



Examining the impact of the COVID-19 pandemic on trust in public healthcare systems and its long-term implications for maternal healthcare utilization in rural areas

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Abstract

The COVID-19 pandemic has significantly disrupted public healthcare systems worldwide, with rural areas facing particular challenges in accessing essential maternal healthcare services. This study explores the impact of the COVID-19 pandemic on maternal healthcare utilization in rural communities, focusing on the effects of delayed government financial support for maternal health schemes and its subsequent effects on women's nutritional and mental health. The research further investigates the role of community health workers and frontline health service providers in facilitating maternal healthcare access during the pandemic, as well as the long-term implications for trust in public healthcare systems. The results aim to inform policy recommendations to improve maternal healthcare delivery in rural areas, particularly in future public health crises.

Keywords: Maternal health, COVID-19, healthcare access, government schemes, disruption, pregnant women, healthcare services, pandemic

Introduction

The COVID-19 pandemic has disrupted healthcare delivery across the globe, with rural areas facing significant barriers due to limited healthcare infrastructure and resources (Kumar & Sharma, 2021) ^[2]. For women, particularly in rural settings, access to maternal healthcare is vital to ensure healthy pregnancies and childbirths. However, the pandemic led to disruptions in healthcare access, including delays in financial support mechanisms for maternal health, which negatively affected women's nutritional and mental health status (Pandey & Sharma, 2020) ^[3]. Additionally, the pandemic eroded trust in public healthcare systems, especially in rural areas where healthcare services are already perceived as inadequate (Siddiqui & Verma, 2022) ^[5]. Community health workers and frontline healthcare providers played a critical role in mitigating these challenges by ensuring continued access to care (Kumar & Sharma, 2021) ^[2]. This study seeks to explore these issues and their impact on maternal healthcare utilization, focusing on both the short- and long-term implications of the pandemic. Moreover, the delays in receiving financial benefits from government schemes like the Janani Suraksha Yojana (JSY) worsened the situation for many women, further undermining trust in the public healthcare system (Government of India, 2020) ^[1].

Objectives

- ② To assess the impact of delays in receiving financial benefits from government maternal health schemes on the nutritional and mental health status of women, with a particular focus on vulnerable demographic groups.
- ② To understand the role of community health workers and frontline health service providers in facilitating access to maternal care during the pandemic and identify areas for capacity-building.
- ② To examine the effects of the COVID-19 pandemic on trust in public healthcare systems and the long-term

implications on maternal healthcare service utilization in rural areas.

Methodology

This study employs a mixed-methods design, integrating both quantitative and qualitative approaches to comprehensively examine the effects of the COVID-19 pandemic on maternal healthcare in rural areas. The quantitative aspect of the study utilizes a cross-sectional survey to assess the relationship between delayed financial support and maternal health outcomes, focusing on women's nutritional status, mental health, and healthcare utilization. The qualitative component involves semi-structured interviews and focus group discussions to capture the lived experiences of rural women, community health workers, and frontline healthcare providers. This combination of approaches will allow for a robust understanding of the challenges faced by women in accessing maternal care during the pandemic, the role of healthcare providers in mitigating these challenges, and the shifting dynamics of trust in public healthcare systems.

The study population consists of rural women of reproductive age, selected through purposive and snowball sampling methods to ensure diverse representation. A sample of approximately 200 women were surveyed, allowing for comprehensive data collection. Structured surveys were administered to gather quantitative data on the impact of delayed financial benefits on women's nutritional and mental health, as well as their utilization of maternal healthcare services during the pandemic. Qualitative data was obtained through in-depth interviews and focus groups with healthcare providers and community health workers, focusing on their roles in facilitating access to care and the challenges they faced during the pandemic.

Quantitative data was analyzed using descriptive statistics to summarize demographic characteristics and responses to survey questions, followed by inferential statistics, such as chisquare tests and logistic regression, to explore the relationship between financial support delays and maternal

health outcomes. Qualitative data was analyzed using thematic analysis to identify key themes and patterns across interviews and focus group discussions. ATLAS.ti software was utilized to facilitate coding and theme identification. Ethical considerations include obtaining informed consent from all participants, ensuring confidentiality, and protecting the rights of vulnerable populations, particularly pregnant women. The study took approval from the relevant ethical committee.

Results

The results of this study highlight the profound impact of the COVID-19 pandemic on maternal healthcare utilization in rural areas, focusing on financial constraints, healthcare accessibility, and trust in public health systems. The analysis of both quantitative and qualitative data offers significant insights into the challenges faced by rural women during the pandemic, shedding light on the subsequent effects on their nutritional, mental health, and healthcare-seeking behaviors.

1. Healthcare utilization patterns: A substantial portion of the sample (74.5%) reported visiting healthcare facilities between 1 to 3 times per year, primarily for preventive and routine care. This suggests that women in rural areas typically engage with healthcare services on an occasional basis. However, a notable 12% of respondents reported either not visiting healthcare facilities or doing so only when absolutely necessary, indicating barriers to access that were exacerbated during the pandemic. A smaller group (12.5%) reported visiting facilities more frequently, possibly due to chronic conditions or ongoing maternal healthcare needs.

Table 1: Frequency of visits to health facility

Frequency of Visits	Frequency	Percentage (%)
1 to 3	149	74.5
4 to 6	25	12.5
7 to 10	1	0.5
10+	1	0.5
Do not visit	24	12.0
Total	200	100.0

The data emphasizes the high demand for preventive care, particularly for child immunization, which accounted for 47% of visits. Other primary reasons for healthcare utilization included general health check-ups (29%) and family health concerns (34.5%), reflecting the community's priority on preventive care and family health. Reproductive health services such as family planning were less frequently cited, highlighting an underutilization of maternal-specific services, possibly due to cultural norms or financial constraints.

Table 2: Reasons for visiting health facilities

Primary reason	Frequency	Percentage (%)
Immunization of children	94	47.0
Health of a family member	69	34.5
General health check-up	58	29.0
Newborn health check-up	50	25.0
Family planning	13	6.5

2. Challenges in Accessing Healthcare During COVID-19: The COVID-19 pandemic created significant

barriers to accessing maternal healthcare services. Fear of infection was the most commonly cited challenge (68.5%), followed by transportation issues (31.5%) and reduced availability of maternal healthcare services (30.1%). Additionally, the cancellation of community health events, such as Village Health and Nutrition Days (VHSNDs), limited access to essential healthcare services, further compounding difficulties for pregnant women during the pandemic.

Table 3: Challenges in accessing healthcare during COVID-19

Challenges Faced (out of 73)	Frequency (%)
Fear of infection	68.5
Limited transportation	31.5
Decreased availability of MCH	30.1
Cancellation of VHSNDs	8.2

These challenges reflect the complex interplay of logistical, psychological, and infrastructural barriers that restricted timely access to healthcare, particularly for maternal services, during the pandemic.

3. Role of Community Health Workers: Community health workers, particularly ASHA workers, played a critical role in mitigating some of these barriers. Among the 200 participants, 89.5% reported receiving home visits from ASHA workers, ensuring continued healthcare provision despite movement restrictions. These workers were pivotal in delivering essential maternal and child health services at the household level, particularly during the pandemic when accessing healthcare facilities was difficult. However, the heavy workload and limited resources faced by ASHA workers often resulted in delays and inconsistencies in service delivery, underscoring the need for better support and resources for frontline workers.

4. Impact of COVID-19 on Trust in Public Healthcare Systems: The pandemic eroded trust in public healthcare systems, with many respondents expressing a preference for private healthcare facilities for delivery (66%), largely due to perceived better quality of care and shorter wait times. Public healthcare facilities, while free for routine check-ups, were often seen as inadequate during the pandemic due to disruptions in services, such as the repurposing of facilities for COVID-19 care. Financial strain and cultural factors also influenced the choice of healthcare facility, with 40.9% of women opting for private hospitals due to the unavailability of female healthcare providers or facility closures during COVID-19. This preference highlights the long-term implications for trust in public healthcare systems, which could negatively affect future utilization of government services.

Table 4: Place of delivery

Place of Delivery	Frequency	Percentage (%)
Private Hospital/Clinic	132	66.0
District Hospital	20	10.0
Primary Health Center	24	12.0
Rural Hospital/CHC	14	7.0
Trust Hospital	4	2.0
Medical College Hospital	3	1.5

No Response	3	1.5
Total	200	100.0

- 5. Transportation and accessibility:** The reliance on private vehicles (84%) for reaching healthcare facilities during the pandemic highlights the transportation challenges faced by rural women. Only 9.5% used government transport, with 6.5% walking to healthcare facilities. The heavy reliance on private vehicles indicates the persistent barriers to healthcare access in rural areas, which are exacerbated during emergencies like the pandemic.
- 6. Suggested solutions for future health emergencies:** Several solutions were proposed to address the challenges faced during health emergencies. Key recommendations included early enrollment in government health schemes, clear communication about financial benefits, and the establishment of a dedicated cadre of healthcare workers for pregnant and lactating women. Additionally, home visits and financial allowances during emergencies were proposed to ensure continuity of care.

The qualitative data collected through semi-structured interviews and focus group discussions (FGDs) provided valuable insights into the lived experiences of rural women, healthcare providers, and community health workers. The discussions revealed several critical themes, which were central to understanding the complexities and challenges faced by women in accessing maternal healthcare during the COVID-19 pandemic. These findings are crucial for shaping interventions aimed at improving maternal healthcare services in rural areas, particularly during future health emergencies.

- 1. Barriers to accessing maternal healthcare:** One of the recurring themes in the qualitative data was the deep-rooted barriers to accessing maternal healthcare, both before and during the pandemic. While transportation issues were widely acknowledged, a more nuanced understanding emerged from the discussions. Many women shared how they faced significant cultural and logistical barriers, such as limited mobility due to social restrictions or fear of infection. Pregnant women and new mothers expressed concerns about traveling to health facilities, as they feared exposure to COVID-19 in crowded clinics or hospitals. This fear of infection was compounded by misinformation and a general lack of understanding about COVID-19 and the precautions needed, which discouraged many women from seeking timely care.

Additionally, financial constraints were a critical concern. In rural areas, where income levels are typically low, women often faced difficult decisions about whether to seek healthcare or prioritize other family needs. Many participants reported skipping antenatal care visits or not adhering to prescribed treatments because of the inability to afford transportation, medications, or other necessities. The interviews also revealed how the COVID-19 pandemic aggravated these financial constraints, as government support schemes, such as the Janani Suraksha Yojana (JSY), were delayed or difficult to access. The difficulties in obtaining documentation or navigating bureaucratic hurdles to access these benefits led to delays in financial aid, which,

in turn, negatively impacted maternal health outcomes, including poor nutrition and mental health issues.

- 2. Role of Community Health Workers (CHWs):** The qualitative data highlighted the pivotal role played by community health workers, particularly Accredited Social Health Activists (ASHA workers), in mitigating some of these access barriers. ASHA workers were often the only healthcare providers many rural women interacted with during the pandemic. The workers' frequent home visits ensured that women could still receive basic maternal care, even in the face of lockdowns and movement restrictions. ASHA workers not only provided health advice but also facilitated access to healthcare services by helping women navigate government health schemes, delivering essential medicines, and monitoring maternal health indicators like blood pressure and hemoglobin levels.

However, the data also revealed the limitations and challenges faced by ASHA workers. The overwhelming workload, compounded by the increased demand for healthcare during the pandemic, made it difficult for many ASHA workers to offer consistent care. Some workers mentioned that they were often unable to visit all households within their catchment areas, leading to gaps in service provision. Additionally, ASHA workers themselves faced personal health concerns, as they were frequently exposed to the risk of COVID-19 during their home visits. Despite these challenges, many women expressed their deep gratitude for the efforts of ASHA workers, who became essential lifelines for maternal health during the crisis.

- 3. Emotional and psychological impact:** Interviews also revealed the emotional and psychological toll that the pandemic had on pregnant women and new mothers. With limited access to healthcare facilities and the constant fear of infection, many women experienced heightened stress, anxiety, and depression. This was particularly evident among women who were either first-time mothers or those with high-risk pregnancies. A few participants spoke about their feelings of isolation and uncertainty, as they had to navigate pregnancy and childbirth without the usual support networks of family or healthcare providers. These psychological burdens were exacerbated by financial strain, as many women faced additional stress in trying to manage household expenses amidst the economic fallout of the pandemic.

Mental health concerns were not just limited to pregnant women; many ASHA workers and frontline healthcare providers also reported experiencing burnout, anxiety, and stress due to the increased workload and the fear of contracting COVID-19 while delivering care in communities. The study found that mental health support, both for women and healthcare providers, was a critical gap during the pandemic and should be prioritized in future healthcare planning.

- 4. Trust in public healthcare systems:** Trust in public healthcare systems emerged as another central theme in the qualitative data. Prior to the pandemic, many women in rural areas expressed a general distrust in public health facilities, citing poor quality of care, long

waiting times, and a lack of female healthcare providers as key reasons for preferring private facilities. During the pandemic, this mistrust was exacerbated as government facilities, particularly district hospitals and primary health centers, were repurposed to handle COVID-19 cases, leading to a reduction in maternal healthcare services.

Women expressed concerns about the quality of care in public hospitals, particularly during childbirth. Many preferred private healthcare facilities because they perceived them as offering better infrastructure, more personalized care, and less risk of infection. Some participants noted that while government facilities were free of charge, they often lacked the resources, staff, and supplies to provide adequate care during the pandemic. This eroded trust in public healthcare systems and further fueled the preference for private hospitals, despite the higher costs involved.

5. Community support and coping mechanisms: The focus groups also highlighted the importance of community support networks, which played a crucial role in mitigating some of the impacts of the pandemic. In the absence of reliable healthcare services, many rural communities relied on informal networks of neighbors, family members, and local organizations to provide emotional, financial, and logistical support to pregnant women. These informal networks helped bridge the gap in care, helping with transportation, childcare, and emotional support during stressful times.

Additionally, some women reported turning to alternative medicine or traditional health practices when they were unable to access formal healthcare services. While this provided some relief, it also highlighted the lack of trust in the formal healthcare system, especially when services were perceived as unavailable or inadequate during the pandemic.

6. Recommendations from participants: The qualitative data provided several recommendations for improving maternal healthcare in rural areas, particularly in future public health emergencies. Key suggestions included:

- ② Improved communication and transparency regarding government health schemes, especially financial benefits like the JSY, to ensure that women can access timely support.
- ② Capacity-building for ASHA workers to ensure they have the resources, training, and support to manage their workloads effectively, especially during health crises.
- ② Enhanced integration between public and private healthcare sectors, with a focus on improving the quality of public healthcare services to regain trust and reduce the reliance on private facilities.
- ② Increased mental health support for pregnant women and healthcare workers, to alleviate stress, anxiety, and depression during crises.
- ② Better transportation infrastructure to ensure that rural women have reliable access to healthcare facilities during emergencies.
- ② Community-based interventions, such as strengthening local support networks, to provide care and assistance at the household level during health emergencies.

Recommendations

This study highlights several key recommendations to improve maternal healthcare in rural areas, particularly during future public health emergencies. First, enhancing communication and transparency regarding government health schemes like Janani Suraksha Yojana (JSY) is crucial. Simplifying the enrollment process and ensuring women are well-informed about their benefits will improve access to timely support.

Strengthening the role of community health workers (CHWs), especially Accredited Social Health Activists (ASHA), is vital. These workers played an essential role during the pandemic but faced overwhelming workloads and limited resources. Capacity-building initiatives should focus on providing ASHAs with better training, resources, and support to maintain high-quality care.

Improving the integration between public and private healthcare sectors is also necessary. Many rural women turned to private hospitals due to concerns about the quality of care in public facilities. Enhancing the infrastructure and service delivery in government healthcare centers, while ensuring collaboration between sectors, can rebuild trust in the public healthcare system.

Addressing the mental health needs of both pregnant women and healthcare workers is essential. Many women experienced heightened stress and anxiety during the pandemic, and mental health support should be integrated into maternal healthcare programs. Likewise, providing mental health support for healthcare workers can help mitigate burnout and stress from increased workloads.

Improving transportation options for rural women is another critical recommendation. Reliable and affordable transportation will reduce barriers to accessing healthcare during emergencies. Local governments should explore providing dedicated transport services for pregnant women to ensure timely care.

Finally, strengthening community-based support networks can help bridge gaps in healthcare access. Informal support from family and neighbors was crucial during the pandemic, and enhancing these networks can improve resilience and ensure ongoing care during health crises. By focusing on these areas, maternal healthcare in rural areas can better respond to future emergencies while improving long-term trust in the healthcare system.

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