

Midwives' Challenges in Providing Prenatal Care during the COVID-19 Pandemic: A Qualitative Study

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Abstract

Background: COVID-19 has altered and challenged healthcare and childbirth services provision. Midwives are among the first and most influential childbirth care providers during the COVID-19 pandemic. However, there is insufficient information about their experiences in delivering healthcare services, especially in Iran.

Objectives: This study aimed to explore midwives' challenges in providing prenatal care during the COVID-19 pandemic.

Methods: This qualitative study utilized conventional content analysis and was conducted from February 2021 to July 2021 in Shushtar, Iran. A total of 15 midwives were purposively selected with maximum diversity as participants. Data were collected through in-depth, semi-structured online interviews. MAXQDA (V10) software was used for data analysis.

Results: Data analysis resulted in 271 codes, 10 subcategories, and four main categories: "Care Environment", "Management of the Care Process", "Maternal Self-Care", and "Psychosocial Stress".

Conclusion: The findings of this qualitative study highlight the challenges midwives face in providing prenatal care, offering valuable insights for achieving quality care during crises. Focusing on these dimensions can help health policymakers design quality healthcare services during emergencies.

Keywords: Challenges, Prenatal Care, Midwives, Pandemic, COVID-19, Qualitative Research

1. Background

COVID-19 is an emerging disease first identified in Wuhan, China, in December 2019.¹ Iran was recognized as one of the countries affected by this virus on February 21, 2020.² Early in 2020, the World Health Organization (WHO) declared the novel coronavirus (COVID-19) a pandemic.³ The global declaration of the COVID-19 pandemic by WHO led to rapid and fundamental changes in healthcare delivery, social policies, and socio-economic conditions worldwide, impacting the direct consequences of the infection and indirectly affecting reproductive and prenatal health, making women particularly vulnerable.⁴

Healthcare systems operated at full capacity during the pandemic and faced increased pressure.⁵ Maternity and reproductive health services remained essential.⁶ However, during a crisis and pandemic, the focus on individuals affected by the crisis often placed pregnant women's healthcare and reproductive services at greater risk, leading to increased maternal and infant mortality rates, which are indicators of national development.⁷ One of the main goals of sustainable development is to improve maternal and child healthcare, which falls within the scope of midwifery.⁸ Midwives play a crucial role in

providing prenatal care, ensuring safe delivery, and promoting positive maternal and neonatal outcomes.⁹ The midwifery profession is emotionally challenging, and in normal conditions, midwives experience anxiety, pain, fear, grief, excitement, and pleasure.¹⁰ However, during the COVID-19 pandemic, the psychological challenges faced by midwives have become more pronounced. Recent studies have shown that various groups of healthcare and service providers experienced higher levels of mental, emotional, and physical stress. Environmental factors and job-related stress impacted the health of service providers and their services.¹¹⁻¹³ The mental and physical exhaustion experienced during the stressful pandemic conditions led to a loss of motivation among midwives, resulting in despair, indifference, and even illness, which affected the recipients of their services.¹⁴ The presence of numerous evidence-based guidelines to guide midwives and other healthcare providers during the COVID-19 pandemic led to significant changes in hospital-based childbirth care, such as encouraging the use of oxytocin, raising concerns about midwives' performance and behavior.^{15,16}

As working conditions and cultural context influence

the process of providing care, midwives' experiences and perspectives can improve their care outcomes.¹⁷ Research shows that cultural values and norms impact healthcare experiences.¹⁸ By identifying the challenges, experiences, barriers, and facilitators of service delivery by midwives during the COVID-19 pandemic, policymakers can make recommendations to enhance the quality of services and improve maternal health resilience during crises.

2. Objectives

This qualitative study aimed to elucidate the challenges midwives face in providing prenatal care during the COVID-19 pandemic in Shushtar.

3. Methods

This qualitative research utilized conventional content analysis with an inductive approach and was conducted following approval from the Shushtar University of Medical Sciences Ethics Committee (Ref. ID: IR.SHOUSHTAR.REC.1399.041). The study was carried out from February 2021 to July 2021 in Shushtar, Iran. Conventional content analysis involves systematic and objective concepts to explain phenomena, and in the inductive approach, the process of extracting themes from raw data is based on valid inference and interpretation.¹⁹ This method was employed since the researchers aimed to understand the meanings and relationships between concepts in this study.

Participants were recruited from Al-Hadi Hospital, affiliated with Shushtar University of Medical Sciences, and Shushtar Comprehensive Health Center, Iran. A total of 15 midwives participated. Purposeful sampling with maximum variation was used, considering participants' job roles, work experience, and educational background. To describe experiences, inclusion criteria included at least three years of midwifery experience before the pandemic and at least one year of work during the COVID-19 pandemic. Data were collected through in-depth semi-structured interviews using open-ended questions. Each interview was conducted individually and online via mobile (WhatsApp). An interview guide was created to capture all midwives' experiences during the COVID-19 pandemic. The interviews began with the question: "Describe your experiences of the challenges in providing midwifery services during the COVID-19 pandemic". Based on their responses, participants were asked to elaborate with further exploratory questions. Each interview lasted between 30-45 minutes and continued until data saturation was achieved. All conversations were recorded with the participants' consent. Saturation (no new themes, concepts, or information arising from the data collection process) was reached after 13 interviews; however, two additional interviews were conducted for confirmation.

Data analysis was performed using MAXQDA

software (version 10). Data analysis was conducted inductively in parallel with data collection. The conventional content analysis method introduced by Elo and Kyngas was used. This process involves three major stages: preparation, organization, and reporting. The first stage of qualitative content analysis is preparation, which includes three sub-stages: selecting the unit of analysis, preparing the data, and immersing oneself in the data to understand it. This involves repeatedly reading the interview texts. The second stage, organization, involves inductively identifying open codes, subcategories, and main categories from the data. The third stage, reporting, involves summarizing the findings.¹⁹ All interviews and initial coding were performed by the first author (S.M.). During the coding process, the first author periodically met with the research team to discuss and review the coding scheme and to synthesize codes at a higher level. To ensure the validity and reliability of the data, four criteria were used: credibility, confirmability, dependability, and transferability, as proposed by Lincoln and Guba.²⁰ To ensure data credibility, sufficient time was allocated for data collection, and maximum variation sampling (regarding age, work experience, and service location) continued until data saturation was reached. Coded texts were reviewed by participants in the study and individuals with expertise in qualitative research and the study topic for confirmability. Additionally, efforts were made to reflect participants' voices accurately through detailed descriptions and precise use of participants' expressions, ensuring the validity of the research. This article was written based on the Consolidated Criteria for Reporting Qualitative Research (COREQ).²¹

4. Results

The results were obtained from 15 interviews. Table 1 shows the demographic characteristics of the participants. All participants had been working in their organizational positions since the COVID-19 pandemic. Four main categories and ten subcategories emerged from the data analysis. Table 2 presents the themes extracted from the data analysis.

4.1. Care Environment

One of the themes derived from participants' statements was the care environment, which includes staff, medical facilities, and appropriate physical space, presenting challenges in service delivery during the COVID-19 pandemic. This category encompasses "unequal confrontation" and "unfavorable conditions".

4.1.1. Unequal Confrontation

A significant challenge faced by hospitals during the COVID-19 outbreak was the shortage of staff. The illness of midwives or their family members led to their absence from the service delivery cycle, putting additional pressure

Table 1. Participant Characteristics

No.	Age	Education	Work experience	Work place	Ethnic backgrounds	Work Status
1	38	Bachelor's degree	14	Hospital	Shushtari	Full-time
2	28	Bachelor's degree	4	Hospital	Shushtari	Full-time
3	40	PhD in reproductive health	16	Hospital	Lor	Full-time
4	27	Bachelor's degree	5	Hospital	Arab	Full-time
5	33	Bachelor's degree	9	Hospital	Arab	Full-time
6	25	Bachelor's degree	4	Hospital	Shushtari	Full-time
7	42	Bachelor's degree	17	Health Center	Lor	Full-time
8	36	Bachelor's degree	12	Health Center	Lor	Full-time
9	40	Master's degree	14	Health Center	Shushtari	Full-time
10	32	Master's degree	8	Hospital	Dezful	Full-time
11	33	Bachelor's degree	10	Hospital	Shushtari	Full-time
12	50	Associate Degree	25	Hospital	Arab	Full-time
13	37	Bachelor's degree	9	Hospital	Shushtari	Full-time
14	31	Bachelor's degree	7	Health Center	Shushtari	Full-time
15	38	Bachelor's degree	11	Health Center	Lor	Full-time

Table 2. A brief Report on the Development of the Categories

Main categories	Subcategories
Care environment	Unequal confrontation Unfavorable conditions
Care process management	Woman-Centered Care Limited Options Adherence to New Guidelines Limitations of telehealth services
Maternal self-care	Low Health Self-Efficacy Low Health Literacy Among Some Mothers
Psychological-Social Stress	Fear of Infection Grief and Loss

on other staff members and causing fatigue. Additionally, the use of protective equipment such as shields, masks, and gowns, combined with heat and heavy workloads, significantly increased the fatigue and difficulty of patient care for midwives. Training new staff and shifting them into roles, long-term separation from families, and children, and sometimes even staying in the hospital, further increased fatigue and reduced midwives' efficiency. Participant 2 said: "During the pandemic, we faced severe staff shortages; staff members were on sick leave due to COVID-19, or midwives were reassigned to other areas, making the work conditions tough".

Participant 1 said: "Some days we worked as nurses in different departments and sometimes as vaccinators". Participant 4 noted: "Working with shields, masks, etc., in this hospital with outdated infrastructure and poor ventilation made working conditions extremely difficult".

Participant 3 said: "Due to staff shortages, the hospital's policy was to hire new staff for the program or on a contract basis, some of whom had no clinical experience, and training these new staff under such critical conditions with the pressure and various stresses was challenging".

4.1.2. Unfavorable Conditions

Many midwives' experiences revealed that hospitals and medical centers were not adequately prepared for crisis conditions, with inadequate physical space, facilities, and amenities being major barriers to service delivery in critical situations. During the pandemic, shortages of

intravenous fluids, blood and blood products, ambulances, and intensive care unit beds affected midwives' work. According to them, maintaining patient privacy and performing specialized and consultative tasks required appropriate physical space, which, despite advancements in the structure of healthcare centers, was noticeably lacking due to the adaptation of services for normal conditions during the pandemic and the simultaneous increase inpatient admissions.

Participant 6 said: "The physical space in hospitals was not suitable for crisis conditions; in some departments, we had to add extra beds in the hallways, which created problems for movement and task execution".

Participant 13 said: "The lack of physical space and placing many beds close to each other reduced patient privacy, to the point where individuals could hear conversations with their doctors".

Participant 11 stated: "At the beginning of the pandemic, we faced a shortage of personal protective equipment, but with subsequent management, efforts were made to address this issue".

Participant 3 said: "During COVID-19, we faced issues with blood and blood products for emergency obstetric and gynecological procedures".

Participant 5 noted: "The Intensive Care Unit faced a shortage of beds for pregnant women with COVID-19".

Participant 10 said: "During the COVID-19, we faced a shortage of ambulances for inter-hospital patient transfers, which complicated the treatment follow-up process".

4.2. Care Process Management

The care process involves activities performed by healthcare providers to diagnose and treat illnesses. It includes events that occur between the provider and the service recipient. This category includes "woman-centered care", "limited options", "adapting to new guidelines", "unnecessary interventions", and "restrictions on telehealth services".

4.2.1. Woman-Centered Care

Participants noted that restrictions on face-to-face interactions, lack of empathy, limited information sharing, visitor restrictions, and shorter post-delivery stays, which align with the woman-centered care approach, were challenging during the COVID-19 pandemic.

Participant 13 said: "The pandemic created a lot of fear, stress, and uncertainty for pregnant women. They had many questions, and their mental health deteriorated, which practically required longer visits and additional informational resources, but due to staff shortages, information sharing and interactions were limited".

Participant 4 said: "Some women with high-risk pregnancies who were hospitalized for long periods experienced sadness and fear due to being away from their families. According to protocols, visitor access was limited and had to be enforced".

Participant 3 mentioned: "Focusing solely on the patient's physical condition and neglecting the mother's concerns was one of the problems during the COVID-19 pandemic, making it impossible to address the mother's mental health and empathy".

4.2.2. Limited Options

Midwives acknowledged that during the COVID-19, there were limitations on doulas, restrictions on physiological birth classes, reduced use of pain relief methods, and limited skin-to-skin contact with newborns, which made the provision of services even more challenging in the demanding conditions.

Participant 12 said: "The pandemic-imposed restrictions on doulas, who were not allowed to entry into hospitals during peak times. Additionally, due to the respiratory nature of the COVID-19, some interventions used by doulas, such as breathing techniques, were very limited".

Participant 7 noted: "During the COVID-19, in-person physiological birth classes were canceled, and the class's content was provided through social media apps, which affected the effectiveness of these classes".

Participant 12 said: "Due to health protocols during childbirth, especially in mothers with symptoms but not yet tested for the disease, skin-to-skin contact with the baby was limited, which affected breastfeeding and bonding".

Participant 1 said: "During the COVID-19, the use of pain relief methods like breathing techniques, Entonox,

and walking in labor faced limitations".

4.2.3. Adherence to New Guidelines

According to the participants, the pandemic required a rapid adjustment of care protocols, including prenatal care. Midwives faced the challenge of adapting to new guidelines while maintaining essential services.

Participant 8 said: "At this health center, the number of clients using maternal health services during the pandemic was similar to pre-pandemic times. The main difference was how we interacted with clients according to new guidelines, such that the number of prenatal care visits was reduced and their pregnancy status was followed up by phone".

Participant 9 said: "According to health protocols, we implemented measures such as wearing masks, using shields, maintaining safe distances, and reducing service time to ensure health and safety. We also put-up posters in various areas instructing everyone to follow health protocols, including wearing masks and washing hands regularly. Adhering to all these protocols was challenging for everyone".

4.2.4. Limitations of Telehealth Services

The lack of suitable infrastructure for using electronic health and virtual prenatal consultations, along with the development of mobile health technology to meet individual needs, was identified as another challenge for midwives in providing prenatal services during the COVID-19 pandemic.

Participant 3 said: "We could not provide online prenatal care services due to limited access to networks and smart mobile devices for mothers".

Participant 9 said: "We faced difficulties in conducting online physiological birth classes and sending educational materials and clips through social media apps because some mothers did not have access to smartphones".

Participant 14 said: "Providing online consultations and prenatal services could have reduced waiting times for receiving services, but we faced limitations with such services".

4.3. Maternal Self-Care

Self-care is an action where individuals use their knowledge, skills, and abilities to independently manage their health. For midwives, maternal self-care plays a crucial role in their effectiveness as care providers. Midwives encounter diverse and often complex clinical conditions during pregnancy, childbirth, and postnatal care. Low maternal self-care can lead to doubt, uncertainty, and poor decision-making. This category includes "low health self-efficacy" and "low health literacy among some mothers".

4.3.1. Low Health Self-Efficacy

Midwives believe that maternal self-efficacy can play a significant role in achieving treatment goals, following treatment and diagnostic instructions, and overcoming pregnancy challenges. According to them, mothers' disregard for health protocols, lack of stress management skills, and preference for in-person counseling services indicate low self-efficacy, ultimately challenging midwives' ability to provide services.

Participant 6 said: "Some mothers did not adhere to recommended health protocols during the pandemic, creating challenges in controlling the virus spread and ensuring their and others' safety".

Participant 2 said: "Women may neglect proper nutrition, exercise, and self-care due to perceived limitations".

Participant 15 said: "We planned for mothers to visit comprehensive health centers daily, but some mothers did not visit health centers and delayed receiving care". "Unfortunately, some mothers were unfamiliar with stress management techniques".

4.3.2. Low Health Literacy among Some Mothers

Midwives believe that maternal health literacy, which includes specific knowledge and skills for recognizing pregnancy risk signs, understanding risk levels, and employing a healthy lifestyle and proper nutrition during pregnancy, can improve pregnancy outcomes. They think that low health literacy among mothers can indirectly affect their workload, especially during outbreaks, and challenge their ability to provide services.

Participant 9 said: "Low-literacy mothers faced difficulties understanding text messages related to guidelines and health services, which required alternative communication strategies to effectively reach this vulnerable population".

Participant 3 said: "A low perceived risk rate by mothers, especially those with high-risk pregnancies, led to frequent hospital admissions, which itself posed multiple challenges for follow-up by high-risk maternal experts".

Participant 7 said: "We had phone lines in the centers to answer mothers' questions, but many preferred to visit health centers in person for women's and midwifery consultations rather than calling".

Participant 14 said: "Many mothers refused to accept the vaccine despite explanations about its benefits, and they were not willing to get vaccinated".

Participant 1 said: "Ensuring personal safety while caring for pregnant mothers in the hospital became a major challenge for healthcare staff, especially midwives. Many mothers could not wear masks during childbirth due to their conditions, or those who did wear masks removed them out of necessity and pain at the last moment".

Participant 5 said: "Maintaining a healthy lifestyle

during COVID-19 was problematic for some mothers. For example, not controlling dietary intake and reducing caloric consumption, especially in mothers with underlying conditions like diabetes and hypertension, led to increased pregnancy complications and the need for prolonged hospitalization".

4.4. Psychological-Social Stress

Midwives experienced psychological-social stress due to uncertainties, risks associated with providing care, grief, and loss resulting from deaths during the pandemic. This stress added significant challenges to their service provision.

4.4.1. Fear of Infection

From the beginning of the disease outbreak and the failure to combat its spread, fear and anxiety about contracting the virus in themselves and their families increased among midwives, posing challenges to their service delivery.

Participant 2 said: "Knowledge and information about this virus were limited. Dealing with the virus and preventing its spread was met with failure. New strains of the virus kept emerging, which made us anxious about our health and that of our families".

Participant 10 said: "Working closely with suspected or confirmed COVID-19 patients caused me to feel infected every single day. I was always anxious because my colleagues and I believed that anyone who got infected would definitely die".

4.4.2. Grief and Loss

Midwives experienced psychological distress due to grief and sorrow from the loss of friends, acquaintances, and colleagues.

Participant 4 said: "We witnessed the death of patients, the loss of colleagues, friends, acquaintances, relatives, and our loved ones, which intensified our fear and anxiety".

Participant 13 said: "Every time I heard about the death of one of our colleagues in the healthcare sector on TV, radio, etc., I felt stressed, scared, and horrified, to the point where sometimes I didn't want to go to work".

5. Discussion

This study aimed to elucidate the challenges faced by midwives in providing prenatal care during the COVID-19 pandemic. Analysis of the data revealed four main categories: "Care Environment", "Care Process Management", "Maternal Self-Care", and "Psychological-Social Stress". The rapid onset and spread of the COVID-19 pandemic, along with its negative impacts and complications, provided a more comprehensive understanding of fundamental principles and deficiencies in patient care management across various fields.

The increased workload of midwives during the COVID-19 epidemic aligns with findings from other studies, which describe a high-stress work environment and negative psychological impacts on healthcare personnel during the COVID-19 pandemic.²²⁻²⁴ The COVID-19 epidemic led to a need for change and inconsistencies in patient management, ultimately causing confusion among healthcare staff, including midwives, and an increased workload.²⁵ The contagious nature of the coronavirus and the necessity of social distancing and preventing unnecessary presence at the bedside and in hospital wards created limitations for the presence of trained support individuals, including doulas. This finding is consistent with other studies. Rivera's study in the United States found that changes in hospital care during the COVID-19 pandemic had a direct impact on doula care.²⁶ Limiting the presence of doulas led to a deprivation of supportive services for mothers, which was associated with increased fear and anxiety, higher rates of postpartum mood disorders, reduced mental health, and increased elective cesarean sections.^{27,28}

The results of this study reflect the evolving nature of service delivery during the pandemic. There were various experiences in service provision arising from updates and availability of new guidelines, protocols, and best practices. The WHO reported that 27% of countries experienced disruptions in 75 to 100% of their services in 2020. This figure changed to 9% and 18% in 2021 and 2022, respectively.^{29,30} Non-communicable disease services experienced more disruptions globally compared to Maternal and Child Health (MCH) and communicable disease services. Communicable diseases were more resilient due to years of global investment in HIV and tuberculosis.^{31,32} Given the increased risk of COVID-19 and death for those with non-communicable diseases and the long-term impact of COVID-19 interventions, this issue is globally concerning. Midwives in this study expressed their fear of contracting COVID-19 and concerns about their family's health. Findings from other studies on maternal care providers' experiences during the COVID-19 pandemic also highlighted that the fear of contracting the disease and transmitting it to their families was a key issue.³³⁻³⁵ Rapid changes in COVID-19 strains, shortages of personal protective equipment, inadequate knowledge of COVID-19, close contact with suspected or confirmed COVID-19 cases, infected colleagues, and colleagues who died from the disease have contributed to midwives' fear of COVID-19. Similarly, studies on previous disease outbreaks have shown that limited disease information and the death of colleagues exacerbate healthcare workers' fear of the disease.^{36,37} Wu et al. reported that the unknown nature of the disease led to midwives' fear and anxiety, reduced efficiency, and increased fatigue.¹² On the other hand, patient clustering in selected hospitals to prevent disease spread, the

potential for hidden infections, low disease awareness, and mortality among patients played a significant role in the insecurity of COVID-19 centers and in creating fear and anxiety among staff.³⁸ Given the need to maintain mental health among staff during crises, including the COVID-19 pandemic, psychological interventions such as creating opportunities to express the experiences and needs of staff should be considered.³⁹

Based on the findings of this study, we propose specific solutions to address the challenges faced by midwives in providing prenatal care. To improve the care environment, we recommend strategies such as enhancing safety protocols, adapting the workplace for crises, and integrating telehealth services. This will help reduce the need for in-person visits while still delivering essential care. To manage the care process effectively, we suggest resource allocation to ensure adequate staffing and distribution of resources. Ongoing crisis mediation training and flexibility in care models, including the expansion of collaborative frameworks that offer comprehensive care for mothers and newborns, are also recommended. To promote self-care among mothers, we recommend providing virtual educational programs, establishing virtual midwifery consultation platforms, and creating support networks, such as peer support groups. To alleviate psychosocial stress among midwives during crises, it is important to offer mental health programs, including counseling services and stress management techniques. Additionally, creating support networks for midwives can provide opportunities for open discussions about challenges and the sharing of coping strategies.

5.1. Strengths and Limitations

Our study contributes to a better understanding of the challenges faced by midwives in providing prenatal care during the COVID-19 pandemic. However, our study, just like any other research faced some limitations. First, as a qualitative study with a selected sample from a specific geographical community, the findings may not be generalizable to other contexts. Further research is needed to explore women's experiences accessing maternity care and the perspectives of referral hospitals related to the referral process during the pandemic to provide a comprehensive view of factors influencing maternity service delivery. Additionally, as interviews were conducted online, the Internet connectivity was a challenge for some interviews. To address this, participants who experienced connectivity issues had the opportunity to continue the interview on the same day once their connection stabilized.

6. Conclusion

The COVID-19 pandemic was one of the most significant global health threats the modern world has ever faced. In a pandemic situation where all countries are striving to

prevent or delay further spread of COVID-19, the health and well-being of healthcare workers must always be prioritized. Midwives are an essential part of the healthcare workforce, and their contact with women and their newborns is vital for the continuity of care. The findings of this study highlight the challenges faced by midwives in providing prenatal care during the COVID-19 pandemic, which can provide valuable insights for policymakers to ensure quality care during crises.

Research Highlights

What Is Already Known?

The COVID-19 has transformed healthcare and childbirth services, with midwives being key care providers during the pandemic.

What Does This Study Add?

This qualitative study's findings illuminate the challenges midwives encounter in delivering prenatal care, providing valuable insights for enhancing the quality of care during times of crisis.

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Author Contributions

All the authors made a substantial contribution to the conception, design, data collection, analysis, and interpretation of the results. Also, all the authors revised and approved this manuscript for submission.

Conflict of Interest Disclosures

All authors declared that they have no conflict of interest.

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