facilities and more than one fourth with private doctors/nursing homes or hospitals. More than 95% of the pregnant women received antenatal care during the second month of pregnancy. Eighty six percent of mothers received full antenatal care. Percentage of deliveries conducted separately in institutions and homes were almost similar in the two types of the villages. Postnatal care was received by more than 90% of the mothers. **Conclusion:** Almost all the mothers were found to be availing the services such as Full ANC, Safe Delivery and Postnatal Care irrespective of their socio-economic background and place of residence.

Key Words

Two stage Random Sampling; Maternal Care; Urbanized Villages; South and South West District; Delhi.

Introduction

Of the total population of Delhi state, around 2.50 percent live in the villages of rural areas and majority of Delhi urban population live in slums, squatter colonies and urbanized villages. As per census 2001, 'all villages having a population of 4000 and above, a population density of 400 per km² or more and having at least 75 per cent of male working population engaged in non- agricultural activity are classified as urban villages'. Thus there are two types of rural population in Delhi, one which live in rural villages (non-urbanized) and the other living in urbanized villages which are notified by the government. These villages are surrounded by developed urban area in their land. The urban population has access to a wider range of health care options, particularly in large cities like Delhi, due to

the better-developed health infrastructure. Being closer to the urban area, population in urbanized villages is expected to have more access to better civic facilities and to the advanced health facilities as compared to that in rural area. The health and well-being of mothers and infants are of critical importance, both as reflections of the current health status of individuals, local communities, and the nation as a whole. There is a serious dearth of empirical research in India on the utilization of maternal healthcare services in rural settings particularly in urbanized villages. Many large surveys such as District Level Health Surveys (1) and National Family Health Surveys (2) provide comparison of status of maternal and infant care in urban & rural areas. Chandhiok *et al.* (3) (2006) provided information about utilization of antenatal care in

rural areas. A study by Pragati Chhabra *et al.* (4) has reported only Immunization coverage in two urbanized villages of Delhi. Even the 'State of Urban Health in Delhi' (5) report by Govt. of India does not make any mention of health status in urbanized villages. Other two research studies (6,7) do not present information for villages and urban villages. Therefore, on review of the literature, it has been found that there is not even a single study which provides information as to how the two rural areas, one that is closer to urban facilities and other one that is purely rural differ in terms of status of maternal care. In view of this a study was undertaken in urbanized and non-urbanized villages of two districts of Delhi- South and South-West.

Aims & Objectives

In the present paper, the status of maternal care in the two groups of villages has been presented.

Material and Methods

The study was duly cleared by the Ethical Committee of the institute. The study has been conducted in two divisions of Delhi; South and South-West. Using information from DLHS3 on proportion of pregnant women receiving antenatal care three or more times as performance Indicator, for Rural ($P_1=0.58$) and for Urbanized Rural, assuming about 15% more ($P_2=0.67$) with $\alpha =.05$, $1- \beta= 0.80$, a sample of 420 mothers each from the two groups of villages, non-urbanized (villages) and urbanized villages has been determined, thus 840 mothers from the two divisions.

The desired sample was selected by adopting two-stage sampling in each district. From each district, in the first stage, 30 villages; 15 each from two groups of villages were selected randomly, thus covering 60 villages. In the second stage, 14 eligible mothers were selected satisfying the three conditions, 'belonging to families living in the same village for 5 years or more; age of the child born to the mother to be interviewed should be of 6 weeks to one year; and the child is alive at the time of interview'. For the selection of the households all the landmark sites in the selected villages were identified. Then one site was selected randomly. The first household was selected randomly starting from the selected landmark site. An eligible mother from the selected household was interviewed after taking her informed consent. Selection of households continued following right hand side rule till the desired sample of mothers was complete. Necessary

statistical comparisons have been made to ascertain whether the mothers living in urbanized villages are benefitted by their closeness to urban facilities. The Z test was used for comparing two independent proportions and X^2 test for associations.

Results

Demographic Profile: Religion wise distribution of mothers was almost similar. Mothers belonging to 'SC' and 'Other Castes' were more in urbanized villages whereas of 'OBC' more in villages. Mothers belonging to joint family were more from villages and from nuclear family in urbanized villages. Monthly expenditure of families in urbanized villages was slightly higher as compared to those of families in villages. Education level and occupation status of mothers was found to be almost similar.

Antenatal Care: Antenatal care is the care that a woman receives from healthcare professionals during her pregnancy. Antenatal Care (ANC) provided by a doctor, an ANM or other health professionals comprises of physical checks, checking the position and the growth of fetus and giving TT injection at periodic intervals during the time of pregnancy. At least three check-ups are expected to complete the course of ANC to safeguard women from pregnancy related complications. [Table 1](#) provides information on antenatal care in both villages and urbanized villages. It may be seen that more than 80% of mothers came to know about their pregnancy within three months and more than 95% of the mothers got registered during their pregnancy. In both the groups of the villages, more than two third got registered with government doctors/facilities and more than one fourth with private doctors/nursing homes or hospitals. Only a few got ANC from ANMs. More than 95% of the pregnant women started receiving antenatal care in the second month of pregnancy in both types of villages. More than three fourth of the pregnant women received antenatal care 5 or more times in both types of villages.

Percentage of mothers (>86%) who received 'full antenatal care' during pregnancy that includes, minimum of three antenatal visits, at least two tetanus toxoid injections and receipt of iron and folic acid tablets were almost same in both types of the villages.

Tests and measurements as required were done of large number of pregnant women. However, weight, height, BP, Breast Examination and Ultrasound

/sonogram were done significantly more of mothers living in urban villages than that of mothers living in villages.

Care during Deliveries conducted in Homes/Institutions: From [table 2](#), it may be seen that out of the total 420 deliveries of children in each group of villages, more than 84% were conducted in either Government facilities or Private hospitals/nursing homes. Most of the deliveries were conducted by Doctors and more than 70% were normal deliveries. It may also be seen that out of 100 home deliveries conducted, 52 were in villages and 48 were in urban villages. Eighty eight percent of the deliveries conducted by TBA in urban villages were found to be significantly higher than the number of deliveries conducted by TBA in villages. Disposable kits were used in about one fifth of deliveries in villages and in about one fourth in urban villages. It may be observed that out of the home deliveries that were conducted in urban villages, the number of babies immediately wiped dry and then wrapped without being bathed were significantly higher than that were conducted in homes of villages. New/sterilized blade was used to cut the cord of the about 64% of the new born babies in villages and about 73% in urban villages, not significantly different from each other. Institutional deliveries, 353 in the villages and 357 in the urbanized villages were almost similar in number. More than 98% of the deliveries were conducted by doctors in both types of the villages. About 70% of deliveries conducted were normal and about 29% were caesarean.

Delivery conducted either in a medical institution or home deliveries assisted by doctor/nurse/Lady Health Visitor (LHV)/Auxiliary Nurse Midwife (ANM)/other health professionals is termed as safe delivery. In the present study, it has been found that mothers (99.5%) going safe deliveries living in urban villages were slightly higher as compared to those mothers (98.3%) living in villages.

Postnatal Care: Postnatal care that is check-up within 42 days after child birth is also considered as a potential maternal health care service indicator. It is the attention given to the general mental and physical welfare of the mother and infant.

Within six weeks after delivery, high fever, lower abdominal pain and severe headache were the common problems reported by the mothers. About 17-19% of them sought treatment and consulted Pvt. /Govt. doctors ([Table 3](#)).

Correlates of Full Antenatal Care Utilization, Safe Delivery and Postnatal Care: Association of some the important household characteristics of the mothers such as type of family, religion, caste, education and occupation of mother and husband and monthly expenditure of family as economic status with performance such as Full ANC, Safe Delivery and Post natal Care has been worked out using Chi-Square test. It has been observed that the associations are highly significant with Full ANC for mother's religion & education, husband's education and monthly expenditure. With Safe Delivery, in addition to mother's religion & education, husband's education, monthly expenditure, husband's occupation was also found to be highly associated. Furthermore, it has been found that with Post natal care, in addition to all the factors that are associated with Safe Delivery, type of family and caste are also found to be highly associated.

Discussion

This study has been conducted with a view to test the hypothesis that utilization of antenatal care, natal (delivery) care and post natal care among mothers living in urbanized villages is more than that among mothers living in the villages (non-urbanized). Information from 420 mothers each from urbanized and non urbanized villages has been collected and analyzed. From the study, It has been found that more than two third got registered with government doctors/facilities and more than one fourth with private doctors/nursing homes or hospitals, and there is no statistical difference in ANC registration between the two types of the villages. More than 95% of the pregnant women received antenatal care during the second month of pregnancy and more than three fourth of the pregnant women received antenatal care 5 or more times in both types of the villages. Eighty six percent of mothers received full antenatal care during pregnancy, and this was found to be similar in both type of the villages. It may be concluded that awareness and ANC seeking is similar in both types of the villages. Further analysis revealed that Mother's and husband's education, monthly expenditure of the family i.e. economic status and religion of the family have significant influence on the utilization of Ante natal care (Full ANC). Association with place of residence, village and urbanized village, was also observed with the Type of family, Caste, Education and Occupation of husband for Full ANC.

More than 85% of the deliveries were conducted by doctors in both types of the villages. No statistical difference was observed in number of deliveries conducted in institutions and homes in the two types of the villages. Mothers approaching for safe delivery were found to be slightly higher in urban villages. In addition to educational status of mothers & husbands, economic status and religion of the family, Safe Delivery were also found to be highly associated with occupational status of the husband.

Postnatal care was availed by most of the mothers in both types of the villages as and when needed and qualified health personals were consulted. Furthermore, it is important to note that factors like type of family and caste are also highly associated with Post natal care in addition to all those factors that were found to be associated with Safe Delivery.

Conclusion

It may be observed from the study that the outcome indicators of MCH services such as Full ANC, Safe Delivery, Postnatal Care were almost similar, may be because MCH services particularly ANC services have been made accessible to all the mothers in both groups of villages in Delhi. Almost all of the mothers were found to be availing the same irrespective of their socio-economic background and place of residence.

Recommendation

The study provides information on maternal health care in rural area of Delhi particularly in urbanized villages that was earlier not available. The study has revealed that there is slightly more concern for Safe Delivery in urbanized villages than in villages. So necessary steps could be taken to promote safe delivery in villages by the Government.

Limitation of the study

The study has been conducted in only two districts of Delhi. Therefore, the results cannot be generalized for Delhi.

Relevance of the study

Information on maternal care separately for urbanized villages of Delhi has been provided which was earlier not available.

Authors Contribution

RKG & AK: Both contributed in planning and conduct of the study and analysis of data etc. AP: provided valuable suggestions and guidance for completing the study and helped in writing and finalizing the paper.

Acknowledgement

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Tables

TABLE 1 ANTENATAL CARE

Ante natal Care	Villages (%) n=420	Urbanized Villages (%) n=420
Mothers who came to know about their pregnancy within three months into pregnancy	81.7	84.3
Mothers who got registered during pregnancy	96.4	97.6

Pregnancy was registered with		
• Govt. Doctor	68.6	70.5
• Private Doctor	28.6	28.8
ANM and others	2.8	0.7
Antenatal care received by mothers after (months)		
• One	3.2	5.6
• Two	53.5	54.9
• More than Two	43.2	39.5
As part of antenatal care during this pregnancy, following were done at least once		
• Weight	94.5	97.4
• Height	37.4	50.7
• BP	92.9	96.4
• Blood Tested	94.0	95.7
• Urine Tested	94.8	96.2
• Abdomen Examined	94.0	94.5
• Breast Examined	47.9	55.0
• Sonogram or Ultrasound Done	91.9	94.8
Mothers were told where to go for any pregnancy complication	54.8	54.9
During this pregnancy, tetanus injection was given to mothers		
• Once	9.6	7.5
• Two times and more	80.3	92.4
From where Iron & Folic Acid (IFA) Tablets /syrup received by mothers		
• Govt. / ESI Hos.	26.2	30.8
• Govt. / ESI Dis.	40.9	39.4
• Private Hospital/ Clinic	16.0	13.4
• Chemist/Pharmacy	27.8	38.7

TABLE 2 CARE DURING (INSTITUTIONAL/HOME) DELIVERIES

Natal Care	Villages (%) n=420	Urbanized Villages (%) n=420
Place of delivery		
Govt. Facility / Hospital	46.9	46.4
Private Hospital/Nursing Home	37.1	38.6
Home	12.4	11.4
Others	3.5	3.5
Delivery conducted by		
Doctor	85.2	86.9
Other Health Personnel	3.3	2.1
Other Person/ Dai (TBA)	9.8	10.5
Delivery was		
Normal	75.5	71.9
Caesarean	24.5	28.1
Care during Home Deliveries	n=52	n=48
Home deliveries conducted by		
Doctor	1.9	2.1
ANM/Nurse/Mid Wife/LHV	11.5	6.3
Other Person/ Dai (TBA)	73.1	87.5
Friends/Relatives	13.4	4.2
At the time of delivery of the child, the following were done	21.2	25.0
Disposable delivery kit (DDK) used		
Baby immediately wiped dry and then wrapped without being bathed	53.8	72.9
New/sterilized blade used to cut the cord	63.5	72.9

TABLE 3 POST NATAL CARE OF (HOME/ INSTITUTIONAL) DELIVERIES

Post- Natal Care of Home Deliveries	Villages (%) n=52	Urbanized Villages (%) n=48
During the first 6 weeks after home delivery, any of the following health problems experienced by mothers		
• High Fever	11.5	10.4
• Lower Abdominal Pain	11.5	14.6
• Foul Smelling Vaginal Discharge	1.9	0.0
• Excessive Bleeding	1.9	2.1
• Convulsions	1.9	0.0
• Severe Headache	9.6	6.3
Any one consulted or sought treatment for these health problems	21.2	16.7
Place where went for consultation or treatment		
• Govt. Doctor/Hospital	63.6	62.5
• Pvt. Doctor/Hospital	36.4	37.5
Post natal care of Institutional deliveries	n=353	n=357
During the first 6 weeks after Institutional delivery, any of the following health problems experienced by mothers		
• High Fever	7.1	2.5
• Lower Abdominal Pain	8.8	8.7
• Foul Smelling Vaginal Discharge	4.0	0.0
• Excessive Bleeding	3.7	1.4
• Convulsions	0.6	0.0
• Severe Headache	7.6	4.5
Any one consulted or sought treatment for these health problems	19.3	17.1
Place where went for consultation or treatment		
• Govt. Doctor/Hospital	61.7	49.2
• Pvt. Doctor/Hospital	36.7	50.8
• Other Health Professional	1.6	0.0