Barriers and Enablers of Antenatal Care Utilization during Crisis Situations

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Abstract

Antenatal care (ANC) is a critical intervention for improving maternal and newborn health outcomes. However, during crisis situations such as pandemics, access to routine maternal health services is often disrupted, particularly in low- and middle-income countries (LMICs). This study explored barriers and enablers of ANC utilization during the COVID-19 crisis in Jhajjar district, Haryana, India. A qualitative study was conducted using six in-depth interviews and one focus group discussion with pregnant or recently delivered women and frontline health providers. Data were collected using semi-structured guides and analyzed thematically using NVivo software, with Microsoft Excel used for data organization. Findings revealed that transport and mobility restrictions, fear of infection, reduced facility functioning, and workforce constraints significantly hindered ANC utilization. Enablers included sustained engagement by community health workers, availability of government ambulance services, institutional trust, and adaptive service delivery mechanisms such as telephonic follow-ups. The study highlights the need for crisis-responsive maternal health systems that protect continuity of care. Strengthening community linkages, ensuring protected mobility, and embedding maternal health services within emergency preparedness frameworks are essential for improving resilience in LMIC contexts.

Keywords: Antenatal care, maternal health, COVID-19, qualitative research, crisis response, LMICs

1. Introduction

Antenatal care (ANC) serves as a foundational component of maternal and newborn health, providing opportunities for early detection of pregnancy-related risks, delivery of preventive interventions, and preparation for safe childbirth (1). Timely initiation

and regular follow-up of ANC have been associated with reduced maternal morbidity, lower rates of stillbirth, and improved neonatal survival through early identification and management of conditions such as anemia, hypertensive disorders, and infections (2). The World Health Organization (WHO) recommends a minimum of four focused ANC visits, recently expanded to eight contacts, to enhance both clinical outcomes and women's experience of care (3).

India has made notable progress in expanding access to maternal health services through national initiatives under the National Health Mission (NHM). These include free antenatal services, institutional delivery incentives, and community-based outreach through Accredited Social Health Activists (ASHAs) (4). Despite these advances, utilization of ANC services remains uneven, particularly in rural and semi-urban areas where access is influenced by socio-economic conditions, transport availability, and health-system capacity (5).

Public health emergencies pose additional challenges to maternal health systems. The COVID-19 pandemic represented an unprecedented disruption, affecting both the supply of and demand for routine health services worldwide (6). Lockdowns, movement restrictions, reallocation of health resources, and infection prevention protocols altered service delivery pathways. Simultaneously, fear of contracting infection within health facilities influenced care-seeking behaviour among pregnant women (7). Although maternity services were officially designated as essential in India, implementation at the district and facility levels was inconsistent, leading to service gaps (8).

Crisis situations tend to magnify existing vulnerabilities in health systems. Women who rely on public transport, government facilities, and outreach services are particularly affected when these systems are disrupted (9). Jhajjar district in Haryana represents a typical district-level LMIC setting, characterized by a mix of rural and semi-urban populations and dependence on public health infrastructure. Examining ANC utilization in this context during the COVID-19 crisis provides valuable insights into how women navigate care pathways under constrained conditions.

While several studies have documented declines in maternal service utilization during the pandemic, fewer have explored women's lived experiences and perceptions through qualitative inquiry (10). Understanding these experiences is essential for designing crisis-resilient maternal health strategies. This study therefore aimed to explore barriers and enablers of ANC utilization during crisis situations, using Jhajjar district as a model to inform policy and practice in similar LMIC settings.

2. Review of Literature

Antenatal care has long been recognized as a cornerstone of safe motherhood initiatives. Evidence from diverse settings indicates that adequate ANC coverage

improves maternal and neonatal outcomes by facilitating preventive care, health education, and timely referral for complications (11). Core components of ANC, including haemoglobin testing, blood pressure monitoring, iron–folic acid supplementation, tetanus toxoid immunization, and counselling on nutrition and danger signs, are particularly effective when delivered as part of a continuum of care (12).

Despite its importance, ANC utilization in LMICs is shaped by multiple interacting barriers. Individual- and household-level factors such as low educational attainment, limited autonomy of women, financial constraints, and competing domestic responsibilities often delay initiation of care (13). Community-level influences, including cultural norms and reliance on family decision-making, further affect service use. At the health-system level, distance to facilities, lack of transport, long waiting times, medicine stock-outs, and perceived poor quality of care have been widely documented as deterrents to ANC utilization (14).

The COVID-19 pandemic introduced new dimensions to these challenges. Global reviews report substantial declines in ANC attendance during lockdown periods, with reductions of up to 50% reported in some settings (15). Fear of infection emerged as a dominant barrier, particularly where maternity services were delivered alongside COVID-19 care (16). Misinformation and stigma related to the disease further discouraged women from visiting health facilities (17).

Health-system responses to the pandemic also affected maternal care. Redeployment of staff, temporary closure or reduction of outpatient services, and disruptions to supply chains limited the availability of routine ANC services (18). However, adaptive strategies were observed in some contexts, including telephonic consultations, home visits by community health workers, and prioritization of emergency obstetric services (19). Government policies that recognized maternity care as essential and ensured free ambulance transport were found to mitigate some access barriers (20).

In India, studies highlight the critical role of ASHAs and public health infrastructure in maintaining service continuity during COVID-19, particularly in rural areas (21). Nevertheless, district-level qualitative evidence remains limited. Understanding how barriers and enablers are experienced at the community level is essential for strengthening maternal health system resilience. This study contributes to the literature by providing in-depth qualitative insights from a district-level context during a major public health crisis.

3. Aim and Objectives

Aim

To explore barriers and enablers of antenatal care utilization during crisis situations in Jhajjar district, Haryana.

Objectives

1. To identify individual, community, and health-system barriers affecting ANC utilization during the COVID-19 crisis.
2. To explore enabling factors that facilitated continued access to ANC and delivery services.
3. To generate evidence to inform crisis-responsive maternal health strategies in LMIC settings.

4. Methodology

A qualitative exploratory study was conducted in Jhajjar district, Haryana, India. The district comprises rural and semi-urban populations with maternal health services delivered through primary health centres, community health centres, and a district hospital, supported by ASHAs and auxiliary nurse midwives.

The study included six in-depth interviews (IDIs) and one focus group discussion (FGD) with the frontline worker and Program officers of health care department. Sample size was guided by the principle of thematic saturation, with data collection concluding when no new themes emerged (22).

Semi-structured interview guides were used to explore knowledge of ANC, patterns of utilization, barriers and facilitators, and experiences across different phases of the pandemic. Interviews were conducted in the local language, audio-recorded with consent, and transcribed verbatim.

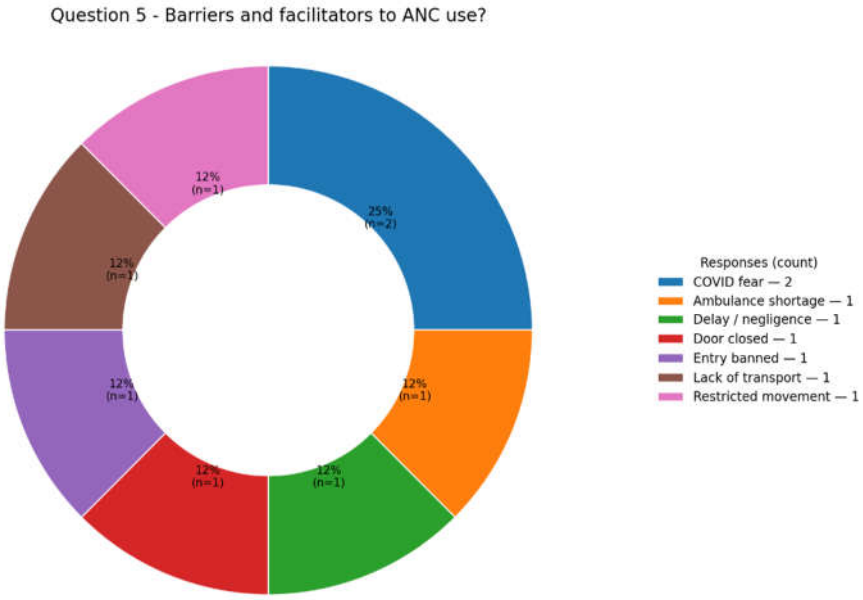
Ethical clearance was obtained from the Institutional Ethics Committee(IRB Number : 10044/IRB/24-25, from Sigma-IRB (Institutional Review Board) (A Division of Sigma Research and Consulting Pvt Ltd) C 23, South Extension I, First Floor New Delhi-110049 t (+ 91 11) 41063450 www.sigma-india.in CIN No: U74140DL2008PTC182567, IRB REG No : IORG0008260) . Written informed consent was taken from all participants prior to data collection. Confidentiality and anonymity were maintained throughout the study.

Data were analysed thematically using NVivo software. An iterative coding process was followed, allowing themes to emerge inductively while being informed by existing frameworks on access to care. Microsoft Excel was used for data organization, comparison across participants, and development of analytic matrices.

5. Results

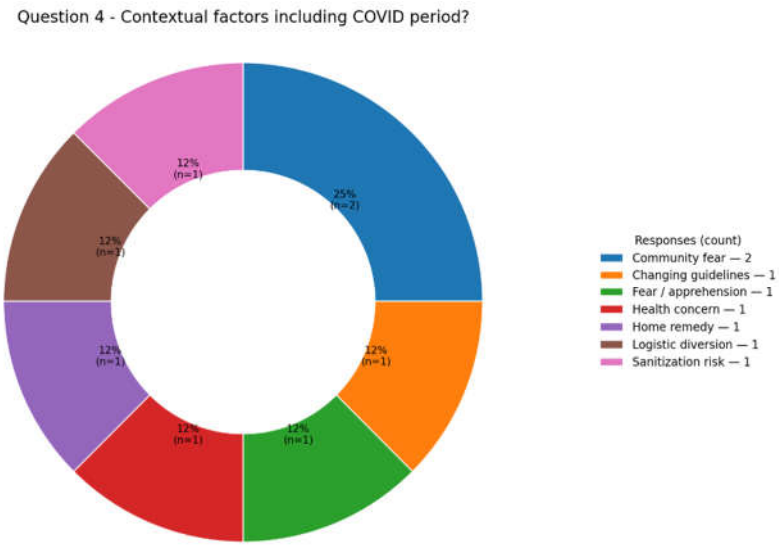
Participants demonstrated a general understanding of the importance of antenatal care, commonly associating ANC with monitoring maternal health, identifying high-risk pregnancies, and ensuring the wellbeing of the unborn child. Knowledge of recommended visit schedules and services such as blood tests, iron–folic acid supplementation, and immunization was largely attributed to interactions with ASHAs and health facility staff.

Transport and mobility restrictions emerged as a major barrier to ANC utilization during the pandemic. Lockdown measures, suspension of public transport, and inconsistent availability of ambulances limited women's ability to attend scheduled visits or reach referral facilities. These challenges were particularly pronounced during emergencies, leading to delays and heightened anxiety.



Fear of COVID-19 infection significantly influenced care-seeking behaviour. Many women described avoiding or postponing facility visits due to concerns about exposure, especially when maternity services were perceived to be co-located with COVID-19 care. Community narratives and uncertainty about infection control measures further reinforced this fear.

Facility-level constraints also affected service utilization. Participants reported reduced outpatient hours, longer waiting times, staff shortages due to quarantine or reassignment, and limited availability of some services. Interactions with providers were perceived as shorter and less communicative than before the pandemic, affecting overall satisfaction with care.



Despite these barriers, several enabling factors supported continued access to ANC. ASHAs played a central role in maintaining contact through phone calls and home visits, facilitating registration, and coordinating transport. However, it may also been recorded that, the use of mobile phones for the registration was used during the COVID-19 to prevent the transmission of infection, but the use of similar kind of setting is still in practice – post COVID 19. Government ambulance services, when available, were viewed as reliable and reassuring. Participants also expressed trust in public facilities and acknowledged efforts by health workers to continue services under challenging conditions.

Overall, women described increased stress and emotional strain during the pandemic, alongside disruptions to both antenatal and postnatal care. These findings highlight the fragile balance between barriers and adaptive mechanisms shaping ANC utilization during crisis situations.

6. Discussion

This study illustrates how crisis situations reshape antenatal care utilization through interconnected barriers operating at multiple levels. Transport and mobility restrictions emerged as a central challenge, reflecting the dependence of pregnant women on public systems for accessing care. Similar findings have been reported in other LMIC settings, where lockdowns disproportionately affected women with limited transport options (15,18).

Fear of infection played a substantial role in altering care-seeking behaviour. The perception of health facilities as potential sites of exposure underscores the importance of clear risk communication, visible infection prevention measures, and separation of COVID-19 and maternity services to maintain trust during emergencies (16,17).

Health-system constraints identified in this study highlight limitations in system flexibility under stress. Although maternity services were designated as essential, reductions in service availability and provider interaction affected perceived quality of care. These findings suggest that emergency preparedness plans must address operational realities at the facility level, not only policy declarations (8,19).

At the same time, the enabling role of community health workers was evident. ASHAs acted as critical intermediaries, maintaining continuity of care and mitigating access barriers, consistent with evidence from other crisis contexts (21). Trust in public institutions and free ambulance services further supported utilization.

The Jhajjar experience offers broader lessons for LMICs. Building resilience in maternal health systems requires integrating crisis preparedness into routine planning, ensuring protected transport pathways, supporting frontline workers, and adopting flexible service delivery models. Such measures are essential for safeguarding ANC utilization during future emergencies.

7. Conclusion

Crisis situations such as pandemics have profound effects on antenatal care utilization, particularly in resource-constrained settings. This study demonstrates that barriers related to mobility, fear, and health-system capacity can significantly disrupt care, while community-based support and institutional trust can partially offset these challenges. Strengthening crisis-responsive maternal health systems is critical for protecting the health of women and newborns in LMICs.

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