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RESEARCH ARTICLE

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Perceived barriers of family-centred care in neonatal intensive care units: A qualitative study

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Abstract

Background: Family-centered care (FCC) approach in neonatal intensive care units (NICUs) has been shown to improve family satisfaction and quality of care. However, several contextual barriers influence its use in NICUs, and these barriers are understudied in Ghana.

Aim: To describe FCC practice in Ghanaian NICUs in order to understand the contextual barriers.

Design: The study employed a descriptive qualitative design.

Methods: The researchers used a structured interview guide to collect the data in 24 interviews and 12 focus group discussions. We engaged families ($n = 42$), nurses and midwives ($n = 33$), and doctors ($n = 9$) to describe their perspectives on the barriers to FCC in two public tertiary hospital NICUs. The data were mapped, triangulated, and aggregated to inform the findings. Thematic analysis and MAXQDA qualitative software version 2020 were employed to analyse the data. This qualitative study followed the COREQ guidelines and checklist.

Results: Perceived family barriers and perceived facility barriers to FCC were the two main themes. The perceived family barriers include family stress and anxiety, inadequate information sharing and education, culture and religion. The perceived facility barriers are inadequate space and logistics, workload and inadequate staff, restricted entry, and negative staff attitudes.

Conclusion: The findings of this study shed light on the barriers to FCC practice in neonatal care in Ghanaian NICUs. Family stress and anxiety, a lack of information sharing, cultures and religious beliefs, NICU workload and staffing shortages, restrictions on family entry into NICUs, and staff attitudes towards families are all contextual barriers to FCC practice.

Relevance to Clinical Practice: Health facility managers and NICU staff may consider addressing these barriers to implement FCC in the NICU in order to enhance family satisfaction and quality neonatal care. The design of future NICUs should consider family comfort zones and subunits to accommodate families and their sick infants for optimal health care outcomes. The development of communication models and

guidelines for respectful NICU care may aid in integrating families into ICUs and promoting quality health care outcomes.

KEYWORDS
barriers to FCC, descriptive qualitative design, family-centred care, neonatal intensive care units, thematic analysis

1 | INTRODUCTION

Family-centered care (FCC) has grown as a cornerstone of compassionate and effective practice in neonatal health care during the last few decades.[1] The most vulnerable and frail patients, preterm infants and those with urgent medical conditions are treated in neonatal intensive care units (NICUs).[1,2] FCC is promoted in this specialized setting as an approach that not only focuses on the infant but also emphasizes the critical role of the family in the neonate's well-being.[1,2] While the principles of FCC are well-established, implementing it successfully in NICUs remains an intricate and challenging problem. A growing amount of literature reveals various perceived barriers to its full implementation into standard NICU practice.[3,4] This qualitative study utilized in-depth interviews, focus groups, and thematic analysis to investigate the intricate web of perceived barriers that NICU staff and families face when implementing FCC in NICUs. This may provide interventions to overcome these barriers and improve neonatal care in low and middle-income countries.

What is known about the topic

- FCC practices are well documented in developed-world NICUs, but there is little evidence of their implementation in the developing world, particularly in diverse sociocultural settings such as Africa.
- Yet, FCC is proven to be beneficial in promoting both family and sick infant health outcomes and early recovery.

What this paper adds

- The study highlights the challenges of implementing FCC in low-resource settings, which may be valuable to the international neonatal community in determining how to improve and enhance family care in neonatal units despite limited resources.
- To improve family satisfaction and quality neonatal care, health facility managers and NICU staff may design future NICUs with family comfort zones and subunits to accommodate families and their sick neonates.
- Future research may consider developing communication guidelines as well as culturally appropriate respect guidelines for NICU care.

2 | BACKGROUND

There is a need to scale up the implementation of FCC in the NICU by engaging families in caring for their critically ill neonates.[5] This will promote family partnerships and collaboration in the care of critically ill neonates, which may enhance the continuity of care at home.[6] While service systems and the individuals who work within them fluctuate, it is crucial to understand that a neonate's family is the one constant in their life[7]; hence, when a neonate is admitted to the NICU, the clinical team should build a partnership and collaborate with the family in the care processes.[6] NICU staff should accept family members into the NICU as partners in caring for their neonates, and they should be treated with dignity and respect when applying FCC concepts.[8] Indeed, families are essential to NICU care because neonates cannot express their needs and experiences of the care given to them in the NICU.[9]

However, several contextual barriers exist in Ghana and throughout Africa to integrating FCC into NICUs.[10,11] In Ghana, FCC practices have faced challenges that could relate to family or facility barriers. As a result of personnel and logistical issues, as well as the design of the NICUs, the implementation of FCC in Ghana is challenging. Typically, the design of most district-level hospitals in Ghana does not provide specialized intensive care for neonates with critical care needs. As a result, cases requiring critical care tend to be transferred to regional facilities and teaching hospitals. A lack of appropriate unit designs that allow families to participate fully in the care of critically ill newborns hampers the integration of FCC into NICUs.[12] Nurses are overburdened with workload as the NICUs are congested with critically ill cases, and as a result of these challenges, the facilities have increased family restrictions. As a result of the restrictions, families find it difficult to visit their sick infants in the NICUs. Consequently, nurses are unable to share information on the progress of care, possibly arising from the stress and burnout from the increased workload, which can result in suboptimal health outcomes.[13,14]

Additionally, more neonates and their families require intensive and critical care services, particularly in developing countries, as health care delivery spreads globally and the concept of FCC gains popularity.[15] According to previous estimates, globally, over 130 million babies are born yearly, with nearly 4 million dying, increasing the demand for neonatal services.[16,17] Researchers in the United Kingdom reported that even the COVID-19 lockdown could not cause a decline in the demand for neonatal services.[18] Perhaps the surge in neonatal services is attributed to the number of preterm and critically ill neonates delivered each year. This undoubtedly contributes to the increased demand

for FCC in NICUs. In addition, previous research has attributed the inadequate FCC practice to a lack of staff and space in the NICUs to accommodate the family.[11] In Ghana, for instance, space constitutes a major barrier to FCC implementation, as neonatal units have limited space to accommodate families.[19] The few neonatal units are consequently overburdened with sick newborns, making it challenging for NICUs to implement FCC.

The implications are that it may impact parent-infant bonding and breastfeeding,[20] even though it has been reported that it is beneficial to early childhood development.[21,22] These children are potentially at a higher risk of developing socioemotional and cognitive developmental delays,[23] which might impact their mental health later in life.[24] Additionally, some families may experience emotional and social difficulties as a result of these suboptimal FCC practices, resulting in depression and other mental health issues.[25] As such, nurses and doctors should design care models that include families in resource-constrained settings, as family exclusions can impact the quality of health care provided.[26]

A more thorough investigation into FCC in NICUs was conducted as part of a doctoral study. One of the main themes that emerged was the barriers to implementing FCC, while other themes emphasized the FCC's practice in our context. Consequently, the researchers synthesized it into this manuscript because FCC implementation has been shown to enhance child health outcomes.[11] Furthermore, childcare is an international issue, and efforts to enhance its results may help achieve the sustainable development goals (SDGs) 3; to ensure healthy lives and promote well-being for all ages.[27] For instance, FCC implementation has been shown to reduce hospital stays, promote early discharge, and promote continuity of care for sick neonates, all of which may improve child health outcomes.[6,28] Therefore, this study explored the barriers of FCC practice in Ghanaian NICUs, which may be relevant in adopting FCC in low and middle-income countries.

3 | METHODS

3.1 | Study design

This study utilized a descriptive qualitative design.[29] This design was adopted to provide a broader perspective on the contextual barriers of FCC in Ghanaian NICUs. To achieve this, the researchers used a structured interview guide to collect the data in 24 face-to-face interviews and 12 focus group discussions. The collection of this extensive data was part of a larger study to expose the contextual practices of FCC in the NICU, of which the barriers occurred as a main theme. The study derives its strength from the multiple data collected and triangulated as the contextual evidence. The current study conforms to the COREQ guidelines for reporting qualitative research.[30]

3.2 | Setting

The research was conducted at two tertiary care hospital NICUs in Ghana, one in northern Ghana and one in southern Ghana. These NICUs were chosen because they are neonatal critical care referral centres. Each NICU is designed into three sections: low-intensity nursing, moderate-intensity nursing, and critical care services. The two units have a combined bed capacity of 105, with 35 critical care beds. These facilities serve as the zone's referral units for advanced neonatal care services and thus constitute a representative sample of the study population.

NICU services are widely available and accessible at Ghana's regional and national hospitals. As a result, sick neonates and their families are frequently transferred from district-level hospitals to regional and national-level facilities. This practice increases the number of admissions in these tertiary NICUs, resulting in an increased workload for the staff, including feeding, resuscitation, thermal control, and phototherapy of sick neonates and communicating and counselling families in the NICUs.

The selected tertiary care NICUs are specialist facilities operated by highly qualified neonatologists, neonatal nurses, and intensive care experts who provide neonatal care services. Basic ICU equipment in these NICUs includes incubators, radiant warmers, ventilators, pulse oximeters, phototherapy machines, and oxygen delivery systems. The personnel in these NICUs manage conditions such as preterm birth, neonatal jaundice, sepsis, asphyxia, and spina bifida. Each unit receives at least 200 cases monthly, for about 2400 admissions per setting per year. These circumstances increase the demand for FCC and high-quality neonatal care services.

3.3 | Sample and participants

This present study employed a purposive sampling technique[31] to identify the participants who had rich information on the study phenomenon. The participants were families, nurses, midwives, and doctors. Families in the study refer to mothers and fathers (parents) with their sick neonates in the NICU. Nurses, midwives, and doctors are referred to as NICU staff in this study. We purposefully enrolled parents and NICU staff in the study to allow for expert perspectives and first-hand information. Participation in the study was voluntary; after receiving an information sheet outlining the study, the participants could participate or decline it.

The inclusion criteria were father or mother with a sick neonate in the NICU for more than 48 h and NICU staff with at least 2 years of NICU experience. Only one parent (father or mother) was permitted to participate as a parent of a sick neonate in the NICU. As a result, when the mother participated in the interviews or the FGDs for a sick neonate, the father was excluded from the study, and vice versa. The terms parent and family were used interchangeably to represent the participation of a father or mother in this investigation. All participants who agreed to participate in the study participated without dropping out. The participants knew that the researchers were university nursing lecturers and that the data obtained would be used only for research purposes.

3.4 | Research ethics

The two Institutional Review Boards provided ethical clearance, and the university's Health Research Ethics Committee provided the final ethical review (M190980). Interviews and focus group discussions took place in a secure room to ensure privacy and confidentiality. Participants were assigned pseudonyms (alphanumeric codes) to ensure confidentiality and rigour after voluntarily signing a consent form to participate. A separate consent form was obtained for voice recording.

3.5 | Data collection

The first author (ASA) approached participants who voluntarily agreed and consented to participate in the study in the NICU setting. Information about the study was passed to eligible participants through the NICU nurse manager. The participants who met the inclusion criteria were recruited during break time (NICU staff) and visiting time (parents) by the first author (ASA) to participate voluntarily. The first author, a male nurse researcher, collected the data. The first author is a native who understands the local language (Dagbanli and Twi) and, as such, facilitated the data collection in those local languages. This research utilized face-to-face interviews and focus group discussions (FGD) to collect and triangulate multiple types of data in order to expose the contextual barriers to FCC in Ghana. The interviews and focus groups were conducted in the staff room for the NICU staff, and that of the family took place in the kangaroo care room support corner. Among the questions addressed in the interviews and FGD guide were, what barriers impede FCC implementation in the NICU? What are the barriers to FCC implementation in the NICU that families face? What are the facility barriers to implementing FCC in the NICU?

The interviews lasted about 30 min, and the focus groups lasted about an hour. Six parents participated in the FGDs, as well as six NICU staff in a separate FGD session. Nurses and midwives were put together in an FGD during data collection, whilst doctors were in separate FGD to allow free and open flow of the discussion without power play. We conducted 24 in-depth interviews (12 for families and 12 for NICU staff) and 12 FGDs (six each for the families and NICU staff). As a result, the total number of participants in the interviews and focus groups was $N = 84$. During the interview and FGD sessions, notes were taken and compared with transcripts to identify emerging patterns in the data for subsequent probes in subsequent sessions until the data was saturated. The researchers drew equal numbers of participants from each setting to obtain varied perspectives from the participants. The data were triangulated using the audiotapes and field notes from the 36 transcripts.

To ensure rigour, member checking, moderation, and probing were performed to guarantee that each participant's voice was captured. These rigorous criteria were achieved through transparent communication, open-ended questioning, and transcripts returned to some participants. Further, we used an interview guide with a list of probing questions to maintain a neutral attitude during the data collection to improve the research findings' quality and accuracy.

3.6 | Data analysis

The two researchers used a thematic analysis approach to analyse the data.[32] Two themes were set a priori and thematically used to analyse the data from the four document groups with subthemes and code to support them. Before the analysis, the first author (ASA) undertook the transcription of data. The researcher (ASA) listened to the audiotapes and transcribed them verbatim into English text. The translation was verified via back-translation by another male native qualitative researcher who understands the language. Back-translation is an essential strategy in qualitative research, particularly in cross-cultural or multilingual studies, to ensure the accuracy and dependability of research.[33,34] A back-translation was performed following a forward translation from the source language (Dagbanli and Twi) into the target language (English). The back-translated version was then compared with the original study transcripts to ensure consistency. After all necessary corrections, the translated transcripts were deemed final data and utilized for data analysis. The rationale was to preserve the participants' 'voice' while upholding ethical standards. This provided an opportunity to delve deeply into the participants' understanding of the FCC barriers in the Ghanaian context.

The two researchers then analysed the cleaned data. The first author is a male nurse academic with a clinical background in neonatal care, and the second author is a female nursing professor specializing in intensive and critical care. Familiarization, code generation, searching for themes, reviewing themes, defining and naming themes, and report writing were the six processes in this study's thematic analysis of qualitative data.[32] A detailed description of the thematic analysis as applied in this study is presented in Table 1.

TABLE 1 Description of thematic analysis and how it was applied in the study.

Step of thematic analysis	Application in the study
Step1: Familiarization	The transcripts were initially cleaned of grammatical errors. They were read severally to be immersed in the data.
Step 2: Code generation	The transcripts were reviewed, and codes were assigned.
Step 3: Searching for themes	Codes were combined to form themes, and MAXQDA was used to search for themes in the transcripts.
Step 4: Reviewing themes	The emerging themes were reviewed by comparing transcripts and data from participants to create sub-themes
Step 5: Defining/ naming themes	The themes that vividly defined a concept were aggregated and named per the concepts with sub-themes
Step 6: Report writing	A thick description of the main themes was provided using the sub-themes to illuminate the participant's perspectives.

Note: Adapted from the works of Kiger and Varpio.[32]

4 | FINDINGS

4.1 | Participant characteristics and themes

The study involved 84 participants, including 42 families (50%), 33 nurses and midwives (39%) and nine doctors (11%). Most participants (75%) had at least a high school education. About 50% of the families were first-time families, with a stay in the NICU between 3 days and 5 weeks. The two themes set a priori are supported by subthemes and codes from the data. Theme 1: Perceived family barriers of FCC, which had three subthemes; and theme 2: Perceived facility barriers of FCC, which had four subthemes. Refer to Table 2 for the details of themes, subthemes, and codes from the data that supported the themes.

4.2 | Theme 1: Perceived family barriers to FCC

This theme refers to the perceived challenges of FCC implementation in the NICU from the family perspective. Three subthemes were aggregated to support this theme—family stress and anxiety challenging their full participation, inadequate information sharing and education from the ICU staff to families, and culture and religion of the people challenging their full participation in ICU.

4.2.1 | Family stress and anxiety challenges their full participation

Intensive care unit families with sick children are usually stressed and anxious. This is because the admission of a sick baby in the NICU has a huge psychological toll on parents. Some of the families were worried about their critically ill infants; in some cases, this caused them to cry and have insomnia at night. This stress and anxiety worsen when they are unable to console their babies in the NICUs, which affects their full participation. Continuous family anxiety can affect family presence in the NICU, which may thwart their full involvement and participation in care to ensure continuity after discharge.

> '*I think that they go through a lot of anxiety. The psychological toll on parents at the NICU I think is a very big one … and it affects their full participation…*' (KSI1 paediatrician)
>
> : '… when my baby was under phototherapy, I was worried; I had insomnia because I have not experienced something like this, I have not been to hospital.' (KFI2, mother)
>
> : 'It was a bad experience just standing and watching your baby struggling to breathe and you are not allowed to touch and console the baby is a pity and it worsen our emotional stress.' (TFD3A, mother)

TABLE 2 Description of themes, subthemes, and codes on the contextual barriers of FCC in Ghanaian NICUs.

Themes (2)	Subthemes (7)	Example codes
Theme 1: Perceived family barriers to FCC	Subtheme 1: Family stress and anxiety challenges their full participation	*Anxiety*, *psychological toll*, not allowed to touch and console the baby, I have been crying since the admission
	Subtheme 2: Inadequate information sharing and education from the ICU staff to families	*Staffs scarcely share information* *Workload is overwhelming* *They do not tell us why we buy medicines* *I do not know what is wrong with my child*
	Subtheme 3: Culture and religion of the people challenges their full participation in ICU	*Religious*, *cultural*, *beliefs*, *and norms* *Varied cultural and religious backgrounds* *Refuse blood transfusion* *Discharged Against Medical Advice (DAMA)* *Local traditional care*
Theme 2: Perceived facility barrier to FCC	Subtheme 1: Lack of logistics and space to admit more babies and accommodate families in the ICU	*Inadequate resources including oxygen saturation monitors, incubators, and ventilators* *Unable to grant full access to families* *Lack of space* *Lack of accommodation and washrooms*
	Subtheme 2: Workload and inadequate staff in the ICU	*Specialized staffing inadequacies* *Staff lack adequate knowledge* *Overwhelmed with increased admissions* *Stressed up with the work, tired, and frustrated* *Inadequate staff* *Staff and parental anxiety* *Displacing frustrations on families*
	Subtheme 3: Restricted access of families into the ICUs	*Strict entry protocols into NICUs* *Family restrictions*
	Subtheme 4: Negative staff attitude towards families in the ICUs	*Shouting on family*, *ignoring family needs*, *disrespecta*

: 'Truth be told, I have lost count of the number of times I have been crying since the admission of my baby into the NICU.' (TFI3, mother)

4.2.2 | Inadequate information sharing and education from the ICU staff to families

The lack of a free flow of information between the staff and families was a major barrier to FCC in the NICU. For instance, the NICU staff asked new mothers to express their breastmilk without the provision of the devices or any education on how to do it. The participants observed that some families do not often ask staff questions to seek information, and the staff scarcely shares information with the families because of workload. Sometimes, families did not know why their babies were admitted into the NICU, even after several days of admission, which is evidence of inadequate information sharing and education. Information is a construct of communication, a lack of which can affect the family's understanding of neonatal care processes and confidence to continue neonatal care after being discharged from the NICU.

> 'There was no education on how to express the breast milk; nothing was given to me. So, I just got there, and they said express breast milk…' (KFD1, mother): 'There should be regular updates about what is happening to the children; that is it. That is the challenge I have in here; this is one of my biggest challenges I have in there.' *(KFI4, father)*
>
> TFI1, father: 'Unless you come inside the NICU and ask them and if they want, they will tell you, or they will not tell you anything; they will say you should go back; that doctor is in.'

4.2.3 | Culture and religion of the people challenge their full participation in ICU

The family itself can also pose a barrier to FCC as a result of their varied cultural and religious backgrounds. For instance, among rural ethnic groups, the father is the family head who has authority over all decisions, including the use of hospital information. However, they are frequently absent from the hospital, posing a barrier to good communication between the nurses and parents; as a result, inhibiting effective family participation in newborn services. Families showed solidarity when a family member was admitted by frequent visitations, which can also be a barrier to FCC implementation in our context since they have large families. In addition, some Ghanaian families did not want the neonate to be in the ICU beyond 1 week because they wanted to perform the naming ceremony on the seventh day, regardless of the health state of the baby. Therefore, health professionals should always recognize families' cultures and religious backgrounds to get their full participation. Beliefs, religion, culture, and norms of families are integral to their viewpoints and appreciation of respect and dignity. Refusal of blood transfusion may be attributable to poor communication between the clinical team and families. It is also possible that such refusals of treatments for neonates by families are hinged on their beliefs and religion, as some religious faiths prohibit treatments such as blood transfusion.

> *TSD1B, paediatric nurse*: '*In our culture, especially among the rural ethnic folks, we believe that the father is the family head who has authority over everyone, including decision-making processing and use of information from the hospital. Also, friends and extended family are all part of the immediate family. Imagine living in a compound house with other family members and having a sick child in the ICU, and automatically, the other family members will want to come and visit. So, our challenge in involving family has to do with their numbers.*'
>
> *TSD1C, neonatal nurse*: '*The culture or tradition is very serious. They do not want the babies to stay here beyond seven days (one week) because the naming ceremony of the newborn must be done by all means by the seventh day… and these practices challenge family involvement and the NICU care processes.*'
>
> *TSD1A, neonatal nurse*: '*Before you can practice FCC wherever you find yourself, you need to identify and understand the culture and religion of the individual families. So, health professionals should always identify families' culture and religious backgrounds to get their full participation.*'

4.3 | Theme 2: Perceived facility barriers to FCC

Four subthemes were aggregated to support this theme: inadequate logistics and space to admit more babies and accommodate families in the ICU, workload and inadequate staff in the ICU, restricted entry of families into the ICUs, and negative staff attitude towards families in the ICUs. The following extracts illuminate these themes.

4.3.1 | Inadequate logistics and space to admit more babies and accommodate families in the ICU

The NICU wards had inadequate space and resources, such as oxygen saturation monitors, incubators, ventilators, and basic supplies needed to provide quality, satisfactory neonatal care. The staff could not provide families full access to the NICU because most NICUs operate beyond primary capacity as a result of insufficient space. The admission of sick babies and their parents into the NICUs increases the workload, which comes with increased demand for FCC. Furthermore, the facility had no accommodation for mothers to stay close to their sick babies. The lack of space and accommodation in the NICU may

hinder the creation of family comfort zones to facilitate family involvement, ultimately affecting FCC implementation in the NICU.

> *TSI5, Registered Midwife*: '*The ward has just one oxygen saturation monitor. No saturation monitors in the incubators are working… we had one bilirubinometer. We most of the time run of stock of petty supplies like gloves, cannulas, and gauze.*
> *KSI1, Paediatrician*: '*… due to lack of space, those babies are all lying in the incubators.*'
> *TFI3, mother*: *Accommodation is a pressing need for mothers; we do not have a place to urinate and bathe. Since I delivered yesterday up till now, I have not bathed because there is no place for us to bathe.*

4.3.2 | Workload and inadequate staff in the ICU

Inadequate NICU staffing was another major barrier to FCC practice. Staff were overwhelmed and frustrated because of the increased admissions. The inadequate staff is most noticeable at night, particularly in the Kangaroo Care rooms. Meanwhile, adequate specialized NICU staff is essential to help engage the family properly to make decisions, build partnerships, and teach the family about neonatal care. Yet, the increased admissions made NICU staff fatigued, affecting family involvement and participation in the NICU.

> *TCD1C, Neonatal Nurse*: '*One major barrier is the inadequate staff to integrate the family into our care in the NICU.*'
> *TSD1E, paediatric nurse*: '*Because the staff are overwhelmed with the work, they displace their frustrations on the families, which affects the relationship from the day of admission.*'
> *KSI2, mother*: '*The main challenge in the KMC is that there is no nurse with us in the night. Most of us here are twins' mothers, in the night, they can all be crying, then you, the mother, will be consoling one baby, then leave the other one.*'

4.3.3 | Restricted access of families into the ICUs

Families were dissatisfied with the NICUs' strict entry protocols. Only the mother and father of babies in the NICU have access. Family restrictions were imposed as a result of the risk of infection, as the babies were not immunized. However, the participants reported that such practices affected FCC practices. Strict restriction of family entry to the NICU affected their full participation in neonatal care as it hindered families' desire to bond with their newborns and learn neonatal care under the supervision of the clinical team in the NICU.

> *KCD3E, Paediatricians*: '*The NICU is restricted to just the parents because of the risk of infection…preterm babies who are not immunised and their immunity is already weak.*'
> *TFI5, mother*: '*They only allow me and the father to come into the NICU to see the baby. This can be very frustrating, as some family members, like the grandmother, have not seen the baby since delivery.*'
> *KCD3B, Registered Nurse*: '*The visiting hours are restricted to only mother and father, which can also affect FCC in the NICU here.*'

4.3.4 | Negative staff attitude towards families in the ICUs

The families felt like taking their babies out of the NICUs and going home as a result of disrespect from some staff, especially female staff. Such incidents challenged the FCC practices. The negative staff attitude may hinder rapport and the establishment of respect between the family and the staff. Ultimately, this could affect open communication and participation among them. Respect, participation, and open communication are the main constructs of FCC.

> *KFD3C, mother*: '*Because of the staff's attitude towards us, some parents come in only in the morning; they do not show up in the afternoon and evening.*'
> *TFI3, mother*: '*Truly, is the male staff who know how to handle the mothers; the female staff are harsh towards mothers. A male staff will never shout at a mother, the female staff will disrespect you as a mother, and then you feel like taking your baby out of the NICU and going home.*'

5 | DISCUSSION

This qualitative study aimed to investigate and describe the perceived FCC family and facility barriers to facilitate the implementation of FCC in the NICUs. This current study demonstrates that contextual family barriers to FCC practice include family stress and anxiety, insufficient information sharing and education of families, as well as people's culture and religious beliefs. In addition, we discovered that the NICUs' workload and staffing shortages, restrictions on families' access to the NICUs, and the NICU staff's unfavourable attitudes towards families are all facility barriers to FCC practice.

According to the study findings, having infants in the NICU causes stress, anxiety, and psychological effects among the infants' families. Religion, culture, social norms, and psychological stress have been identified as barriers to FCC in studies from Iran, Denmark, Turkey, and the United Kingdom.[35–38] We discovered that the family might also be a barrier to FCC because of their varied cultural and religious backgrounds. According to Boztepe and Kerimoğlu Yıldız, a family's worldview and appreciation of respect and dignity are fundamentally shaped by their beliefs, religion, culture, and social norms. Ghanaian families show their support by visiting hospitals regularly.

Some families may act as barriers because they want a naming ceremony on the seventh day, regardless of the newborn's health. In order to be culturally congruent and carefully incorporate families into the care processes, nurses and doctors must try to understand the cultural dynamics of families.[39,40] The low socioeconomic and educational status of some families in our setting could have influenced the results. The emotional and psychological strain brought on by NICU care prevented some families from taking part.[41] Through open communication to establish rapport and counselling, health care professionals could assist families in managing the emotional stressors of the NICU phase of care.[42]

The findings suggest a communication gap between NICU staff and families. Information (communication), meanwhile, is an FCC construct that can influence the family's comprehension of neonatal care procedures and confidence in continuing neonatal care after discharge from the NICU.[39] Some researchers have pointed to communication as a barrier to FCC implementation.[6] For instance, the language barrier between the clinical team and the family of critically ill neonates may have contributed to the findings. This is because some participants acknowledged they sometimes found it challenging to communicate with the families of some rural ethnic people in the NICUs. In order to enable full family engagement and participation, facilities should work to meet the communication needs of families in the NICU. In this situation, using other staff members as interpreters at the facility level may be beneficial. Developing practical communication guidelines between families, nurses, and doctors may be necessary to support high-quality and satisfactory health care provision.[43]

Additionally, workload, inadequate logistics, and personnel were among the facility barriers to FCC practices in the NICU. For instance, inadequate NICU staffing is a barrier to the FCC practice because it causes them to feel overwhelmed and frustrated. Similar findings were reported in Ethiopia by Usman et al.[44] in their study on the readiness of the health system to support preterm care. The similarities in the findings could be as a result of the similar socioeconomic and health system structures in these settings. In order to achieve quality neonatal care, the Ministry of Health could provide sufficient personnel, space, and logistical support to integrate FCC correctly into the health system. To increase staff knowledge, facilities may also schedule in-service training on FCC and staff attitudes. The lack of space and accommodation in the NICUs will prevent the development of family comfort zones.[45] Despite the facilities' willingness to integrate and implement FCC, spacious NICUs are required to promote family participation and involvement, ultimately impacting FCC implementation in the NICU.

Strict entry protocols apply to families entering Ghanaian NICUs. The COVID-19 pandemic increased these restrictions, possibly because of the risk of infection among the most susceptible newborns. These restrictions, however, may prevent families from fully participating in neonatal care and their efforts to form bonds with their children or learn neonatal care under the guidance of the clinical staff. Consequently, during the NICU phase of care, some families were perceived as frustrated, which added to their anxiety.[46] Similarly, a qualitative study in Europe found limitations on the number of close relatives of infants admitted to the NICU.[47] To encourage bonding between sick neonates and their families, facility managers and NICU staff should create strategies and interventions that permit family access to the NICU. This could support families of critically ill newborns to manage their emotional needs.[48]

Furthermore, a major barrier to FCC, highlighted in Ghanaian NICUs, was the lack of space to accommodate families. There are few Ghanaian NICUs, and as such, they often stretch beyond their primary capacities, causing congestion and increasing the poor involvement of families by the NICU staff. The congestion of babies in the NICU is partly as a result of a lack of space. The environmental design of the NICU has been identified as a key construct of FCC.[45] A redesign of NICUs has been reported in Jordan as an intervention in this situation.[49] In the near future, hospital administrators may think about redesigning the NICUs' physical environments. In the end, facilities might develop blueprints for future NICUs that incorporate family rooms. For instance, rearranging the equipment and utilizing the NICU's available space may be advantageous in this regard. This study's recommendation may be backed up by research, as some researchers suggested that the design of intensive care units should incorporate family comfort zones.[45] As this was a qualitative inquiry based on two NICUs, additional research using multiple methods may be required to gain a broader understanding of the barriers and facilitators of FCC in NICUs. Such studies may assist in triangulating and validating these findings for generalization.

This research found that negative staff attitudes are a barrier to FCC practice. Some families consider removing their babies from the NICU and sending them home as a result of staff disrespect. Research has documented that respect and dignity are key concepts of FCC practice that will promote satisfactory quality health care outcomes.[50,51] An Indian study corroborated this finding as the study discovered disrespectful maternity care practices towards expectant mothers.[52] Furthermore, disrespect has been reported to jeopardize health care delivery quality.[53] According to a study on health care providers' perspectives on disrespect and abuse of mothers seeking maternal care in Nigeria, perceived disrespect and abuse were highlighted as being perpetuated by staff towards mothers, which has a negative impact on the quality of health care.[54] Also, researchers in Ethiopia and India reported facility-based disrespect for mothers during childbirth.[26,52] Our findings are consistent with these findings since some mothers in our setting felt disrespected by some NICU staff. Developing guidelines for treating patients with dignity and respect may be beneficial to ensure safety and quality care.[40,55] In addition, training nurses and doctors to treat patients and their families with dignity and respect, including rapport-building and counselling interventions, may be necessary for quality health care outcomes.[40,55]

6 | STUDY LIMITATIONS

The study's major strength was the extensive nature of the data collected from families and NICU staff to present varied perspectives on the contextual FCC barriers. This was required to triangulate findings

and expose FCC barriers in the NICUs. Most of the participants, particularly from the family data, were female (mothers), and this limitation was overcome by triangulating multiple data collection forms. As the data obtained was from only two NICUs, caution is required when interpreting the current findings; including more NICUs may have improved the findings. One of the study's limitations is that the interviews and focus groups were conducted in the neonatal units, which could have influenced parents' candid responses. This is because the presence of NICU staff and families during the study may have compromised open communication, potentially affecting the depth and honesty of responses. Furthermore, because the study was largely qualitative, using a mixed-method approach to investigate the FCC phenomenon may help confirm or dispute these findings for generalization in NICU practice.

7 | RELEVANCE TO CLINICAL PRACTICE

The authors suggest that families should be encouraged to participate in neonatal care through effective communication, educational interventions and counselling. The design of the NICU should have family comfort zones to allow full family participation and collaboration in neonatal care. Heads of NICUs may advocate for regular in-service training on communication models, respect and dignity for patients and families. These interventions may help bridge these barriers and facilitate the integration and implementation of FCC in NICUs. This may improve family satisfaction, address unmet needs (relative to FCC), and promote quality and holistic neonatal care. Nurses and doctors should try to understand family cultural dynamics; this may promote respectful communication and acceptance of families into the ICUs.[56] Future work could focus on cultural aspects and introduce respectful relationships between families, nurses and the health team.

8 | CONCLUSION

The findings of this study have illuminated a deeper understanding of the barriers to FCC practice in neonatal care in Ghanaian NICUs. Family stress and anxiety, insufficient information sharing and education of families, as well as cultures and religious beliefs, are all barriers to FCC practice. Workload and staffing shortages in NICUs, family entry restrictions, and staff attitudes towards families are all facility barriers to implementing FCC. For optimal health care results, the design of future NICUs should have family comfort zones and subunits to accommodate families and their sick infants. Future research may consider developing communication guidelines and culturally appropriate respect guidelines for NICUs to help address these concerns, integrate families better into ICUs, and promote quality health care outcomes.

AUTHOR CONTRIBUTIONS

Alhassan Sibdow Abukari conceived and designed the study with inputs from Shelley Schmollgruber. Data collection was done by Alhassan Sibdow Abukari, and analysed by Alhassan Sibdow Abukari and Shelley Schmollgruber. Alhassan Sibdow Abukari drafted the manuscript for review by Shelley Schmollgruber. All authors read and approved the final manuscript for publication.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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