Original Article

Facilitators of and barriers to accessing prenatal care services in primary healthcare facilities during the COVID-19 pandemic in Manila, Philippines: a qualitative study

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Background: The worldwide impact of the coronavirus disease 2019 (COVID-19) pandemic on the healthcare system is evident. Primary healthcare facilities in the Philippines face challenges due to the lack of unified local frameworks that outline strategies and implementation methods for sustaining maternal and child health (MCH) services amid the ongoing pandemic. This study aimed to identify the facilitators and barriers to accessing prenatal care services among pregnant women in primary healthcare facilities during the COVID-19 pandemic.

Methods: A facility-based qualitative study was conducted within six legislative districts of Manila City. Focus group discussions among pregnant women (n=6) and healthcare providers (n=6) were conducted in primary healthcare facilities. Transcripts were analyzed using thematic analysis, and MAXQDA was used to code and manage the data.

Results: Twenty-two pregnant women and 21 healthcare providers were interviewed using a semi-structured topic guide focusing on the perception and adherence of pregnant women to accessing prenatal care during the COVID-19 pandemic. Five themes emerged that are related to facilitators and barriers: (I) health-seeking behavior; (II) social support; (III) organizational performance; (IV) personal challenges; and (V) organizational challenges. Prenatal care services in the Philippines encountered challenges during the COVID-19 pandemic. Successful delivery of prenatal care services varied among districts and was inconsistent across all primary healthcare facilities. Pregnant women, particularly in hard-to-reach areas with limited services, faced difficulties in accessing prenatal care.

Conclusions: Overcoming the barriers to accessing prenatal care services necessitates a multi-sectoral approach. Primary healthcare facilities are urged to embrace effective MCH strategies and practices to ensure resilience in times of crisis.

Keywords: Facilitators and barriers; pregnant women; prenatal care services; primary healthcare facilities; Philippines

Received: 05 November 2023; Accepted: 19 January 2024; Published online: 26 February 2024.
doi: 10.21037/jphe-23-144
View this article at: https://dx.doi.org/10.21037/jphe-23-144

Introduction

The coronavirus disease 2019 (COVID-19) is a global pandemic from the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that brought unprecedented challenges to healthcare systems worldwide. The rapid spread of the virus, coupled with the strain on healthcare resources, has disrupted the delivery of critical services. The COVID-19 pandemic has significantly influenced many parts of the healthcare system (1). World Health Organization (WHO)'s 2021 pulse survey revealed fragmented healthcare delivery and inadequate local/community stakeholder perspectives during the early COVID-19 pandemic (2).

WHO studies suggest country-level strategic approaches and reforms to address COVID-19 healthcare service disruptions (3). Case fatality and mortality rates have varied greatly between countries and continents; the majority of cases have been documented in high-income countries in the European and American regions (4,5). Even though these nations possess adequate resources and capability to allocate funds to their healthcare systems, this situation contrasts sharply with lower- and middle-income countries.

Among the various aspects of healthcare affected, maternal and child health (MCH) services have faced unique challenges during this global health crisis. The COVID-19 pandemic has exposed the vulnerabilities of MCH services in the face of a health crisis. Pregnant women and infants, already a high-risk population, are faced with additional health threats due to disruptions in healthcare access and delivery (6). The pandemic strained healthcare systems, diverting resources and personnel towards the urgent response to the virus, often leading to a reduction in routine MCH services (7). Prenatal check-ups, vaccinations, and essential maternal and pediatric care faced disruptions due to lockdowns, overwhelmed hospitals, and patient reluctance to seek care.

While COVID-19 response efforts are a national priority, it is crucial to acknowledge the unique initiatives at the local level ensuring the continuous delivery of routine public health services, including prenatal healthcare (8). In the Philippines, the Inter-Agency Task Force (IATF) was established in 2020 to manage emerging infectious diseases and formulate national strategies for the pandemic response (9-11). These strategies are informed by the best available evidence relevant to the Philippine setting and health system (12).

However, the country lacks unified and strengthened local frameworks outlining strategies and methods for sustaining non-COVID healthcare services, including prenatal care visits and consultations, within the local government units such as healthcare centers during the COVID-19 pandemic. This study aimed to explore the facilitators of and barriers to accessing prenatal care services in primary healthcare centers during the COVID-19 pandemic in Manila, Philippines. By analyzing the barriers and facilitators faced in maintaining non-COVID healthcare services, including prenatal care, and evaluating the responses and adaptations made by local government healthcare centers, this research can inform the development of robust healthcare crisis management strategies. We present this article in accordance with the COREQ reporting checklist (available at https://jphe.amegroups.com/article/view/10.21037/jphe-23-144/rc).

Highlight box

Key findings

- Pregnant women in remote areas with limited services encountered challenges in accessing prenatal care at their respective health centers.
- The successful delivery of prenatal care services varied among districts and exhibited inconsistency across all primary healthcare facilities.

What is known and what is new?

- The coronavirus disease 2019 (COVID-19) pandemic has significantly disrupted various facets of the healthcare system.
- During the COVID-19 pandemic, pregnant women in Manila City faced challenges accessing prenatal care due to personal struggles and barriers within primary healthcare centers.

What is the implication, and what should change now?

- Recognizing both facilitators and barriers to accessing prenatal care services during the COVID-19 pandemic serves as a call to improve operations, ensuring healthcare institutions are resilient in future emergencies.

Methods

Study design

The study was a facility-based qualitative study that explored the perceptions of pregnant women and healthcare providers on the barriers and facilitators to accessing prenatal care services during the COVID-19 pandemic.

Study area

We conducted the study in the City of Manila, comprising

six legislative districts. According to the Philippine Statistics Authority, among the cities in the National Capital Region, Manila City had the highest rate of live births in 2020 with a record of 48,208 registered live births despite being in the middle of the COVID-19 pandemic (13). For each district, we selected one primary healthcare facility based on the reported highest number of pregnant women as of the month of October 2022 according to each Health District Office of the Manila Health Department - Division of Planning and Coordination. In the current scenario, Manila operates under the New Normal Guidelines, with localized lockdowns implemented at both the barangay (community) and "purok" levels—the latter being the smallest unit within the community.

Study participants

We gathered data from two participant groups. The first group comprised pregnant women aged 15 to 49 with co-signed informed consent (for minors), regardless of prior pregnancies, seeking prenatal care in Manila City, and free from comorbidities. We have chosen this age group because they represent women of reproductive age. Ineligible participants are pregnant women below 15, those with medical conditions, and those receiving prenatal care outside Manila City. Individuals with comorbidities or medical conditions (e.g., diabetes, hypertension) were deliberately excluded from the focus group discussions for safety reasons, aiming to prevent stress or harm. Additionally, to exclusively focus on prenatal care services within Manila, pregnant women receiving care outside Manila City were excluded from the study. The second group includes healthcare providers aged 21 to 65 (based on the Philippine Labor Code), working as registered licensed professionals (e.g., physicians, nurses, and midwives) at Manila City healthcare centers. To ensure a comprehensive understanding of perspectives on prenatal care services, healthcare providers participating in the study must be involved explicitly in prenatal care.

We conducted two focused group discussions (FGDs) in selected healthcare facilities in each legislative district of Manila City. We used convenience sampling for participant recruitment, a non-probability sampling method, following the criteria above. The availability of participants at a designated time and their willingness to engage in the research study were the key factors that contributed to obtaining insights from pregnant women and healthcare providers.

Data collection

Two semi-structured topic guides were constructed by the authors for both pregnant women and healthcare providers based on the accessibility and implementation of prenatal care services during the COVID-19 pandemic (Tables S1,S2). Subject matter experts, such as local physicians, nurses, and midwives, validated these topic guides. Afterward, we pretested with five pregnant women and five healthcare providers as our participants. Pretesting was conducted to determine if our initial topic guides would be applicable as appropriate and not deemed overly sensitive to our participants. Their responses determined the proper approach and improvement when we collected the data during the FGDs.

We conducted 12 face-to-face FGDs, with two sessions (one FGD for pregnant women and one FGD for the healthcare providers) held at each of the six healthcare centers. Each FGD included 3–5 participants and took place in a private room to ensure participants' preservation of their privacy. The sessions typically lasted around 60 minutes, with three male and four female researchers. Two authors (P.D.M. and K.M.) facilitated the FGDs, while the other two (A.B.D. and K.Z.M.) documented field notes. The first four authors underwent training in research methodologies and ethical considerations. The entire study was supervised by experienced researchers and professors (M.J.M., K.J.M., and R.R.C.).

We concluded the FGDs when we achieved data saturation. Data saturation is a widely accepted rule in qualitative research wherein the researchers have gathered and studied enough data and have no need to collect or analyze more (14). As we conducted the reviews, we sent a copy of the transcribed data and preliminary findings to the six healthcare centers for member checking and clarification. All six healthcare centers did not provide any feedback for any revisions and or further comments. The research took place for over 11 months in total (August 2022–July 2023), with data collection done in January 2023. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). The study was approved by the University Ethics Review Committee of Adamson University (2022-02-PHA-10) and informed consent was obtained from all individual participants.

Data analysis

All FGDs were recorded in audio and transcribed verbatim in Filipino. The transcription, analysis, and coding were carried out collaboratively by two authors (A.B.D. and

Table 1 Sampling details and research focus

Types of participants	Sampling details	Age and gender	Focus of FGDs
Pregnant women	Six FGDs (n=22); group size: 3–5 members	Age range, 20–36 years; all participants were women	Perception about the COVID-19 pandemic, discrepancies between prenatal care amid the quarantine period, compliance in check-ups, outcomes of the implemented safety protocols
Healthcare providers (physicians, nurses, midwives, dentists, pharmacists)	Six FGDs (n=21); group size: 3–5 members	Age range, 24–54 years; (81% female and 19% male)	Organization profile, prenatal care services provided, adherence to safety protocols and regulations, and barriers to accessing prenatal services

FGD, focus group discussion; COVID-19, coronavirus disease 2019.

K.Z.M.). To enhance the accuracy and authenticity of our findings, a participant feedback process (member checking) was meticulously integrated into the data analysis phase. This involved sharing the transcripts and results with the participants, enabling them to verify the accuracy and resonance with their own experiences. The purpose of this method was to incorporate the comprehensive insights and recommendations provided by the participants into our final results.

This study utilized Braun and Clark's thematic analysis methodology and inductive reasoning, focusing on a specific phenomenon (15). MAXQDA (VERBI Software, Berlin, Germany) was used as a coding program which aided the researchers in analyzing the themes that emerged from the transcribed data. Thematic analysis is a systematic approach to analyzing the data acquired from FGDs (16). Clarity and transparency are crucial in exploring the findings of the thematic analysis (17). Such a method allowed us to explore and interpret the patterns within the data. We laid out the interpretation of the data with familiarization of the contents by immersing ourselves through repeatedly reading and re-reading the data. Following the familiarization stage, codes, tags, and labels were assigned to each specific data point, representing their respective concepts or ideas. Subsequently, careful classification techniques were consistently applied to condense codes and classify them into a unified primary category, referred to as sub-themes. Themes were then assigned by analyzing each primary category and grouping those with similar meanings. The concluding phase of this thematic analysis involved reporting all emerging findings and presenting coherent narratives that illustrate the five identified themes.

Findings from the FGDs were divided into two sections. The first section was based on facilitators, while the second section was on the barriers to accessing prenatal care services during the COVID-19 pandemic. Throughout the results, quotes are presented to illustrate the findings.

Results

General characteristics of participants

Table 1 provides an overview of the participants' characteristics. There were 22 pregnant women aged between 20 and 36 years who actively participated in all six FGDs. Additionally, there were 21 healthcare providers involved in the six FGDs distributed across different professions: 6 midwives, 6 nurses, 3 dentists, 4 physicians, and 2 pharmacists. Altogether, the study involved a total of 43 participants.

Facilitators of accessing prenatal care services in primary healthcare facilities during the COVID-19 pandemic

Table 2 shows the facilitators of accessing prenatal care services. Three themes emerged: (I) health-seeking behavior, such as compliance; (II) social support, such as provider support and peer support; and (III) organizational performance, such as efficient delivery of prenatal care services and up-to-date prenatal care equipment and devices.

Health-seeking behavior

Compliance

Based on the observations of the healthcare providers, pregnant women are compliant with their prenatal checkups. Patient compliance is a crucial part of an individual's interaction with the healthcare system. This compliance is closely tied to health-seeking behavior, as it reflects a patient's commitment to their healthcare.

"*There are some mothers who have persevered to visit (healthcare centers) and to adhere to their schedules because, as much as possible, they make most of the free services we provide.*" (Nurse, 32 years, District III).

Table 2 Facilitators of accessing prenatal care services in primary healthcare facilities during the COVID-19 pandemic as perceived by pregnant women and healthcare providers

Key themes	Sub-themes	Pregnant women	Healthcare providers
Health-seeking behavior	Compliance	*"I've been going to this healthcare center since my first pregnancy. Even now that I'm expecting my 3rd child, I still prefer to have my check-ups here. The location of the center helps me complete all of my scheduled checkups."—32 years (District I)*	*"In discussing health-seeking behavior with pregnant women, we've discovered the importance of recognizing each person's unique journey. As we navigate varying levels of compliance, our approach is centered on delivering personalized support, tailoring prenatal care to individual needs, and creating a more compassionate and effective healthcare experience."—37 years (District IV)*
Social support	Provider support	*"I really appreciate the services given by the healthcare center. Aside from my scheduled check-ups, I also receive seminars and medicines for free. The healthcare providers never failed to give us the support and encouragement we need before our delivery"—25 years (District IV)*	*"Effective social support, especially through robust provider assistance, serves as a cornerstone in facilitating enhanced prenatal care services for pregnant women. Strengthening this collaborative and supportive environment contributes significantly to ensuring optimal maternal and fetal well-being during the challenges presented by the COVID-19 pandemic."—21 years (District V)*
	Peer support	*"Based on my experience, I would encourage other pregnant women to come here instead. Aside from this healthcare facility being better, the compassion of the healthcare providers is good too." —26 years (District IV)*	*"As a healthcare provider, I underscore the crucial role of social support, particularly through peer interactions, in shaping the prenatal care journey for pregnant women. Notably, variations in the availability of peer support services across different healthcare facilities emphasize the need for a uniform and comprehensive approach to ensure equitable access to supportive resources, addressing challenges faced by expectant mothers." —35 years (District IV)*
Organizational performance	Efficient delivery of prenatal care services	*"I remembered when it was the surge of the COVID-19 pandemic, I was too scared to go to the healthcare center for my schedule because of the constant news of the virus. Thankfully, a few healthcare providers personally came to my house to give me a private check-up."—30 years (District V)*	*"In evaluating organizational performance, I've noticed variations in the efficient delivery of prenatal care services, with some health centers offering more comprehensive support and educational resources for pregnant women than others."—29 years (District I)*
	Up-to-date prenatal care equipment and devices	*"I was delighted when I learned that our healthcare center was renovated and received new equipment. I wouldn't worry about going to a hospital for an ultrasound anymore now that I can receive it here." —29 years (District I)*	*"Optimal organizational performance, particularly in keeping up-to-date prenatal care equipment, plays a vital role in providing high-quality care for pregnant women. Access to modern resources enhances our ability to deliver comprehensive and effective prenatal services, contributing to improved maternal and fetal outcomes in today's healthcare environment."—48 years (District I)*

COVID-19, coronavirus disease 2019.

"*I have been compliant with my scheduled check-ups since day 1 and as far as I've experienced, my whole pregnancy journey has been nothing but comfortability and safety*." (Pregnant woman, 35 years, District III).

Social support

Provider support

Healthcare providers provided lectures, seminars, and house-to-house checkups to support pregnant women during the COVID-19 pandemic, ensuring safe delivery and accommodating those unable to visit centers.

"*Sometimes we conduct seminars titled 'Safe Motherhood Program'. They usually comply as long as we explain the needed information to them. Even our midwives, doctors, and nurses also provide health teachings to our pregnant women so they can fully understand the benefits they are receiving*."

(Midwife, 32 years, District IV).

Peer support

Pregnant women would engage in conversations to provide social and peer support, sharing information about healthcare services to enhance safety, reliability, and overall well-being during delivery and postpartum care.

"*Of course, to encourage other fellow pregnant women like me, I tell them that all their services are free and they have nothing to spend. Instead of having their checkup at the hospitals, they should go here instead. It's more practical that way.*" (Pregnant woman, 29 years, District II).

Organizational performance

Efficient delivery of prenatal care services

Healthcare providers delivered the most efficient assistance throughout pregnant women's check-ups. They made sure to give out numerous seminars, constant reminders, house-to-house visits, free vitamins and vaccines, and use of the overall service.

"*In our healthcare center, we ensure that everything is accessible within our services to our pregnant women whenever they visit us. Even before we start the day, we have to prepare and assess what needs to be done and what can be improved to boost the health of our pregnant women within our area.*" (Midwife, 24 years, District II).

Up-to-date prenatal care equipment and devices

Healthcare centers offer modern prenatal care services, equipped with government-supplied equipment and renovations for comfortable, efficient delivery of care.

"*Before, we didn't even have sufficient beds or strollers to carry patients. We used to only refer pregnant mothers to hospitals around the area but now, we have ultrasound machines, and enough equipment that help these mothers have a safe delivery.*" (Nursing Attendant, 40 years, District I).

Barriers to accessing prenatal care services during the COVID-19 pandemic

Table 3 shows the analytical framework of barriers to accessing prenatal care services during the COVID-19 pandemic. Two themes emerged: (I) personal challenges, with three sub-themes such as financial issues, geographical location, and fear of the unknown; and (II) organizational challenges, with four sub-themes such as limited supplies of personal protective equipments (PPEs), the toxic healthcare environment, understaffing, and insufficient distribution of maternal care programs.

Personal challenges

Financial issues

Pregnant women encounter financial challenges when seeking additional prenatal services not offered at healthcare centers, necessitating referrals to private hospitals that come with additional fees.

"*I hope that the services provided by the center will be completely free so that we no longer need to go to the hospital.*" (Pregnant woman, 31 years, District VI).

Geographical location

Pregnant women face barriers in accessing prenatal care due to living in remote areas and limited service outreach, many pregnant women face challenges in accessing timely health information.

"*I live very far away compared to other pregnant women here. Sometimes, I'm not even informed that some schedule changed. Every time I visit, they still tell me the changes but not as fast as how others received the news. Some pregnant women that live nearby immediately received an ultrasound the moment the center announced that they have that service.*" (Pregnant woman, 24 years, District I).

Fear of the unknown

Most healthcare providers shared that they had encountered challenging experiences in providing maternal healthcare services, especially during check-ups, as it negatively affected and hindered the safety of pregnant women.

"*The restrictions were very daunting and scary for us during that time when the pandemic was still rampant, as it was very hard for us to do anything when we were limited, and we couldn't do anything about it.*" (Midwife, 41 years, District II).

"*It was very difficult for most of us healthcare providers to assist and help every pregnant woman during those times as there were restrictions, and we wouldn't want to risk our health and ensure our safety instead of helping in other ways.*" (Nurse, 47 years, District III).

Organizational challenges

Limited supply of PPEs

For the healthcare providers, the PPEs' lack of supplies was a hindrance in providing prenatal care services to pregnant women, as they had to wait for the PPEs to avoid the risk of spreading the COVID-19 virus to themselves along with the mother and child.

"*It was very difficult for us working in the healthcare center as we were very limited with the medical supplies we had during those times, especially face masks and face shields. We wouldn't want to risk the health of both the mother and the baby whenever*

Table 3 Barriers to accessing prenatal care services in primary healthcare facilities during the COVID-19 pandemic as perceived by pregnant women and healthcare providers

Key themes	Sub-themes	Pregnant women	Healthcare providers
Personal challenges	Financial issues	*"Laboratory tests are the only expense that I pay for, not here at this health center but outside, where referrals are provided from this health center."—29 years (District I)*	*"In addressing the challenges faced by pregnant women, it's disheartening to witness the impact of personal hurdles, especially financial issues, on their access to adequate prenatal care. Some patients express their struggles during consultations, emphasizing the pressing need for broader support systems and financial assistance to ensure that essential prenatal services are not compromised." —44 years (District II)*
	Geographic location	*"Most services in the healthcare center are indeed free of charge—which is a great help to us mothers. Unfortunately, the cost of transportation for us who are living far from the center is not cheap."—25 years (District II)*	*"When considering the personal challenges that pregnant women face, especially related to geographic location, it's noteworthy how these disparities affect access to essential prenatal care services. This emphasizes the critical importance of innovative solutions to ensure fair healthcare delivery amid the challenges posed by the COVID-19 pandemic."—25 years (District III)*
	Fear of the unknown	*"Going to the healthcare center was very difficult and scary. We can't even go outside and talk properly to others because of the restrictions."—27 years (District III)*	*"As healthcare providers, we often encounter pregnant women facing personal challenges, such as the fear of the unknown, which unfortunately acts as a notable barrier to accessing essential prenatal care services. Overcoming this emotional hurdle is imperative to ensure comprehensive healthcare support during the complexities of the COVID-19 pandemic."—49 years (District VI)*
Organizational challenges	Limited supply of PPEs	*"I was worrying a lot, I heard that even the healthcare providers at my healthcare center lack face masks and PPE. How do you think these workers will give us the care we need? [Sarcastically]."—23 years (District III)*	*"In navigating organizational challenges, the constrained supply of PPEs poses a tangible barrier to ensuring comprehensive and safe prenatal care services for pregnant women during the ongoing complexities of the COVID-19 pandemic."—37 years (District IV)*
	Toxic healthcare environment	*"At peak times, the healthcare center lacks coordination when it comes to handling a lot of patients including pregnant women. It's too hectic and stressful."—28 years (District II)*	*"The existence of organizational challenges, notably a toxic healthcare environment, presents a considerable barrier to delivering optimal prenatal care services for pregnant women. Addressing these issues is essential to create a supportive and safe healthcare environment amid the ongoing challenges of the COVID-19 pandemic."—51 years (District I)*
	Understaffing	*"I noticed that my healthcare center has a very short number of healthcare providers to assist us all. Sometimes, we have to wait until they finish accommodating others first."—22 years (District IV)*	*"Understaffing emerges as a major obstacle to delivering optimal prenatal care services for pregnant women, pointing to a critical organizational hurdle in the current healthcare landscape."—40 years (District II)*
	Insufficient distribution of maternal care programs	*"I knew someone from Parola (District I) who did not receive an ultrasound at her health center. I'm lucky enough as I at least received sufficient service here at the health center I go to. It depends on your luck whether you will receive more or less service."—25 years (District V)*	*"The obstacle of insufficiently distributed maternal care programs within our organizational structure hinders the provision of comprehensive prenatal services for pregnant women. It underscores the urgency of addressing this challenge to ensure fair access and support amidst the prevailing difficulties in healthcare."—33 years (District II)*

COVID-19, coronavirus disease 2019; PPE, personal protective equipment.

they would have their required check-ups." (Nurse, 32 years, District V).

"*Personally*, *for me*, *I was not able to accommodate our pregnant women for their check-ups at that time as we had an insufficient supply of PPEs*. *Similar to my other colleagues*, *we had to wait for the supplies to come before providing close-contact services*." (Midwife, 25 years, District III).

Toxic healthcare environment

Pregnant women face barriers to proper prenatal care due to healthcare providers' inappropriate communication and professional behaviors, leading to concerns.

"*During my third scheduled check-up*, *I saw a high number of struggling patients at the center who were not being catered to properly by the health staff*. *The system was too hectic to manage*, *but the proper protocol should have been implemented to assist everyone with kindness and professionalism*." (Pregnant woman, 35 years, District III).

Understaffing

Pregnant women have experienced insufficient staffing of healthcare providers, which can lead to impatience during the pregnant women's checkups as they wish to conclude quickly due to other priorities outside the healthcare center.

"*When I was at the health center for my checkup*, *I had to wait a long time*, *and I noticed that there are a few healthcare providers in the healthcare center to take care of our needs*." (Pregnant woman, 25 years, District V).

Insufficient distribution of maternal care programs

When it comes to the provision of the programs stipulated under the "National Safe Motherhood Program" implemented by the Department of Health (DOH), there are instances wherein some health centers were not able to provide these services (e.g., check-ups, ultrasound scans, prenatal vitamins, immunizations, education and counseling, and home visits) due to a lack of planning or insufficient dissemination of information.

"*We also noticed*, *whenever we have an overall meeting with other personnel from different health centers*, *that some of them have services that others do not have access to*. *Some health centers also provide more services and seminars for pregnant women compared to us*." (Physician, 46 years, District II).

Discussion

This study identified five main findings centered on the facilitators and barriers perceived by pregnant women and healthcare providers in accessing prenatal care services during the COVID-19 pandemic. The initial two findings center on the barriers experienced by pregnant women: (I) encountering geographic obstacles in accessing prenatal care and (II) facing inadequacy in reliable and convenient prenatal care services. Conversely, the remaining three findings revolve around observed facilitators: (III) pregnant women experiencing enhanced and convenient prenatal services in their healthcare centers; (IV) community and social support influencing effective prenatal care decision-making and planning; and (V) improved adherence to COVID-19 protocols by both pregnant women and healthcare providers. These findings underscore the need for enhanced healthcare access and support for pregnant women.

Pregnant women's geographic location hinders access to prenatal care in primary healthcare facilities and deters them from seeking care. Distant locations hinder pregnant women from accessing prenatal care in remote facilities with limited transportation options (18). Indeed, geographical barriers can impede obstetric care adoption. This information is supported by the United States Accountability Office stating how the increase in hospital births among rural women might be driven in a negative way by the closure of local maternity wards and the limited availability of comprehensive prenatal care services, leading to decreased access to obstetric care for rural communities (19). Geographical barriers during the COVID-19 pandemic worsened prenatal care access. Remote areas face limited healthcare access, transportation issues, and exposure concerns, potentially harming maternal and fetal health.

Inadequate prenatal services in healthcare are linked to systemic challenges like limited PPE during COVID-19, a toxic healthcare environment affecting care quality, understaffing causing delays, and inequities in maternal care programs. Recent studies show that healthcare centers often lack comprehensive maternal care programs, affecting pregnant women's trust and their access to essential services (20). DOH-equipped centers may not offer the same benefits as hospitals and private clinics, which many pregnant women prefer for better amenities and systems (21). Addressing these issues is essential for accessible, high-quality prenatal care. To tackle these interconnected challenges, the country may adapt the WHO's "Maternal and Child Health Life Cycle Model" in the primary healthcare centers. In this model, it addresses the holistic health needs of women and children at various life stages (22). By integrating these elements into primary healthcare centers and engaging communities, we can create a comprehensive MCH strategy that caters to the diverse needs of the dispersed Philippine population.

Manila's healthcare centers, as rated by pregnant women, offer reliable prenatal care services. Before the COVID-19 pandemic, these centers improved facilities by training healthcare providers and upgrading equipment. Consistent with our findings, an Eastern Ethiopia study indicates that the quality of healthcare services at health centers impacts pregnant women's prenatal-seeking behaviors (23). However, healthcare provider incompetence and incomplete services hinder pregnant women's access to care, which is supported by studies from Zambia and Mexico (24,25). Pregnant women's satisfaction with improved prenatal care positively influences their willingness to seek and utilize prenatal care services.

During the COVID-19 pandemic, pregnant women sought prenatal care more often due to support from fellow pregnant women, impacting attendance and trust in healthcare providers. Our findings show similarity in other studies that state how receiving both provider and peer support greatly improved the mood of pregnant women throughout their gestation period (26,27). Evidence from another study also noted that receiving education from healthcare centers and peer encouragement positively addresses pregnant women's needs before childbirth (28). A study from the Bicol Region, Philippines, in 2022 suggests that strong patient-provider relationships and trust are vital for patient comfort in healthcare (29). Healthcare providers need effective communication and compassion to ensure the comfort of pregnant women and other patients.

Healthcare providers noted high adherence among pregnant women to COVID-19 protocols, with the majority attending at least four prenatal care visits and consultations during pregnancy. However, it is important to note that this observation is not universally supported. Some studies during the COVID-19 pandemic have indicated a reduction in the original four required prenatal checkups for women. Factors such as limited in-person visits, overwhelmed healthcare systems, and the implementation of quarantine protocols contributed to a potential decrease in the frequency of essential prenatal care. This highlights the pandemic's impact on prenatal care and reduced check-up frequency (30). Enhanced adherence to COVID-19 protocols among pregnant women and healthcare providers shows a collective commitment to safety. This explains why pregnant women in this study could comply with prenatal care visits. It is crucial to sustain and promote adherence to following COVID-19 protocols while also attending the required number of prenatal care visits for the well-being of this vulnerable population and their caregivers.

This study acknowledges certain limitations that need consideration. First, the data collection method faced challenges, including difficulty locating healthcare centers, particularly in secluded areas. Despite this, efforts were made to ensure diversity in geographic locations within Manila City to encompass various perspectives. Second, some pregnant women may have been hesitant to express their honest opinions, potentially leading to gaps or unaddressed issues. Additional follow-up interviews were conducted to mitigate this, emphasizing building trust and creating a private and comfortable environment during FGDs.

Despite these limitations, the study has significant strengths, particularly in its methodological approach. The utilization of in-person FGDs allowed for the direct observation of participants' raw reactions, behaviors, and attitudes toward the provided topic guide. This dynamic interaction enriched the collected data and provided a nuanced understanding of participants' responses and interactions within their respective groups. FGDs provided a conducive platform for participants to express themselves, fostering detailed responses and opinions freely.

The study's strength extends beyond its methodology. Establishing connections with local government units and healthcare providers facilitated collaboration and validated the relevance and linguistic appropriateness of the topic guide. Additionally, a rigorous validation process involving healthcare providers and academic experts further ensured the credibility of the study findings, enhancing the overall robustness of the study.

Conclusions

Pregnant women encountered difficulties accessing prenatal care during the COVID-19 pandemic, particularly in hard-to-reach areas with limited services. Prenatal care services in the Philippines faced challenges, with effective MCH services not consistently reaching all healthcare facilities. Addressing these barriers requires a comprehensive approach to tackling personal and organizational challenges. To enhance facilitators of care, there should be a concentrated effort to improve the availability of prenatal services in underserved areas and promote better coordination among healthcare providers. This ensures that all expectant mothers have access to quality MCH services.

Acknowledgments

We would like to sincerely thank all our participants

(pregnant women, healthcare providers), the Manila Health Department, and Health District Officers for sparing their time and accompanying us in gathering our data.
Funding: None.

Footnote

Reporting Checklist: The authors have completed the COREQ reporting checklist. Available at https://jphe.amegroups.com/article/view/10.21037/jphe-23-144/rc

Data Sharing Statement: Available at https://jphe.amegroups.com/article/view/10.21037/jphe-23-144/dss

Peer Review File: Available at https://jphe.amegroups.com/article/view/10.21037/jphe-23-144/prf

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at https://jphe.amegroups.com/article/view/10.21037/jphe-23-144/coif). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). The study was approved by the University Ethics Review Committee of Adamson University (2022-02-PHA-10) and informed consent was obtained from all individual participants.

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doi: 10.21037/jphe-23-144
Cite this article as: Meneses PD, Dino AB, Mendez KZ, Mendoza K, Molina MJ, Miranda KJ, Carandang RR. Facilitators of and barriers to accessing prenatal care services in primary healthcare facilities during the COVID-19 pandemic in Manila, Philippines: a qualitative study. J Public Health Emerg 2024;8:2.

Supplementary

Table S1 Topic guide for the pregnant women

- What do you know about COVID-19?
- Given that you became pregnant in the middle of the pandemic, what were your concerns about your health and the health of your baby?
- Assuming that you already became pregnant before the pandemic happened, what were the changes in prenatal care services you experienced during the pandemic? How did it affect your childbirth?
- What were the following healthcare facilities did you visit for prenatal care services during your pregnancy? Why did you choose those facilities?
- How often did you go to the healthcare facilities you have mentioned?
- Because of the pandemic what were the following protocols that you must follow when you visit those health center because of the pandemic?
- How did these protocols affect your visits? Do you think these protocols affected you in a bad or good way? Kindly explain further.
- Do you think these protocols or limitations affected you in a bad or good way? And why?
- What prenatal health services do you receive when you visit the clinic during your pregnancy? Please specify.
- How did these services accompany your needs during pregnancy?
- What did you like most and least about the prenatal care services at your designated health center?
- How will you encourage other prenatal women to receive the same care and services from these healthcare facilities given that COVID-19 is still apparent today?
- Will you recommend these healthcare facilities to your fellow pregnant women? Why or why not?

Table S2 Topic guide for the healthcare providers

- How long have you been working as a healthcare provider in this healthcare facility?
- Why have you chosen this field of your profession?
- What kind of services do you usually provide for pregnant women?
- If you have been working even before the COVID-19 pandemic started, what differences have you observed when it comes to the prenatal care services that you provide? Kindly explain in detail the difference between, pre-pandemic, pandemic and post-pandemic.
- What are the following protocols and rules that you must follow in handling pregnant women during the surge of the COVID-19 pandemic? Kindly explain in detail the difference between pandemic and post-pandemic.
- Based on your observations, what are the reasons pregnant women hinder pregnant women from receiving prenatal health care services?
- How will you encourage pregnant women who might have doubts about the prenatal care services you provide that prenatal care services are safe and trustworthy?
- Does the healthcare facility gather patient's feedbacks about the prenatal care services? If yes, how?
- What are the benefits or improvements you perceived that pregnant women have received after visiting the healthcare facility?
- In your opinion, what would you like to suggest in order to address the barriers of primary healthcare facilities and for the improvement of the prenatal care services?

https://dx.doi.org/10.21037/jphe-23-144