**Section:** Community Medicine

**Original Research Article**

# HEALTH-SEEKING BEHAVIOUR AMONG PREGNANT WOMEN IN RURAL ASSAM: A CROSS SECTIONAL COMMUNITY BASED STUDY

**Himadri Pathak[1], Ratna Sarma[2]**

[1]Assistant Professor, Department of Community Medicine, Tripura Santiniketan Medical College, Madhuban, Agartala, Tripura, India
[2]Ex Professor, Department of Community Medicine, Guwahati Medical College, Guwahati, Assam, India

*Received* : 03/03/2025
*Received in revised form* : 22/04/2025
*Accepted* : 09/05/2025

*Keywords:*
*Maternal morbidity, care-seeking behaviour, antenatal care, rural health, Assam, pregnancy complications, community-based study.*

Corresponding Author:
**Dr. Himadri Pathak,**
Email: drphimadri@yahoo.co.in

DOI: 10.47009/jamp.2025.7.3.45

Source of Support: Nil,
Conflict of Interest: None declared

*Int J Acad Med Pharm*
2025; 7 (3); 247-253

## ABSTRACT

**Background:** Despite multiple national programs aimed at improving maternal health, women in rural India continue to face barriers to adequate care during pregnancy, childbirth, and the postpartum period. In early 2000s Assam, maternal morbidity and health care-seeking behaviour remained poorly documented. This study was undertaken to assess patterns of maternal morbidity and care-seeking behaviour in a rural population before the implementation of large-scale health reforms under the National Rural Health Mission. **Materials and Methods:** A community-based cross-sectional study was conducted between July 2002 and August 2003 in 30 villages of Rani Block, Kamrup District, Assam. A multistage sampling technique was used to select 320 currently married women aged 15–49 years who were either pregnant or had delivered in the preceding year. Data on antenatal, intranatal, and postnatal morbidities and care-seeking behaviours were collected using a pre-tested, semi-structured questionnaire. **Result:** While 84% of women registered their pregnancies, only 29.7% received three or more antenatal visits, and just 4% initiated ANC during the first trimester. Care-seeking was high for intrapartum complications such as prolonged labour (100%) and convulsions (100%) but lower for antenatal (69.2%) and postpartum morbidities (73.3%). Conditions like anaemia, vaginal discharge, and hypertension were often under-recognized or self-managed. Socio-demographic factors, symptom severity, and health system accessibility influenced care-seeking decisions. **Conclusion:** There is a critical need for culturally sensitive, community-based interventions to improve awareness and timely care-seeking for maternal morbidities in undeserved areas like rural Assam.

## INTRODUCTION

Although pregnancy is a natural physiological event, it continues to pose serious health risks for women in low- and middle-income countries. During the early 2000s, maternal mortality and morbidity remained unacceptably high in developing regions, including India, where large gaps persisted in access to essential obstetric care. In rural Assam, these challenges were compounded by poor infrastructure, low literacy levels, and delayed health care utilization.

At the time of this study, over 99% of the estimated 529,000 global maternal deaths occurred in developing countries, and India accounted for nearly 20% of them.[1] Maternal mortality, however, is just the visible part of a much larger burden—an estimated 15 to 30 women suffer from morbidities for every woman who dies due to pregnancy-related causes.[2,3] These morbidities include anaemia, sepsis, prolonged labour, hypertensive disorders, postpartum haemorrhage, and infections, many of which are preventable or treatable with timely medical intervention.

However, maternal morbidity was largely under-reported and poorly documented, especially in rural communities where hospital-based statistics failed to capture the full extent of suffering.[4] Studies from the 1990s and early 2000s pointed out that women often normalized symptoms or relied on unqualified care providers due to social and structural barriers.[5,6] Cultural expectations, low decision-making autonomy, financial hardship, and geographical inaccessibility all contributed to delayed or absent care-seeking behaviour.

By 2002, several national programs—such as the Child Survival and Safe Motherhood (CSSM) Programme and the Reproductive and Child Health


ISSN (O): 2687-5365; ISSN (P): 2753-6556

(RCH) Programme—had attempted to improve maternal health in India. However, data indicated that antenatal, institutional delivery, and postnatal care utilization remained low in several rural districts.[7] The National Family Health Survey-2 (1998–99) revealed that less than 40% of rural women in Assam received the recommended number of antenatal visits, and over 70% of deliveries still occurred at home.[8]

We designed this community-based study to understand the perception of pregnant women about morbidities and barriers & facilitators for seeking care. The literature available during our research pointed to a pressing need for such field-based inquiries to complement hospital data and to inform health planning for vulnerable populations.[9,10]

In the two decades since our study, maternal health indicators in India have improved considerably. The Maternal Mortality Ratio (MMR) dropped from 301 per 100,000 live births in 2001–03 to 97 per 100,000 in 2018–20.[11] Programs such as the National Rural Health Mission (NRHM), Janani Suraksha Yojana (JSY), and increased deployment of Accredited Social Health Activists (ASHAs) have improved institutional deliveries and antenatal care coverage.[12,13] Despite this progress, recent studies confirm that barriers to care-seeking persist, especially in underserved and remote areas.[14,15]

Our study remains relevant for public health scholarship because it documents community-based realities before the NRHM era. The findings can serve as a historical benchmark to assess progress in maternal health and to identify persisting challenges that require targeted interventions.

**Objectives**

1. To assess patterns of health care seeking during pregnancy and childbirth.
2. To identify the factor influencing health care seeking behaviour which can be address for improving care seeking

## MATERIALS AND METHODS

We conducted a community-based cross-sectional study between July 2002 and August 2003 in the Rani Community Development Block of Kamrup District, Assam, India. This rural block comprises 72 villages and 30 villages was selected for its accessibility and socio-demographic representativeness of rural Assam.[16]

**Study Population**

The study included currently married women of reproductive age (15–49 years) who were either pregnant during the study period or had delivered a child within the previous one year. All participants were permanent residents of the selected villages.[17]

**Sample Size and Sampling Technique**

We selected a sample size of 320 women, based on estimated population parameters and desired precision levels for assessing key maternal health indicators.[18] A multistage sampling technique was employed:

**Stage 1**: Twenty villages were selected using probability proportional to size (PPS) sampling.[19]

**Stage 2**: Eligible respondents were identified through house-to-house surveys within the selected villages until the required sample size was met.

**Data Collection Tools and Procedure**

We used a pre-tested, semi-structured questionnaire developed in the local language to collect information. The tool was adapted from existing community health survey instruments, including NFHS and RCH project questionnaires, and validated by field experts.[20,21] Trained female interviewers conducted face-to-face interviews to gather detailed data on:

- Utilization of antenatal, intranatal, and postnatal care services
- Types and sources of healthcare accessed during pregnancy, delivery and sickness
- Household and community-level factors influencing care-seeking behaviour

Routine immunization cards were reviewed when available to supplement the data and improve accuracy.

**Measurement of Outcomes**

The primary outcomes assessed were:

1. Utilization of maternal healthcare services across antenatal, delivery, and postnatal periods.
2. Care-seeking behaviour during morbidity and complications, and the source of healthcare services accessed during morbidity and complications.

**Statistical Analysis:** All data were entered into Microsoft Excel, cleaned, and analysed using Epi Info version 6.04, Descriptive statistics such as percentages and proportions were calculated. Associations between care-seeking patterns during different periods, health care providers, and for different morbidities were assessed using the Chi-square tests. A p-value <0.05 was considered statistically significant.[23]

Institutional Ethics Committee of Guwahati Medical College & Hospital was non-existent at that period of time, so verbal informed consent was obtained from all participants and data anonymity was strictly maintained. Confidentiality and privacy were strictly ensured during and after data collection in line with ethical standards for community-based studies.[24]

## RESULTS

Among the 320 rural women included in the study, 84% had registered their pregnancies, while 16% had not. Analysis of antenatal care (ANC) utilization revealed that 15.6% of the women had not received any ANC, 23.75% had one visit, 30.93% had two visits, and 29.68% had three or more visits. Furthermore, only 4% of the registered women initiated ANC within the first trimester (<12 weeks). The majority (72.96%) began care between 12 and 19 weeks of gestation, while 22.96% started during the later second trimester or early third trimester [Table 1].


ISSN (O): 2687-5365; ISSN (P): 2753-6556

**Table 1: Status of registration and Anti Natal care (ANC) utilization of study population**

| **Pregnancy registered** | **Number of women(N=320)** | **Percentage** |
|---|---|---|
| yes | 270 | 84 |
| No | 50 | 16 |
| | | |
| **Number of Ante Natal check done** | **Number of women (N=320)** | **Percentage** |
| 0 | 50 | 15.6 |
| 1 | 76 | 23.75 |
| 2 | 99 | 30.93 |
| >=3 | 95 | 29.68 |
| **Timing of 1st ANC** | **Number of women(N=270)** | |
| <12 | 11 | 4 |
| 12-19 | 197 | 72.96 |
| 20-27 | 62 | 22.96 |

**Health-Seeking Behaviour During Morbidities**

The health-seeking behaviour of morbid women varied across the three phases of maternity. During the antenatal period, 77.66% of women with morbidities sought healthcare, whereas 22.34% did not. In contrast, all women experiencing intranatal morbidities sought medical care. For postpartum morbidities, 73.3% sought healthcare, while 26.7% (n=16) refrained from doing so. The difference in health-seeking behaviour across the antenatal, intranatal, and postpartum periods was statistically significant ($\chi^2 = 26.87$, df = 2, $p < 0.05$).

**Type of Morbidities and Corresponding Health-Seeking Behaviour**

During the antenatal period, the likelihood of seeking care was higher for more severe conditions. Healthcare was sought by 92.3% of women with fever lasting more than three days, 80.55% of those with lower abdominal pain, and 54.54% of those with bleeding per vagina. On the other hand, a very low proportion of women with oedema (5.55%), backache (10.25%), and leg cramps (33.33%) sought care. All women with pregnancy-induced hypertension, malaria, and jaundice reported utilizing healthcare services. In the intranatal period, care-seeking was universal, with 100% of women reporting morbidities such as prolonged labour, retained placenta, and eclampsia availing health services. During the postpartum period, care-seeking was highest for postpartum haemorrhage (77.8%) and foul-smelling vaginal discharge (71.4%), but was markedly lower for breast problems (27.8%) and lower abdominal pain (41.7%) [Table 2].

**Table 2: Types of Morbidities and Health-Seeking Behaviour during ante natal period (Multiple response table).**

| **Morbidities in different periods of pregnancy** | **Health Care seeking** | | **Total** |
|---|---|---|---|
| **Ante natal Morbidities** | **Yes** | **No** | |
| Bleeding per vagina | 12 (54.54%) | 10 (45.45%) | 22 |
| Pregnancy-Induced Hypertension (PIH) | 5 (100%) | 0 (0%) | 5 |
| Vomiting | 41 (48.23%) | 44 (51.77%) | 85 |
| Oedema | 1 (5.55%) | 17 (94.45%) | 18 |
| Lower abdominal pain | 58 (80.55%) | 14 (19.45%) | 72 |
| Symptoms of UTI | 15 (37.5%) | 25 (62.5%) | 40 |
| Back ache | 4 (10.25%) | 35 (89.75%) | 39 |
| Leg cramps | 3 (33.33%) | 6 (66.67%) | 9 |
| Constipation | 2 (50%) | 2 (50%) | 4 |
| Fever > 3 days | 36 (92.3%) | 3 (7.7%) | 39 |
| Malaria | 15 (100%) | 0 (0%) | 15 |
| Jaundice | 5 (100%) | 0 (0%) | 5 |
| **Intrapartum morbidities** | | | |
| Prolonged labour | 12 (100%) | 0 (0%) | 12 |
| Excessive bleeding per vagina | 9 (90%) | 1 (10%) | 10 |
| Retained placenta | 9 (100%) | 0 (0%) | 9 |
| Perineal tear | 4 (66.7%) | 2 (33.3%) | 6 |
| Eclampsia | 1 (100%) | 0 (0%) | 1 |
| **Postpartum morbidity** | | | |
| Postpartum haemorrhage (PPH) | 14 (77.8%) | 4 (22.2%) | 18 |
| Foul-smelling vaginal discharge | 10 (71.4%) | 4 (28.6%) | 14 |
| Lower abdominal pain | 5 (41.7%) | 7 (58.3%) | 12 |
| Symptoms of urinary tract infection (UTI) | 4 (57.1%) | 3 (42.9%) | 7 |
| Breast problems (e.g., mastitis) | 5 (27.8%) | 13 (72.2%) | 18 |
| Fever > 3 days | 6 (54.5%) | 5 (45.5%) | 11 |

**Type of Healthcare Provider Consulted**

Women predominantly consulted allopathic doctors for morbidities experienced during all three phases. For antenatal conditions like bleeding per vagina, pregnancy-induced hypertension, and jaundice, all women (100%) consulted allopathic doctors. Similarly, 93.33% of those with malaria and 72.22% of those with prolonged fever did the same. Pharmacists and Auxiliary Nurse Midwives (ANMs) were occasionally consulted for conditions such as fever and vomiting. In the intranatal period, most women with prolonged labour (91.7%) and


ISSN (O): 2687-5365; ISSN (P): 2753-6556

excessive bleeding (66.7%) consulted allopathic doctors, while others with retained placenta or perineal tear sought assistance from a mix of providers including ANMs and pharmacists. However, the variation in provider types consulted during intranatal morbidities was not statistically significant ($\chi^2 = 6.42$, df = 12, $p > 0.05$). In the postpartum period, women continued to prefer allopathic doctors, particularly for PPH (64.3%) and fever (83.3%), although some turned to ANMs and pharmacists. The overall variation in provider type in the postpartum phase did not reach statistical significance either ($\chi^2 = 10.48$, df = 15, $p > 0.05$) [Table 3].

**Table 3: Type of Healthcare Provider consulted for antenatal, intrapartum and postpartum Morbidities (Multiple response table)**

| | Type of health care received | | | | Total | Chi-square test |
|---|---|---|---|---|---|---|
| **Antenatal Morbidities** | **Allopathic Doctor (%)** | **Auxiliary Nurse Midwives (ANM (%)** | **Pharmacist (%)** | **Homeopath (%)** | | |
| Bleeding per vagina | 100% | 0 | 0 | 0 | 12 | 76.86<br>df=16<br>p<0.0001 |
| Pregnancy-Induced Hypertension (PIH) | 5 (100%) | 0 | 0 | 0 | 5 | |
| Vomiting | 37 (90.24%) | 4.88% | 4.88% | 0 | 41 | |
| Oedema | 1 (100%) | 0 | 0 | 0 | 1 | |
| Lower abdominal pain | 48 (82.76%) | 3.45% | 3.45% | 10.34% | 58 | |
| Symptoms of UTI | 13 (86.67%) | 0 | 13.33% | 0 | 15 | |
| Back ache | 4 (100%) | 0 | 0 | 0 | 4 | |
| Leg cramps | 3 (100%) | 0 | 0 | 0 | 3 | |
| Constipation | 2 (100%) | 0 | 0 | 0 | 2 | |
| Fever > 3 days | 26 (72.22%) | 8.33% | 19.44% | 0 | 36 | |
| Malaria | 14 (93.33%) | 0 | 6.67% | 0 | 15 | |
| Jaundice | 5 (100%) | 0 | 0 | 0 | 5 | |
| Intrapartum | Allopathic Doctor (%) | ANM (%) | Pharmacist (%) | Homeopath (%) | Total | Chi-square test |
| Prolonged labour | 11 (91.7%) | 1 (8.3%) | 0 | | | 6.42<br>df=12<br>p>0.05 |
| Excessive bleeding per vagina | 6 (66.7%) | 3 (33.3%) | 0 | | 9 | |
| Retained placenta | 4 (44.4%) | 3 (33.3%) | 2 (22.2%) | | 9 | |
| Perineal tear | 2 (50%) | 2 (50%) | 0 | | 4 | |
| Eclampsia | 1 (100%) | 0 | 0 | | 1 | |
| Postpartum morbidities | Allopathic Doctor (%) | ANM (%) | Pharmacist (%) | Homeopath (%) | Total | Chi-square test |
| Postpartum haemorrhage (PPH) | 9 (64.3%) | 1 (7.1%) | 4 (28.6%) | 14 | | 10.48<br>df=15<br>P value>0.05 |
| Foul-smelling vaginal discharge | 6 (60.0%) | 3 (30.0%) | 1 (10.0%) | 10 | | |
| Lower abdominal pain | 4 (80.0%) | 1 (20.0%) | 0 | 5 | | |
| Symptoms of urinary tract infection | 4 (100%) | 0 | 0 | 4 | | |
| Breast problems | 3 (60.0%) | 2 (40.0%) | 0 | 5 | | |
| Fever > 3 days | 5 (83.3%) | 1 (16.7%) | 0 | 6 | | |

**Reasons for Not Seeking Healthcare**

Among antenatal morbid women who did not seek care, the predominant reason was the perception that symptoms were normal during pregnancy, child birth and thereafter. For instance, 81.8% of women with vomiting, 100% of those with oedema and leg cramps, and 57.1% of those with backache considered these symptoms as physiological and did not seek care. Short duration of symptoms was another frequently cited reason, particularly for lower abdominal pain (71.4%). Self-medication was uncommon, but noted in cases of bleeding per vagina (20%) and fever >3 days (100%). The distribution of reasons for not seeking healthcare during the antenatal period was statistically significant ($\chi^2 = 78.86$, df = 16, $p < 0.05$) [Table 4].

**Table 4: Reasons for Not Seeking health care during ante natal morbidities**

| Antenatal morbidities | Reasons | | | | Total |
|---|---|---|---|---|---|
| | Perceived to be normal %) | Short lasted | Money problem | Self-medication | |
| Vomiting | 36 (81.8%) | 8 (18.2%) | 0 | 0 | 44 |
| Bleeding per vagina | 4 (40%) | 4 (40%) | 0 | 2 (20%) | 10 |
| Symptoms of UTI | 15 (60%) | 6 (24%) | 0 | 4 (16%) | 25 |
| Lower abdominal pain | 4 (28.6%) | 10 (71.4%) | 0 | 0 | 14 |
| Oedema | 17 (100%) | 0 | 0 | 0 | 17 |
| Back ache | 20 (57.1%) | 10 (28.6%) | 0 | 5 (14.3%) | 35 |


ISSN (O): 2687-5365; ISSN (P): 2753-6556

| | | | | | |
|---|---|---|---|---|---|
| Leg cramps | 6 (100%) | 0 | 0 | 0 | 6 |
| Constipation | 2 (100%) | 0 | 0 | 0 | 2 |
| Fever > 3 days | 0 | 0 | 0 | 3(100) | 3 |

**$X^2$ value=78.86, df=16, p<0.05**

In the postpartum period, perceived normalcy accounted for all non-seeking cases of postpartum haemorrhage and 75% of cases with foul-smelling vaginal discharge. Financial constraints were the sole reason for non-seeking in women with UTI symptoms (100%). Self-medication was highly prevalent among those with fever (100%) and breast problems (61.5%). The distribution of reasons for non-seeking care in the postpartum period was also statistically significant ($\chi^2$ = 42.42, df = 10, p < 0.05) [Table 5].

**Table 5: Reasons for Not Seeking health care during postpartum morbidities**

| Postpartum Morbidities | Reasons for not seeking health care | | | Total |
|---|---|---|---|---|
| | Perceived to be normal (%) | Monetary Problem (%) | Self-medication | |
| Postpartum haemorrhage (PPH) | 4 (100%) | 0 | 0 | 4 |
| Foul-smelling vaginal discharge | 3 (75.0%) | 0 | 1 (25.0%) | 4 |
| Lower abdominal pain | 4 (57.1%) | 3 (42.9%) | 0 | 7 |
| Breast problems | 5 (38.5%) | 0 | 8 (61.5%) | 13 |
| Symptoms of urinary tract infection(UTI) | 0 | 3 (100%) | 0 | 3 |
| Fever > 3 days | 0 | 0 | 5 (100%) | 5 |

**$X^2$=42.42, df= 10, P<0.05**

## DISCUSSION

Our study, conducted in 2002 in rural Assam, revealed significant gaps in maternal health care-seeking behaviour, particularly regarding antenatal care (ANC), delivery, and postpartum periods. Although 84% of participants had registered pregnancies, only 29.68% received three or more ANC visits, and just 4% initiated ANC during the first trimester. These findings align with NFHS-2 (1998–99), which reported low ANC uptake nationally, with substantial deficits in early registration and regular visits among rural populations in Assam and similar states.[25] Global evidence from 1990–2025 confirms this pattern. While nearly 90% of women worldwide now receive at least one ANC visit, only 50–60% complete the minimum four-visit model recommended by the WHO.[26,27] A 2016 WHO report showed only 64% global coverage for four ANC visits, with significantly lower rates among rural, poor, and less-educated women.[28] A pooled analysis of 63 countries found that wealth, education, and proximity to health facilities remained the most influential determinants of timely ANC attendance.[29] In this context, the 2002 Assam data, showing late initiation and low frequency of ANC, continue to reflect ongoing challenges in many low-resource settings. Healthcare-seeking behaviour during maternal morbidities shows similar disparities. In our study, while care-seeking was nearly universal for intrapartum complications like prolonged labour or eclampsia, a significant proportion of women did not seek care during the antenatal and postpartum periods. Such patterns are widely reported. For instance, a 2019 Tamil Nadu study found that while awareness of vaginal bleeding as a danger sign was high (73.7%), many women lacked knowledge of other serious symptoms, and only 32% sought timely care for complications.[30] Similarly, in Bangladesh, Story et al. found that the median delay before seeking care for prolonged labour was 19 hours, with traditional attendants often contacted first due to cultural norms and lack of female autonomy.[31]

Pregnancy-induced hypertension (PIH) represents a critical yet often neglected condition. In Ethiopia, 41.8% of pregnant women lacked adequate knowledge of PIH, with only 23.9% correctly identifying high blood pressure as a symptom.[32] Even among those aware, health service uptake remained low due to economic constraints and low trust in providers. A Zimbabwean study reported that less than half of health workers had adequate knowledge of PIH management, reflecting broader systemic issues in detection and response to hypertensive disorders of pregnancy.[33] anaemia in pregnancy also reflects substantial barriers to timely care. A Delhi-based study of anaemic pregnant women found that 43.8% were non-adherent to iron supplementation, with most reporting to clinics only in the third trimester. Only 19% sought ANC in early pregnancy, mainly due to lack of awareness or fear of medication side effects.[34] These findings mirror our data from Assam, where a majority of women did not seek care for symptoms like fatigue or pallor, often dismissing them as normal. Postpartum care-seeking remains among the weakest components of maternal healthcare. NFHS-5 reported that only 61% of mothers in India received a postnatal check-up within 48 hours,[35] a figure echoed in our study, where 26.7% of women with postpartum morbidities did not seek any formal care. Globally, WHO estimates that 40% of women receive no postpartum checks at all.[36] In sub-Saharan Africa, pooled DHS data showed that only 52% of women had a postpartum visit within 42 days, with stark rural-urban and wealth-based disparities.[37] In addition to general trends in maternal healthcare utilization, our


ISSN (O): 2687-5365; ISSN (P): 2753-6556

findings on morbidity-specific health care-seeking behaviour reflect patterns observed in other low- and middle-income countries. In our study, care-seeking varied considerably depending on the type and severity of morbidity. This variation is consistent with the study from Delhi, which found that 43.8% of pregnant women diagnosed with anaemia were non-adherent to iron supplementation, and only 19% sought antenatal care in the first or second trimester.[34] Recognition and response to bleeding per vagina were higher in our cohort, and this mirrors the Tamil Nadu study, where 73.7% of women identified vaginal bleeding as a danger sign; however, knowledge about other complications like slow labour progression or convulsions was significantly lower.[30] Our data also show that all women with intrapartum complications such as prolonged labour sought care, similar to findings from Bangladesh where women delayed seeking formal care by a median of 19 hours.[31] In the context of hypertensive disorders, our findings align with Ethiopian research showing poor PIH awareness and care-seeking influenced by education and wealth.[32] Postpartum care-seeking remained inadequate in our study, particularly for symptoms like foul-smelling vaginal discharge or breast infections—consistent with WHO and regional findings indicating low global postnatal check-up rates.[36,37] These challenges persist despite global progress in institutional delivery and maternal survival. By 2021, India achieved institutional delivery rates of 88.6%, driven by interventions such as Janani Suraksha Yojana and Janani Shishu Suraksha Karyakram.[35] Yet, mere facility delivery does not guarantee adequate follow-up. Barriers such as distance, lack of decision-making power, and sociocultural practices continue to delay or deter care-seeking during critical windows.

Our study also underscores the global consistency in determinants of care-seeking. Across settings—whether in rural Nigeria, Bangladesh, or Ethiopia—maternal education, household wealth, geographic access, and cultural norms remain the strongest predictors of care utilization for both routine and emergency services.[29–33]

## CONCLUSION

This study highlights persistent deficiencies in maternal health care-seeking behaviour among rural women in Assam during the antenatal, intranatal, and postpartum periods. Despite high pregnancy registration rates, timely and adequate antenatal care utilization remained suboptimal, with delayed initiation and low frequency of visits. Care-seeking during complications was markedly variable—nearly universal for severe intrapartum issues like prolonged labour, but inadequate for common antenatal and postpartum morbidities such as anaemia, pregnancy-induced hypertension, and infections.

Our findings mirror patterns seen across other low- and middle-income countries, where structural, economic, cultural, and informational barriers continue to limit timely access to maternal healthcare. The low rates of care-seeking for specific morbidities underscore the need for strengthened health education, culturally sensitive outreach, and more responsive primary care systems. National programs have expanded institutional delivery, but this alone is insufficient without integrated efforts to promote early ANC initiation, recognition of danger signs, and postpartum follow-up.

To achieve equitable maternal health outcomes, interventions must prioritize rural and disadvantaged women, ensure the availability of competent frontline providers, and actively address socio-cultural norms that delay care-seeking. Targeted, community-based approaches—especially those involving doctors, mid-level providers, ASHAs, ANMs, and other local health workers—will be essential to bridging these long-standing gaps in maternal healthcare utilization.

## REFERENCES


1. WHO. Maternal mortality in 2000: Estimates developed by WHO, UNICEF and UNFPA. Geneva: World Health Organization; 2004.
2. Measham AR, Rochat RW. Estimating maternal mortality in developing countries: a review of methods and results. Int J Gynaecol Obstet. 1987;25(3):251–263.
3. UNICEF. Programming for Safe Motherhood: Guidelines for Maternal and Neonatal Survival. New York: United Nations Children's Fund; 1999.
4. Royston E, Armstrong S. Preventing maternal deaths. Geneva: WHO; 1989.
5. Harrison KA. Child-bearing, health and social priorities: a survey of 22,774 hospital deliveries in Zaria, Northern Nigeria. Br J Obstet Gynaecol. 1985;92(Suppl 5):1–19.
6. Bhatia JC. Levels and determinants of maternal morbidity: results from a community-based study in southern India. Int J Gynaecol Obstet. 1993;40(1):35–46.
7. Ministry of Health and Family Welfare. Child Survival and Safe Motherhood Programme: Review of Implementation 1992–1995. New Delhi: Government of India; 1996.
8. International Institute for Population Sciences (IIPS) and ORC Macro. National Family Health Survey (NFHS-2), 1998–99: Assam. Mumbai: IIPS; 2001.
9. Thaddeus S, Maine D. Too far to walk: maternal mortality in context. Soc Sci Med. 1994;38(8):1091–1110.
10. Ramachandran P. Maternal mortality in India: an overview. Indian J Maternal Child Health. 2002;3(1):4–7.
11. Office of the Registrar General, India. Special Bulletin on Maternal Mortality in India 2018–20. New Delhi: Sample Registration System; 2022.
12. Lim SS, Dandona L, Hoisington JA, James SL, Hogan MC, Gakidou E. India's Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: an impact evaluation. Lancet. 2010;375(9730):2009–23.
13. Scott K, George AS, Ved R. Taking stock of 10 years of the National Rural Health Mission: how has the Indian health system responded to the task of strengthening the health system? Health Policy Plan. 2019;34(9):611–621.
14. Gopichandran V, Chetlapalli SK. Advocacy for public health: a call to action. Indian J Public Health. 2017;61(4):255–260.
15. Mohanty SK, Srivastava A. Out-of-pocket expenditure on institutional delivery in India. Health Policy Plan. 2013;28(3):247–262.




ISSN (O): 2687-5365; ISSN (P): 2753-6556

16. Government of Assam. Block-level Development Indicators, Kamrup District. Guwahati: Directorate of Economics and Statistics; 2001.
17. WHO. The World Health Report 2000: Health systems: improving performance. Geneva: World Health Organization; 2000.
18. Lemeshow S, Hosmer DW, Klar J, Lwanga SK. Adequacy of Sample Size in Health Studies. Geneva: WHO; 1990.
19. Bhandari N, Bahl R, Taneja S. Effect of community-based promotion of exclusive breastfeeding on diarrhoeal illness and growth: a cluster randomised controlled trial. Lancet. 2003;361(9367):1418–23.
20. International Institute for Population Sciences (IIPS) and ORC Macro. National Family Health Survey (NFHS-2), 1998–99: India. Mumbai: IIPS; 2000.
21. Ministry of Health and Family Welfare. Reproductive and Child Health Project – Phase I: District Survey Guidelines. New Delhi: Government of India; 2001.
22. Dean AG, Dean JA, Coulombier D, Brendel KA, Smith DC, Burton AH, et al. Epi Info, Version 6: A Word Processing, Database, and Statistics Program for Public Health. Atlanta: Centers for Disease Control and Prevention; 1995.
23. Kirkwood BR, Sterne JAC. Essential Medical Statistics. 2nd ed. Oxford: Blackwell Science; 2003.
24. ICMR. Ethical Guidelines for Biomedical Research on Human Participants. New Delhi: Indian Council of Medical Research; 2000.
25. International Institute for Population Sciences (IIPS) and ORC Macro. National Family Health Survey (NFHS-2), 1998–99: India. Mumbai: IIPS; 2000.
26. WHO. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: WHO; 2016.
27. WHO. Coverage of Maternity Care: A Listing of Available Information. Geneva: WHO; 1997.
28. AbouZahr C, Wardlaw T. Antenatal care in developing countries: promises, achievements and missed opportunities. WHO; 2003.
29. Boerma T, Ronsmans C, Melesse DY, et al. Global epidemiology of use of and disparities in maternal health care. Lancet. 2018;391(10129):1024–1034.
30. Kumari S, Vyas S, Singh R. Health-seeking behaviour among antenatal and postnatal rural women in Kancheepuram District of Tamil Nadu: A cross-sectional study. J Family Med Prim Care. 2019;8(4):1355–1360.
31. Story WT, Burgard SA, Lori JR, Taleb F, Ali NA, Hoque DM. Delays in recognition of and care-seeking response to prolonged labour in Bangladesh. Soc Sci Med. 2012;75(6):1113–1123.
32. Welay GM, Gebremichael G, Alemayehu M. Awareness of pregnancy-induced hypertension among pregnant women in Tigray Regional State, Ethiopia. Pan Afr Med J. 2020;35:71.
33. Makunike B, Chonzi P, Shambira G, et al. Prevalence of pregnancy-induced hypertension and pregnancy outcomes among women in Harare, Zimbabwe. BMC Public Health. 2015;15:121.
34. Kumar A, et al. A Cross-Sectional Study of Barriers in Prevention of anaemia in Pregnancy. Cureus. 2021;13(2):e13552.
35. International Institute for Population Sciences (IIPS) and ICF. National Family Health Survey (NFHS-5), 2019–21: India. Mumbai: IIPS; 2021.
36. WHO. WHO Technical Consultation on Postpartum and Postnatal Care. Geneva: WHO; 2013.
37. Tessema ZT, Minyihun A. Postnatal care service utilization and associated factors among women in sub-Saharan Africa: A multilevel analysis of DHS data. BMC Pregnancy Childbirth. 2021;21(1):229.


ISSN (O): 2687-5365; ISSN (P): 2753-6556