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A qualitative study on post-natal mothers' decision making processes and barriers to facility-based care for newborn danger signs in urban setting in Ghana

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ABSTRACT

Introduction: The initial 28 days of life continue to stand as the period of highest vulnerability for child survival. Poor identification of various newborn illnesses and delay in seeking care results in high neonatal mortality and morbidity. Newborn fatalities are avoidable through the pursuit of timely and appropriate healthcare. The study aimed at exploring post-natal mothers' decision-making processes and barriers to facility-based care for newborn danger signs in Urban Region, Ghana.

Methods: An exploratory design using the qualitative approach was employed. Purposive sampling technique was used to select fifteen (15) participants. Face-to-face interviews using a semi-structured interview format was used for data collection. The thematic analysis approach was employed to analyze the data.

Findings: The study revealed that, decision making through effective communication with significant others and unavailability of essential resources in community facilities influenced health-seeking for newborn danger signs.

Conclusion: The study recommends targeted educational interventions and policies aimed at improving access to resources to significantly enhance maternal and child health outcomes.

1. Background

Neonatal mortality which is the occurrence of infant death within the first 28 days of life receives special attention due to the significant number of children who die during the short period immediately following their birth, contributing immensely to the overall under-five mortality rate. It remains a major public health concern and contributes significantly to the number of deaths among children under five years in many regions within low and middle income countries (Tamir, 2024). Data from the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME) revealed that, decline in neonatal mortality has been slower compared to mortality among children under five (2024). The likelihood of dying within the first month of life is about 60 times greater in the country with the highest mortality compared to the one with the lowest UN IGME (2024). Global neonatal mortality rate of 2.3 million deaths was reported within the first month of life in the year 2022 worldwide, and it is estimated that, approximately 6300 neonates die every day throughout the world (World Health statistics, 2023). Many countries in Sub-Saharan Africa are anticipated to miss the SDG target on neonatal mortality by 2030 unless efforts are intensified to accelerate the current rate of progress (Ahmed et al., 2024). Statistics in 2022, places Sub-Saharan Africa as the highest in terms of neonatal mortality with a rate of 27 per 1000 live births followed by South Asia which has a rate of 22 deaths per 1000 live births. Ghana, a sub Saharan African country is rated to have recorded newborn mortality rate of 17 per 1000 live births in the year 2022 (Ghana Statistical Service (GSS) & ICF, 2023).

Global strategies focused on reducing neonatal mortality involves recognizing neonatal indicators of danger and promptly seeking expedited medical attention if necessary (Yosef et al., 2020). In order to further reduce the current rates of newborn mortality rate, it is vital to provide a universal, high quality maternal and newborn care strategies that require a range of specific actions that are well understood and within the capacity of the implementing countries (WHO/UNICEF, 2020). Failure to seek early care for neonatal danger signs results in death and complications such as impaired neonatal growth, mental disability, cerebral palsy as well as other related health issues (Gyaase et al., 2024).

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Notwithstanding the various interventions aimed at helping mothers to identify newborn danger signs for prompt interventions, there are still recorded cases of neonatal mortalities resulting from delay in health-seeking. If mothers have more knowledge on newborn danger signs, they will be able to provide appropriate management approach and seek prompt medical intervention, thereby reducing neonatal deaths. This study therefore explored post-natal mothers' decision-making processes and barriers to facility-based care for newborn danger signs in Urban Region, Ghana.

2. Methods

2.1. Research design

An exploratory design using a qualitative approach (Rendle et al., 2019) was used in this study by the researchers. The study design is ideal because it allows for the investigation of domains with potential research appeal that have remained largely or entirely unexplored by the research community.

2.2. Population and sampling

Fifteen (15) postnatal mothers who met the inclusion criteria were recruited for the study through purposive sampling technique. The study included postnatal mothers whose newborns had an ailment, which caused them to return to the hospital on admission to either the NICU or postnatal ward, and those who were unwell were excluded from the study. The period in qualitative research where no new themes or codes are identified from the participants (Braun and Clarke, 2021a) is termed data saturation and this was identified after the 15th participant of the study (Braun and Clarke, 2021b).

2.3. Data collection

The process of data collection lasted from February to April 2024. Face to face interviews using a semi-structured interview guide were administered to participants who met the inclusion criteria. The objective of the study and intense literature search informed the development of the interview guide which was piloted on two postnatal mothers who were not included in the study. The principal investigator (EY) who has expertise in midwifery and qualitative studies collected data from the postnatal mothers. The in-charges of both the postnatal ward and NICU were informed of the study to gain their cooperation and assistance during the data collection procedure. Research participants were identified with the help of the ward in-charges and the purpose of the study was explained to them in the AKAN native language for easy understanding. After this, those who met the inclusion criteria were referred to the principal researcher for further engagements for the interview. A quiet office was obtained at the hospital at convenience after their consent was sought for the interviews which lasted between 40 and 60 minutes per participant. Audio recordings of the interviews were done with the participants' consent as part of the data collection process, and a field dairy was kept during the data collection process.

2.4. Data analysis

Thematic analysis (Kampira, 2021) was performed concurrently with data collection (Braun and Clarke, 2021a). The data were transcribed verbatim after repeated play back of the audio to avoid poor translation and misrepresentation in transcription by the principal investigator. The principal researcher familiarized with the data set after comparing transcribed data with audio recording. Frequently significant features and words were initially coded across the entire data set and agreed by all researchers before progressing to the formation of themes and sub-themes. Upon confirmation by all authors, the generated themes and subthemes were refined. A final report of findings was produced based on the themes and subthemes after further confirmation among all the researchers.

2.5. Methodological rigor

The study adopted the criteria for trustworthiness as propounded by Lincoln and Guba (1986). To establish reliability in qualitative research, they recommend employing credibility, transferability, dependability, and confirmability as key criteria.

The study-maintained credibility through in-depth inquiry in a way that increased the likelihood of obtaining meaningful findings. In addition, sustained engagement with participants throughout the data collection process was maintained. To guarantee accuracy, the collected data were transcribed verbatim to support member checking. Transferability was achieved by a detailed account of the study design, participant selection, and data collection methods. Dependability was established through audit trail and appropriate questioning with probings. To ensure confirmability, the true findings obtained from the data collection was presented making sure to carefully confirm findings.

2.6. Ethical consideration

The study was approved by the Christian Health Association of Ghana (CHAG) with IRB number CHAG-IRB02082023. The research department of Holy Family Hospital, Techiman granted the approval to recruit postnatal mothers from the NICU and postnatal ward. The study's objectives, benefits, potential risks, and rewards were explained in detail to participants to obtain their consent. Verbal and written consent were obtained from participants before the commencement of the interview and after assuring them of anonymity and confidentiality. The consent form explained that their data would be published with anonymity ensured. The mothers were also informed that they were free to withdraw at any time from the research without any penalty or risk.

3. Findings

All fifteen participants who were approached agreed to participate in the study and none refused or withdrew from the interviews, or study at any point in time during the research. The mothers were between the ages of twenty-two (22) to forty-three (43) years. See Table 1 for details.

3.1. Organization of themes

Three main themes and eight (8) subthemes emerged from the analysis of data. This is described in Table 2.

3.2. Health-seeking decision making

The decision to seek care is mostly influenced by the decision makers in a person's family and who to inform first when issues of newborn complications occur. The advice received after communicating danger sign can influence the decision to seek care either positively or negatively leading to early care seeking interventions or delays which may lead to complications and poor health outcomes.

3.3. Communication of danger signs

In this study, participants indicated that their initial communication of identifiable signs was directed toward significant others who were nearby and providing support at the time. The significant others who were initially informed of the newborn's condition include participants' husbands, mothers-in-law, sisters and their mothers as well as community members who volunteered to support them with care of their babies.

The participants narrated how they first communicated with the significant others they lived with or those offering them support at

Table 1
Socio-demographic characteristics of participants.

Participant	Age (Years)	Age of Baby	Parity	Marital Status	Level of Education	Occupation
DS 01	32	1 week	3	Married	JHS	Seamstress
DS 02	28	2weeks	3	Married	JHS	Trader
DS 03	32	1month	3	Married	Diploma	Midwife
DS 04	42	1 week	3	Married	JHS	Trader
DS 05	22	5 days	2	Married	SHS	Unemployed
DS 06	25	12 days	3	Married	JHS	Seamstress
DS 07	29	1 week	2	Married	None	Baker
DS 08	36	12 days	2	Married	SHS	Trader
DS 09	23	1 week	3	Married	SHS	Trader
DS 10	22	3weeks	2	Married	SHS	unemployed
DS 11	32	1 week	3	Married	SHS	Petrol/Gas Station Attendant
DS 12	43	5 days	3	Married	None	Trader
DS 13	30	3 days	3	Married	Tertiary	Teacher
DS 14	24	1 week	1	Co-habiting	SHS	Seamstress
DS 15	23	1 week	1	Married	SHS	Trader

Table 2
Summary of themes and subthemes.

Themes	Subthemes
1. Health-seeking decision making	a. Communication of danger signs b. Decision after communication
2. Facility accessibility to health-seeking	a. Health service availability b. Health service financing c. Health education campaigns
3. Challenges to accessing care	a. Challenges with utilization of locally available facilities, b. Prolonged waiting period at home c. Transportation issues.

home.

A participant, **DS 02** narrated that;

"I first informed my sister, and she suggested that they might be having abdominal upset and advised me to go to the drug store to buy medicine for them. However, I had a nurse's number from this hospital, so I called her, and after explaining the situation, she told me to report to the hospital instead of buying drugs from outside" ***(DS 02, para 3, 28yrs)***.

Another participant narrated how she initially informed her husband when the baby had fever but later took the decision to report to the hospital before informing her husband.

She had this to share;

"When the baby had a fever and couldn't pass stools on the first day, I informed my husband, who was around at the time. He later travelled so when I was reporting to the hospital I did not inform him until the baby was admitted and treated" ***(DS 10, para 2, 22yrs)***.

One other participant recounted how communication channels are established traditionally in her family to influence decision.

She had this to share;

"I informed my mother in-law first who also informed her husband (father –in-law) before permitting me to call my husband to inform him. After this, a decision was made by my father-in-law and husband to call the midwife in the community for assessment as the condition was new to them" ***(DS 05, para 2, 22yrs)***.

3.4. Decision after communication

Participants of the study believed that, the significant others they communicated with have more experience with regards to care of the newborn and therefore the advice they received after communicating danger signs affected their decision to seek care.

One participant recounted how she waited until her baby's condition became severe. She gave this narrative:

"My husband said that he had heard newborn babies don't pass stools all the time, so we should wait until the next day to see if she passes stools. But when I realized that the abdomen was distended and she wasn't passing stools after some days I reported to the hospital" ***(DS 10, para 2, 22yrs)***.

One other participant stated that, after practicing the advice received on fever management, she realized that there was no need to seek care as baby's condition had resolved. She therefore took the decision to not visit the hospital:

"I informed my husband, and he advised me to remove the clothing due to the weather condition and prepare to take her to the hospital. When I removed the clothes she wasn't warm again after a while. The condition resolved so we didn't need to visit the hospital" ***(DS 06, para 3, 25yrs)***.

Participant **DS 05** recounted how the advice from significant others after communicating danger signs lead to the decision for an early intervention from the midwife in the community.

She narrated that:

"My father-in-law mentioned that they had not encountered such a condition before and suggested we call the midwife for more information. We then asked the midwife to come to the house and assess the baby. She advised that it wasn't 'Asram' (sepsis), we should therefore take the baby to the hospital. So, we brought the baby to the hospital the next day" ***(DS 05, para 2, 22yrs)***.

3.5. Facility accessibility to health-seeking

Facility characteristics such as health service availability and utilization as well as healthcare financing are important determinants of health seeking behavior of postnatal mothers as they can influence health care access and the effectiveness of healthcare provision.

3.6. Health service availability

The availability of health facilities and personnel play a vital role in responding to emergency conditions to prevent complications in the newborn. Physical facilities may not necessarily indicate effective utilization in terms of health seeking.

Most participants had more than one health facility in their communities. The available facilities included government health facilities, private facilities as well as health centers.

A participant who was referred from her community facility described the facilities in her community and those around her community.

She narrated that;

"We have the Okra Government Hospital, which is where I went first, and they referred me to this hospital. But that is not the only hospital in my community, there are other smaller private clinics which are a bit far from me. However, before you reach the Bun hospital, there is another major facility called Green Leaf Hospital, which is also a major hospital. But we did not stop at any of the facilities on our way coming" ***(DS 01, para 3, 32yrs)***.

Another participant shared that, there are facilities in her community but proximity is however a problem as the available facilities are not closer to her.

She stated that;

"There is a private hospital in the community, but it is not close to me. On my way to Holy Family, there are two other larger facilities. However, when I had my last caesarean section at one of these facilities, they still had to refer me back to Holy Family Hospital.so I decided to come here straight for my current delivery and subsequently when the baby fell sick" ***(DS 13, para 3, 30yrs)***.

Participant **DS 04** also narrated that, even though she utilized the available facility in her community, she was still referred to the research site for delivery. She narrated that;

"There are two health facilities located prior to reaching this hospital; a public hospital and a private clinic. I had been attending antenatal care at one of these facilities before being referred to this hospital for delivery due to the absence of the doctor who was taking care of me at the time" ***(DS 04, para 3, 42yrs)***.

3.7. Health service financing

When participants were asked about how they pay for their health services, most participants indicated that, their National Health Insurance (NHIS) has been of great help in reducing financial burdens.

One of them stated that;

"My baby doesn't have insurance yet, but I was told that mine would cover her for three months until I can get insurance for her. So, I used my insurance to purchase the hospital card for her. Since we've been admitted, we haven't been asked to make any payments. I've been using her card to collect all the medications, and we haven't been billed for anything yet. But because some drugs are not covered by insurance I believe we may pay some money and the insurance will cater for the rest" ***(DS 05, para 2,22yrs)***.

Another participant shared that, the health insurance has catered for them since they reported, even though they may have to top up with some payments.

She had this to say;

"Oh, I have insurance, so it covered some of the bills, but we still had to make some payments on admission. I know that even after we are discharged, the insurance won't cover all the expenses, and we will still have to pay something" ***(DS 02, para 3, 28yrs)***.

One participant also narrated how the health insurance has helped to ease the financial burden. She had this to say;

"Since we arrived, we used the health insurance to activate a card for the baby, we also went to the laboratory and collected some medications from the pharmacy, all of which were covered by the insurance. If I didn't have the insurance, we would have ended up paying a lot of money, so it has been a great help to me" ***(DS 03, para 3, 32yrs)***.

3.8. Health education campaigns

Health education campaigns are policies which help to improve identification and health seeking practices among postnatal mothers when implemented properly. Participants were not sure of any health education campaigns in their immediate community but went further to explain that, health campaigns were mostly done at the hospital. The study revealed that, there was a diminished health education campaigns in the communities as the dominating source of information was from the hospital. Participants had this narrative to give;

One participant recalled receiving education during her visits to the hospital and sometimes on social media. She shared that;

"Sometimes, during our antenatal clinic visits, we are occasionally provided with education about these signs by healthcare providers. Aside that, I have also learned about the danger signs from other sources like social media and television programs. These channels have helped to improve my knowledge on newborn danger signs" ***(DS 13, para 3, 30yrs)***.

One other participant narrated that, aside the education she receives from the clinic, sometimes nurses visit from house to house and provide education but it was not frequently done. She shared that;

"During antenatal clinic visits, education on danger signs is usually provided to us. I have also learned about it from television programs that discuss it. Sometimes the nurses visit homes to give education but only on occasions. Though the information is not frequently provided at home, I have learnt a lot from these nurses because when they come to your house it enables you to ask a lot of questions" ***(DS 03, para 3, 32yrs)***.

One participant also indicated that she has received some education on the danger signs from experience women in the community. She was however quick to add that she frequently gets the education from the health providers. She had this to say;

"Oh …, I received most of my education from the clinic, but I also learned from some women who have delivered before, as they have experience and can give valuable information. Additionally, I have gotten some information from television programs which occasionally discuss some of these topics" ***(DS 08, para 2, 36yrs)***.

3.9. Challenges to accessing care

The challenges emerging from the study included challenges with utilization of locally available facilities, postnatal mothers waiting period at home and transportation issues.

3.10. Challenges to utilization of local available facilities

Participants identified that, while there were availability of facilities in their community, conditions of unavailable resources like no incubators and inadequate beds for managing newborn conditions hindered the utilization of these facilities.

A participant indicated accessing the health facilities in her community first because she needed a quick treatment, but was however referred. She narrated that;

"I first went to the facility closest to my community because it was the nearest option, and my baby had a high temperature. Unfortunately, when I arrived, they informed me that they didn't have any available beds or incubators for newborn care. Despite being the closest, they were unable to provide the necessary care my baby needed. The staff, however, were helpful and provided the necessary documentation and referred us to this facility where we were able to receive the appropriate care" ***(DS 10, para 2, 22yrs)***.

Participant **DS 09** also recounted that, she didn't use the facility in her community because whenever there is any complications, she will still be referred to the study site. She also added the attitude of healthcare providers which encouraged her to seek care.

She had this narrative to share;

"When you seek care at the Holy Family Hospital, the nurses are attentive and make time for you. Since it's a referral center, if your condition becomes complicated at another facility, they will direct you here for further care. The fact that it is a referral point is why I chose to come here. I wanted to ensure I received the best possible treatment from the start" ***(DS 09, para 3, 23yrs)***.

Another participant recounted that, unavailability of needed resources drove her to seek care at the study site instead of the available facilities in her community. She shared that;

"I came directly to this facility due to the absence of necessary medical equipment and incubators for treating newborn babies at the other facilities. So even if I went there, they would still refer me to Holy Family. That's why I took the decision to visit this facility directly to avoid delays" ***(DS 11, para 3, 32yrs)***.

3.11. Prolonged waiting period at home

Another challenge identified by the study was that, in the process of seeking care, some participants were noted to have waited at home for long periods more than necessary. Cultural norms and beliefs as well as inadequate knowledge on danger signs accounted for such waiting periods. Participants waiting period at home ranged between two (2) to four (4) days.

One Participant stated that, she believed her baby's condition was normal and so tried other alternative measures which lead to the delay in seeking care. She stated that;

"On the first day, he couldn't pass stools, which I thought was normal. After using warm water, he was able to pass stools, so I decided to wait and see what happened the next day. However, the following day, he still couldn't pass stools. By the fourth day, when I noticed his abdomen was distended, I decided to rush to the hospital, since they might have medications to help him. In total, I waited for four days" ***(DS 10, para 2, 22yrs)***.

Another participant attributed her newborn's condition to cultural beliefs which lead to her delay in seeking care. She gave an account of the situation as;

"It took us two days to notice the condition. [Pause] … hmm, we thought it was 'Asram' because it can also cause a swollen head. We were about to collect herbs to bath the baby, but her grandmother suggested we call the midwife first to check. The midwife told us it wasn't 'Asram' and advised us to bring her to the hospital which we did the next day" ***(DS 05, para 2, 22yrs)***.

Another participant shared that her prolong waiting period at home was to avoid another hospitalization and stated that;

"It took two days. I was hoping it would subside and wanted to avoid another hospitalization. I decided to remove all clothing, leaving only the diapers to provide comfort while managing the condition at home. Since the weather is warm, I wanted to ensure it wasn't due to the weather conditions before seeking care at the hospital" ***(DS 03, para 3, 32yrs)***.

3.12. Transportation issues

For most participants, especially those travelling from rural areas, transportation issues that emerged from the study included poor roads, inadequate vehicle access, long distance as well as financial challenges.

Participant **DS 01** recounted how the poor nature of their roads caused a delay in reaching the facility. She had this to share;

"The poor road conditions significantly delayed our arrival. As a result, the stress caused my baby to develop a high temperature. We started our journey at 6 am, but we didn't reach our destination until around 12 pm. The long delay was frustrating, and I believe that if the roads had been better, we would have arrived much sooner. The situation was really disturbing, especially with my baby's health which was affected by the extended travel time" ***(DS 01, para 3, 32yrs)***.

One other participant narrated that, even when she had access to transportation, the poor roads made it difficult to reach the health facility in time. She narrated that;

"The road is in very bad condition, with heavy vehicles having damaged it. It was difficult for the Okada to navigate the road. When the baby cried, I had to hold her tightly because the Okada was shaking so much. This caused a significant delay, as the Okada struggled with the road. We left Asantaso around 7 am but didn't reach Holy Family until 10 am due to the poor road conditions" ***(DS 05, para 2, 22yrs)***.

Another participant also recounted how difficulty in accessing transportation, the poor road conditions and financial difficulties makes accessibility to care difficult. She shared that;

"Sometimes, accessing transportation is difficult. You might wait by the roadside for a long time before finding a car. There are also many speed bumps on the road, causing the car to swerve constantly, which makes the journey exhausting. It takes at least forty-five minutes to get here from my community. Additionally, we sometimes face financial challenges, but we manage" ***(DS 09, para 3, 23yrs)***.

4. Discussion

Open communication by mothers about danger signs of newborns is suggested to influence health seeking decisions for newborns. The study revealed that, initial communication of identifiable signs was directed toward significant others who were nearby and providing support at the time. The significant others who were initially informed of newborn condition include participants husbands, mother in laws, sisters and parents which significantly influenced the decision to seek care for the newborn. Similarly, a study by (Kanton et al., 2023) revealed that, postnatal mother's initial choice of treatment was informed by relatives and friends. Another study which is in conformity with the current findings revealed that, postnatal mothers' first point of contact with regards to discussing their child's illness, was typically their mothers-in-law (especially when considering home remedies), followed by their husbands (Joshi et al., 2023).

The findings suggest that mothers who share the observations of signs on newborns with their close social connections can get appropriate advice to seek health care compared to mothers who do otherwise.

A contrasting view is provided in a study by (Rent et al., 2022) where findings revealed that, mothers may seek initial assessment from local healers before taking a decision to seek care at a healthcare facility or not. While some studies emphasize the role of immediate family such as husbands and mother-in-laws, others highlighted the importance of extended family and local healers (Adamu and Ango, 2024; Aubel, 2021). The differences are likely to arise due to different cultural, socioeconomic and geographical settings in which these studies were conducted as different communities have different norms, beliefs and social support systems which significantly affect decision making.

The findings of the current study also suggest that, the advice from significant others, as well as the severity of illness, significantly influenced the decision to seek care by postnatal mothers. Most mothers did not seek care from a hospital setting after receiving advice owing to the use of home remedies for treatment or the perception that the condition is normal and will resolve on its own. A similar study by (Ramamonjinirina et al., 2022) confirms the current findings as mothers did not seek care for newborn illness because there were not aware of severity of signs and did not go by family advice. Other studies also confirm the findings that, where postnatal mothers were discouraged from visiting a health facility based on the care and advice of an

experienced family member or used home remedies and only sought medical care with worsening of symptoms (Finlayson et al., 2023; Joshi et al., 2023).

While advice from significant others can influence the decision to seek care, it sometimes leads to poor health outcomes. For instance, relying on home remedies or waiting for symptoms of condition to become severe before seeking care can lead to delay in seeking care which may lead to increased neonatal mortality rates.

Conversely, findings from (Hussein Fardan et al., 2023) reveals that, postnatal mothers showed a quick response to danger signs by seeking immediate care from the nearest hospital. This finding disagrees with the findings of the current study where postnatal mothers did not seek immediate care from the hospital. A contrasting view to the current study is also provided by the findings from (Gyaase et al., 2024) where majority of postnatal mothers sought care at the hospital on their own without the advice of their parents.

Health service availability is essential in ensuring timely and effective responses to newborn emergency conditions. However, the presence of physical health facilities does not translate to effective utilization of services (Audu et al., 2022). The current study revealed that, most participants had access to multiple health facility within their communities, including government and mission hospitals, private clinics and health centers. This finding aligns with the outcome of similar studies where access to healthcare services and facilities was found as a factor that influence health seeking practices among mothers (Afaya et al., 2020; Azad et al., 2023; Netsai et al., 2022). A similar study conducted in Northern Ghana revealed an increase in healthcare access with more hospitals and public health facilities built to increase the number of facilities to help eliminate barriers in accessing care (Sacks et al., 2021) and this is in conformity with the findings of the current study. The finding implies that mothers who reside in communities with healthcare facilities and services are more likely to have positive health seeking practices than those in communities without healthcare facilities.

However despite the availability of these facilities, the findings of the study revealed that, several of the participants bypassed closer facilities due to unavailability of necessary resources for newborn care. This finding is confirmed by a study in Kigali, Rwanda where utilization of available facilities was dependent on their accessibility by geographical location and cost of care (Uwiringiyimana et al., 2022). This suggest that, health service availability alone is insufficient, the quality of care and resources available are critical factors that must be addressed to improve service utilization.

Contrasting findings from a qualitative research conducted in India revealed that postnatal mothers had access to government and private hospitals and were able to utilize all services whenever they require (Joshi et al., 2023). Furthermore (Afaya et al., 2020) also does not agree with the current findings of the study. Their findings identified that participants patronized available facilities including healthcare facilities for the treatment of their ill-health as compared to the current findings.

The inconsistency may be due to differences in healthcare systems, resource distribution or cultural factors that influences health seeking behavior.

Health service financing plays a key role in shaping the health-seeking behaviors of postnatal mothers in areas where financial barriers can significantly impact access to care. The study identified the National Health Insurance Scheme (NHIS) to have a substantial positive impact on their ability to access care, especially in the postnatal period when newborn danger signs were identified. The findings from this study align with existing studies by (Al-Hanawi et al., 2020; Gomora Tesfaye et al., 2022). For instance the study by (Gomora Tesfaye et al., 2022) emphasizes health insurance as a major factor influencing health seeking practices of postnatal mothers. The findings suggest how health insurance can act as a protective factor, preventing financial burdens and enabling timely health seeking which is vital to maternal and newborn health. The positive impact of health insurance is supported by previous studies that have found health insurance as a key determinant of healthcare utilization.

While health insurance schemes have been identified to reduce financial barriers, some gaps such as low coverage of health care cost can also hinder health seeking behaviors. This identified gap is consistent with findings from a study in rural Malawi which concluded that, a formal policy to provide free healthcare services is not enough to ensure comprehensive financial protection for vulnerable populations. While such policies are vital, it often fall short in addressing the full scope of economic barriers that vulnerable groups face (Nakovics et al., 2020). Another finding which is in contrast to the current study revealed that, majority of participants who had no health insurance or had not renewed their insurance identified cost of care as a barrier to health seeking practices (Adongo et al., 2024). In the perspective of maternal and child health, this can be problematic as the cost of treatment and specialized test can become burdensome particularly for families with limited financial resources.

Effective health education campaigns are vital for empowering postnatal mothers with the needed knowledge to identify danger signs in the newborn and seek early interventions at the appropriate health facilities. The findings of this study revealed that, the primary source of health education for most participants was from health care providers at the hospital. The finding suggests that health education contribute to improve the knowledge of mothers on health services thus impacting on their health seeking practices. As posited by previous studies (Andrianantoandro et al., 2021; Azad et al., 2023; Sheba, I. T., Sarker, A. R., & Tasnim, 2022), education plays a significant role in empowering mothers with knowledge and thus positively impact on their health seeking practices. Similarly, a study by (Gyaase et al., 2024) identified sources of health education campaigns to include community health nurses, midwives and postnatal clinics in the Upper Leaf East municipality of Ghana, which in turn improved maternal knowledge and care seeking practices for newborn danger signs. While the hospital remains a vital source of health education for improving maternal knowledge and care seeking, the finding suggest a need for a more integrated approach that combines hospital education with robust community outreach. This is to ensure that, all mothers have access to the needed health information on newborn danger signs.

Despite the positive impact of facility based education campaigns, the findings revealed a vital gap in community based education campaigns. Mitigating this gap involves expanding community outreach programs, increasing the frequency of home visit by healthcare providers and leveraging community resources such as peer educators.

While access to healthcare is a fundamental right to reducing neonatal mortality, numerous challenges continue to hinder individuals and communities from receiving the needed care (Azad et al., 2023; Finlayson et al., 2023; Nisar, 2022). The findings from this study revealed that the absence of necessary medical equipment, such as incubators and inadequate beds, as well as the referral process, significantly hindered the utilization of available local facilities. These findings are consistent with (Birhanu and Johanna, 2021) in Ethiopia, who highlighted shortages in medical supplies and transportation as a key barriers to local service utilization. The study found that ambulance services for transportation was uncommon, which in turn affected families' compliance with referral for newborn conditions.

Similarly (Nisar, 2022), highlighted limited duration of service availability and inadequate supply of essential resources hindered health seeking among postnatal mothers with sick newborns. In rural Zimbabwe (Netsai et al., 2022), found that, access and utilization of local facilities was hindered by factors such as healthcare workers capacity, availability of equipment and drug unavailability. However, contrasting evidence from (Mochida et al., 2021) in rural Zambia suggest that while geographical access is a critical barrier, the availability of essential medical equipment may not be significantly associated with facility utilization. This difference might be explained by diverse geographical and infrastructural background between study sites as well as time of the study in relation to external events. The variability of

findings suggest that, the barriers to healthcare access may vary significantly depending on local conditions.

A significant challenge in the care seeking behavior of participants identified in the study was prolonged waiting periods at home before seeking medical attention for newborn danger signs.

Participants in the study reported a waiting period of two to four days before seeking health care for newborn danger signs. This delay was influenced by a combination of cultural beliefs, inadequate knowledge of danger signs and personal or familial experiences. These findings align with various studies (Adamu and Ango, 2024; Akter, 2022; Joshi et al., 2023). For instance the study by (Joshi et al., 2023) in India, where mothers similarly delayed seeking care by waiting for two to three days often resorting to home remedies before seeking care when newborn symptoms worsened. This behavior reflects a concerning trend of negative care seeking practice among mothers.

Unlike the current findings, a study in Saudi Arabia found that, majority of participants quickly responded to danger signs and rushed to the nearest hospital due to their knowledge on newborn danger signs (Hussein Fardan et al., 2023). Similarly, findings from (Ramamonjinirina et al., 2022) also revealed that, majority of mothers who identified newborn danger signs sought care in less than 12 h. This quick response was attributed to increased awareness of danger signs by health care givers during pregnancy and after birth.

The similarity in findings may stem from shared socio-economic challenges and the level of health education in rural areas of the various countries where research was conducted. However contrasting views to the current study may be due to more effective prenatal education and a well-developed healthcare system.

Transportation challenge is a well noted barrier to accessing healthcare, particularly for individuals in rural areas. The current study found poor road conditions, inadequate transportation access and long travel distances to negatively influenced health seeking practices of postnatal mothers. This supports what earlier studies conducted by (Arunda et al., 2021; Nisar, 2022) which found that lack of transportation was a barrier to access of healthcare services. A similar study by (Finlayson et al., 2023) identified significant transportation challenges causing delay in seeking care to include long distance to facilities, poor road conditions and transportation difficulties. This aligns with the findings from the current study. This suggest that mothers living in communities that has no or poor link to health care facilities could have a negative health seeking practices. However, the situation is not uniform across all regions and the differences could be attributed to variations in local governance, community organization and availability of resources.

4.1. *Limitations of the study*

Due to the limited time, the research could not capture health care givers' perspectives on available facility policies and issues pertaining to managing danger signs for neonates who are brought to the health facility.

4.2. *Implications for nursing and midwifery practice*

The findings from the study should provide a platform for midwives to intensify health education programs to ensure community sensitization on newborn health conditions through the use of social media platforms and radio shows. Nurses should develop a practical guide materials containing a quick response strategy that outline emergency preparedness and when to seek care for mothers. This will enable families to prepare appropriately and seek early interventions when newborn conditions arise. A pictorial checklist and protocols should be readily available at health facilities to ensure easy education of women who access care in these facilities.

5. Conclusion

The support and communication systems play an important role in influencing decisions and actions that lead to positive health outcomes. While access to health facilities and health system financing through health insurance schemes are important, the quality of care, availability of resources and effective health education campaigns play an essential role in shaping the health seeking behavior of postnatal mothers. A significant improvement in maternal and newborn care could be attained through targeted interventions and policies to address these factors effectively. Stakeholders in healthcare should target educational interventions and policies aimed at improving access to resources to significantly enhance maternal and child health outcomes.

Statement of data availability

The data supporting the results of this study are available from the respective authors upon request. For data protection reasons.

Additional information

No additional information is available for this paper.

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Declaration of conflicts of interest

All authors have declared no conflicts of interest.

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