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A Study to Evaluate the Utilization Pattern of Antenatal Services by Rural and Urban Women Who Have Delivered in Selected Rural and Urban Hospitals of West Bengal

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ABSTRACT

For women and their families, being pregnant and giving birth are unique occasions. Pregnancy can bring forth a great deal of hope and joy, and it is our country's duty to ensure that babies are born healthy by providing prenatal care from the very beginning. To identify the antenatal services availed by the mothers who have delivered in the selected rural and urban hospitals. To compare the utilization of antenatal services by rural and urban mothers. To find out the expressed problems of availing antenatal services. Conceptual framework of the study was based on Rosenstoch's Health Belief Model (1975). A comparative and evaluative approach and purposive sampling technique was used to select 50 postnatal mothers from each rural and urban hospital. Data were collected by structured interview schedule and record analysis proforma and analysed by frequency and percentage distribution. Urban mothers utilized antenatal services more effectively, with higher timely registration, better adherence to iron and folic acid intake, and more comprehensive BCC on breastfeeding and family planning compared to rural mothers. Both groups had similar access to basic care and tetanus toxoid vaccination. Rural mothers faced more challenges in service access and adherence to prenatal care protocols. Being pregnant is a delicate time. The Indian government's emphasis on achieving 100% prenatal care underscores a critical national health priority. Despite efforts like NRHM and RCH II, significant gaps in access and utilization persist, particularly in rural areas. Strengthening healthcare infrastructure, enhancing health education, and expanding outreach efforts are essential steps to ensure all expectant mothers receive the vital prenatal care they need for maternal and child health outcomes across India.

INTRODUCTION

A mother's joy begins when new life is stirring inside. when a tiny heartbeat in heard for the very first time, and a playful kick reminds her that she is never aluse.

For women and their families, being pregnant and giving birth are unique occasions. Pregnancy can bring forth a great deal of hope and joy, and it is our country's duty to ensure that babies are born healthy by providing prenatal care from the very beginning.

The main goal of prenatal care is to produce a healthy mother and child at the conclusion of the pregnancy[1]. The goal of the health care system's efforts is to lower maternal mortality and morbidity at all levels, from the global to the local.

Potdar[2] asserts that the caliber of treatment is more significant than its quantity. Pregnancy necessitates specific care, generally considered a preventive measure. When visits do happen, they seem to happen seldom, toward the end of the pregnancy, and it's unclear what they cover. Furthermore, it seems that women who encounter difficulties or indications of a complex delivery are more likely to seek prenatal services than other women who did not receive any assistance.

Inadequate use of services is a reflection of socioeconomic and cultural limitations as well as awareness of facility accessibility and care quality. Prenatal services are highly utilized in poor nations. Approximately 64% of them believe that having children is not a life event that warrants medical attention[3].

Although India is a rising global powerhouse, far too many pregnant women encounter significant obstacles in their quest for access to life-saving medical treatment. An unnecessary number of tens of thousands of Indian women pass away each year as a result of pregnancy, delivery, and unsafe abortions. Although most of the deaths can be avoided with access to good prenatal care, families regard these deaths as fate or destiny[4].

Antenatal services indirectly save the lives of mothers and babies by promoting and establishing good health before childbirth and the early post-natal period. It often presents the first contact opportunities for a pregnant woman to connect with health services, thus offering an entry point for integrated care, promoting healthy home practices, influencing care-seeking behaviours and linking women with pregnancy complications to a referral system; thus having a positive impact on maternal and fetal health.

MATERIALS AND METHOD

Research approach: In the present study comparative and evaluative approach is chosen and found to be the most appropriate for studying utilization pattern of antenatal services by rural and urban women who have delivered in selected rural and urban Hospitals. This method helps in identifying the existing condition by uncovering new facts about the situation.

Research design: The choice of research design depends on the researcher's expertise, the problem and purpose of the study and the intent to generalize the findings. Present study is conducted using a comparative survey design.

Study of Variables:

- Registration <12 weeks
- At least 4 Antenatal checkup
- weight, Height, BP measurement
- Abdominal palpation
- FHS monitoring
- Administration of Tab. iron folifer and Inj. TT
- Testing Blood(Hb%, grouping, VDRL, HIV ELISA); Urine (Albumin, sugar)
- Attended PPTCT
- BCC on additional nutrition, rest and sleep, exercise, personal hygiene, perineal hygiene, emergency fund, emergency transport, breast feeding, family planning, Institutional delivery

Population: In the present study, population comprised of all the postnatal mothers who have delivered in the selected Hospitals.

Sample size: In the present study 50 postnatal mothers from rural Hospital and 50 postnatal mothers from urban Hospital was selected as sample.

Sampling technique: Sampling is the process of selecting a portion of the population to represent the population. Sampling is necessary because it is more economical and efficient to work with a small group.

Population: The population refers to all elements, individuals, objects or substances that meet certain criteria for inclusion in a study. Population is the entire aggregate of subjects that meet a designated set of criteria in which researcher is intereated In the present study, population comprised of all the postnatal mothers who have delivered in the selected Hospitals.

Sample size: In the present study 50 postnatal mothers from rural Hospital and 50 postnatal mothers from urban Hospital was selected as sample.

Sampling technique: In the present study non probability purposive sampling technique was used to select the subjects for the study.

Criteria for selection of sample: Criteria for selection of sample:

- Postnatal mothers who were registered in the selected Rural Hospital or any Sub-centre under that hospital and who registered in the selected urban (Jalpaiguri District) Hospital and who also delivered in the selected rural and urban Hospital.
- Postnatal mothers available during the study period.
- Postnatal mothers willing to participate in the study.
    - Postnatal mothers who understand and speak Bengali and English.

RESULT

Depicts that among rural antenatal mothers 66% had done 1st registration within 12 weeks, 50% had attended antenatal clinic at least 4 times, 78% had measured weight and BP and only 18% had measured height during antenatal period (Table 1).

Depicts that among urban women 70% had done 1st registration within 12 weeks, 50% women had attended antenatal clinic at least 4 times, 88% women had measured weight and BP and 30% women had measured height during antenatal period (Table 2).

Depicts that palpation of abdomen was done for maximum number of urban mothers (96%) than that of the rural mothers (88%) (Table 3).

Fetal heart sound checked by health care provider was 90% in rural mothers in comparison to 10% of urban mothers (Table 4).

All of the mothers from both rural (100%) and urban (100%) had received two doses of injection TT.

Depicts that urine analysis for albumin and sugar had been done in case of 66% of rural mothers and 68% of urban mothers.

BCC regarding additional nutrition had been given to 100% of both rural and urban mothers.

DISCUSSION

Major findings, Discussion in relation to the other findings, Conclusion, Implications, Limitations and Recommendations.

Table 1: Distribution of Antenatal services utilized Rural

	Rural	
Antenatal services utilized	Frequency	Percentage
Registration facility		
1st registration within 12 weeks		
As perceived	33	66
From record	33	66
No. of antenatal visits at least 4 times		
As perceived	25	50
From record	25	50
Antenatal check-up		
Measurement of weight at least 4 times		
From record	39	78
Measurement of height		
As perceived	9	18
From record	9	18
Measurement of Blood Pressure at least 4 times		
From record	39	78

Table 2: Distribution of Antenatal services utilized Urban

	Urban	
Antenatal services utilized	Frequency	Percentage
Registration facility		
1st registration within 12 weeks		
As perceived	35	70
From record	35	70
No. of antenatal visits at least 4 times		
As perceived	25	50
From record	25	50
Antenatal checkup		
Measurement of weight at least 4 times		
From record	44	88
Measurement of height		
As perceived	15	30
From record	15	30
Measurement of Blood Pressure at least 4 times		
From record	44	88

Table 3: Distribution of Sample characteristics

	Rural		Urban		Total	
Sample characteristics	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Abdominal Palpation						
Yes	44	88	48	96	92	92
No	6	12	2	4	8	8
Fetal heart sound						
Yes	45	90	48	96	93	93
No	5	10	2	4	7	7
T.T received	50	100	50	100	100	100
2 Doses of T.T	50	100	50	100	100	100

Table 4: Distribution of Sample characteristics Urine

	Rural		Urban		Total	
Sample characteristics	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Urine for albumin						
Yes	33	66	34	68	67	67
No	17	34	16	32	33	33
Urine for sugar						
Yes	33	66	34	68	67	67
No	17	34	16	32	33	33
BCC regarding additional nutrition	50	100	50	100	100	100

Major findings

Section I: Findings related to background data.

- The majority of individuals from both urban (60%) and rural (54%) areas were between the ages of 19 and 25.
- Most subjects from rural (54%) and urban (68%) areas were primi gravida, and a maximum number of subjects were primi para in both rural (54%) and urban (70%) areas.
- The majority of subjects from both rural (86%) and urban (74%) areas were Hindu.
- A significant portion of both rural (44%) and urban (50%) subjects had primary-level education.
- The majority of subjects from both rural (82%) and urban (88%) areas were housewives.
- Most subjects from rural (58%) and urban (52%) areas were from nuclear families, with the majority of rural subjects (56%) having 2-4 family members and urban subjects (52%) having 5-7 family members. The majority of both rural (44%) and urban (46%) subjects had a monthly family income between Rs. 3501 and 4500.

Section II: Findings regarding the total utilization of antenatal services by rural and urban mothers according to structured interview schedule and record analysis proforma.

Total utilization of antenatal services by Rural mothers:

- Among rural antenatal mothers, 60% completed their first registration within 12 weeks, and 50% attended antenatal clinics at least four times.
- During the antenatal period, 78% of rural mothers had their weight and blood pressure measured, while only 18% had their height measured.
- Abdominal palpation was performed on 88% of rural mothers, and fetal heart sounds were checked for 90%.
- All rural mothers (100%) received two doses of the tetanus toxoid (TT) vaccine. Three-time hemoglobin estimation blood tests were performed on 56% of mothers, and blood glucose tests were conducted on 36%.
- While all mothers received iron and folic acid (IFA) tablets according to records, only 62% reported taking all 100 tablets.
- Blood grouping and Rh factor tests were done for 50% of mothers. VDRL tests were performed on 76%, and HIV ELISA tests were done for 100% of rural pregnant women.
- Urine analysis for albumin and sugar was performed on 66% of rural antenatal mothers.
- All rural mothers received BCC on additional nutrition, rest and sleep, exercise, and institutional delivery. However, only 24% received BCC on personal hygiene, 54% on perineal hygiene, 36% on emergency funds, 52% on emergency transport, 36% on breastfeeding, and 68% on family planning.

Total utilization of antenatal services by Urban mothers:

- Among urban antenatal mothers, 70% completed their first registration within 12 weeks, and 50% attended antenatal clinics at least four times.
- During the antenatal period, 88% of urban mothers had their weight and blood pressure measured, and 30% had their height measured.
- Abdominal palpation and fetal heart sounds were checked for 90% of urban mothers.
- All urban mothers (100%) received two doses of the tetanus toxoid (TT) vaccine. Three-time hemoglobin estimation blood tests were performed on 48% of mothers, and blood glucose tests were conducted on 68%.
- While all urban mothers received iron and folic acid (IFA) tablets according to records, only 82% reported taking all 100 tablets.
- Blood grouping and Rh factor tests were done for 66% of urban mothers. VDRL tests were performed on 78%, and HIV ELISA tests were done for 100% of urban pregnant women.
- Urine analysis for albumin and sugar was performed on 68% of urban antenatal mothers.
- All urban mothers received BCC on additional nutrition, rest and sleep, and institutional delivery. However, only 44% received BCC on exercise and personal hygiene, 32% on perineal hygiene, 52% on emergency funds, 52% on emergency transport, 70% on breastfeeding, and 76% on family planning.

Section III: Findings regarding the comparison of the utilization of antenatal services by rural and urban mothers according to the structured interview schedule.

- The majority of rural subjects (58%) received services from sub-centres, while most urban subjects (56%) received services from government hospitals or clinics.
- A higher percentage of urban subjects (70%) registered within 12 weeks of gestation compared to rural subjects (66%). Both rural and urban subjects (50%) attended antenatal services four times.
- Nearly all urban subjects (98%) and most rural subjects (88%) had their weight measured at each visit. Blood pressure was measured at each visit for all urban subjects (100%) and the majority of rural subjects (94%).

- Abdominal palpation was performed for almost all urban subjects (96%) and most rural subjects (88%). Fetal heart sounds were checked for 96% of urban subjects and 90% of rural subjects.
- 82% of urban subjects and 62% of rural subjects reported taking all 100 tablets of iron and folic acid (IFA) provided.
- All subjects from both areas received two doses of the tetanus toxoid (TT) vaccine. Hemoglobin estimation was slightly more common among rural subjects (54%) compared to urban subjects (52%).
- All subjects received BCC on additional nutrition, rest, and sleep. However, only 24% of rural mothers and 44% of urban mothers received BCC on exercises during the prenatal period. For personal hygiene, 54% of rural subjects and 44% of urban subjects received BCC.
- Similar percentages of rural (52%) and urban (52%) subjects received BCC on emergency funds, but more rural subjects (54%) received BCC on emergency transport compared to urban subjects (52%). A higher percentage of urban mothers (70%) received BCC on breastfeeding compared to rural mothers (36%). Urban mothers also received more BCC on family planning (76%) compared to rural mothers (68%). All subjects (100%) received information on institutional delivery.

Section IV: Findings regarding the comparison of the utilization of antenatal services by rural and urban mothers seconding to the structured interview schedule.

- A higher percentage of urban mothers (70%) completed their first registration by 12 weeks of gestation compared to rural mothers (66%). Both rural and urban mothers (50%) received antenatal services four times.
- More rural mothers (88%) measured their weight four times compared to urban mothers (78%). Blood pressure was measured at least four times by 88% of urban mothers and 78% of rural mothers. Height measurement was done by only 18% of rural mothers and 30% of urban mothers.
- Abdominal palpation was done for 92% of urban mothers and 88% of rural mothers. Fetal heart sounds were checked for 96% of urban mothers and 90% of rural mothers.
- All rural and urban mothers received 100 or more iron and folic acid tablets and two doses of the tetanus toxoid (TT) vaccine.
- Hemoglobin estimation was done three times for 56% of rural mothers and 48% of urban mothers. Blood glucose tests were performed for 72% of urban mothers and 64% of rural mothers. Blood grouping and Rh factor tests were done for 56% of rural mothers and 66% of urban mothers. VDRL tests were conducted for 78% of urban mothers and 76% of rural mothers. All subjects from both areas (100%) had an HIV ELISA test.
- Urine analysis for albumin and sugar was done for 68% of urban subjects and 66% of rural subjects.
- All rural and urban mothers received BCC on additional nutrition, rest, sleep, and institutional delivery. Family planning BCC was received by 76% of urban mothers and 68% of rural mothers.

Section V: Findings regarding the comparison of the utilization of antenatal services by rural and urban mothers according to record analysis profarma.

- Most rural (48%) and urban (46%) subjects lived 1-2 km from the health center. The majority reached the health center by van or rickshaw (54% rural, 70% urban) with travel expenses ranging from Rs. 11-20 for both rural (52%) and urban (48%) subjects.
- The majority of rural (46%) and urban (40%) subjects waited between 1 hour 5 minutes and 2 hours to receive antenatal services.
- Most rural respondents (32%) were accompanied by family members, while the majority of urban subjects (50%) were accompanied by their husbands.
- A higher proportion of urban subjects (40%) faced significant difficulties in obtaining prenatal care compared to rural subjects (34%). Both rural (8%) and urban (10%) mothers complained about long waiting times for antenatal services.

Discussion in relation to the other findings: The main study findings have been discussed in this part in relation to the findings of the other researchers.

The study's foundation is the idea that, in developing nations, the majority of women do not receive appropriate prenatal care, and that prenatal care utilization differs in rural and urban areas.

Utilization pattern of antenatal service: The study findings indicate a lack of knowledge about early registration and adequate prenatal checkups, resulting in low utilization of prenatal care services. This is supported by Sagir A, Varma AV, Samarasinghe CM, and Jeha ST (2009), who found that only 38.4% of prenatal mothers in Kamaka's coastal region registered during the first trimester, with 57.3% making their first health facility visit in the second trimester.

Similarly, Chandhiok N, Dhillos BS, Kambo I, and Saxena NC (2006) noted that in rural India, as age, parity, and number of living children increased, prenatal care utilization decreased. Increased awareness and understanding of prenatal care and pregnancy-related issues were linked to higher use of these services.

Factors affecting the utilization of antenatal service: The results of this study indicate that pregnant women faced a variety of challenges in order to receive prenatal care, including long wait times, travel times between the health centre and the home, ignorance, opposition from family members, and a communication gap or lack thereof between the health care provider and the antenatal community.

The study findings align with a 2009 study by Chaibva CN, Roos JH, and Ehlers VJ, which found that teenage mothers often do not utilize antenatal care services due to structural constraints, policies, attitudes towards antenatal services, poor awareness, and socioeconomic issues.

Additionally, Agiewal P, Singh MM, and Garg S's 2007 investigation on maternal health service utilization in an urban slum in Delhi reported similar factors contributing to underutilization. These include beliefs that antenatal care is unnecessary (27%), lack of knowledge about services (17%), long waiting times (22%), absence of companions (15%), financial constraints (12%), fear of hospital care (6%), and family objections (2%).

CONCLUSION

Being pregnant is a delicate time. The Indian government is currently emphasizing the need for 100% of prenatal care. However, a sizable portion of expectant mothers continue to receive insufficient prenatal care. Although MCH services in India have grown over time, underutilization of the services persists, particularly in rural areas. Health education was prioritized in the National Rural Health Mission (NRHM) and Reproductive and Child Health (RCH II) programs. The pattern of antenatal care utilization is anticipated to improve with the hiring of more female health aides at the sub-center level, the implementation of behavioral change communication as part of RCH II, and the construction of rural hospitals as First Referral Units (FRUs) for 24-hour maternity services.

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