

ORIGINAL RESEARCH ARTICLE

Experiences of midwifery students and graduates in conflict-affected settings in Yobe State, Nigeria: Evidence from qualitative data

DOI: 10.29063/ajrh2025/v29i4.12

Rejoice H. Abimiku^{1*}, Sussan Israel-Isah¹, Charity P. Maina¹, Rifkatu S. Aimu¹, Kazeem O. Ayodeji¹, George Odonye¹, Hadiza Sabo², Hannah Tappis³, Shatha Elnakib³ and Emilia N. Iwu^{1,4*}.

Institute of Human Virology, Nigeria (IHVN), Abuja¹; Shehu Sule College of Nursing and Midwifery, Damaturu, Nigeria²; Johns Hopkins Bloomberg School of Public Health³; Rutgers University, School of Nursing, Newark, New Jersey, USA⁴

*For Correspondence: Email: eiwu@ihvnigeria.org; rabimiku@ihvnigeria.org; phone: +234 8065399446

Abstract

Students and graduates in conflict-affected settings face challenges that impact training and practice. This qualitative study, nested in a broader mixed methods study, explored factors influencing midwifery students' and new graduates' experiences in conflict-affected contexts in Yobe State Nigeria. Four focus group discussions (FGDs) were conducted in October 2023 with students and graduates from basic and community midwifery programs. The groups consisted of 7-8 female participants, aged 19-26 years. Discussions were audio-recorded, transcribed and analysed thematically. Participants reported positive childhood influences by health workers, strong motivation for a career in midwifery, compassion and desire to save lives. Barriers elicited include stereotypes and myths about midwifery, negative community perceptions of the midwifery profession, restrictive social and gender norms; distrust of young midwives' competence; and security challenges. The graduates felt well-prepared for practice. However, some identified gaps in skills like episiotomy and expressed a preference for more opportunities for practice. All expressed fear of kidnapping and murder due to armed conflict. These findings have important implications for workforce retention and require action by the government and communities. (*Afr J Reprod Health* 2025; 29 [4]:131-141).

Keywords: Midwifery education, Midwives, conflict, Skilled birth attendants

Résumé

Les étudiants et les diplômés en situation de conflit sont confrontés à des défis qui impactent leur formation et leur pratique. Cette étude qualitative, intégrée à une étude plus large à méthodes mixtes, a exploré les facteurs influençant l'expérience des étudiants et des nouveaux diplômés en sage-femme dans les contextes de conflit de l'État de Yobe, au Nigéria. Quatre groupes de discussion (GDF) ont été organisés en octobre 2023 avec des étudiants et des diplômés de programmes de sage-femme de base et communautaires. Les groupes étaient composés de 7 à 8 participantes, âgées de 19 à 26 ans. Les discussions ont été enregistrées, transcrites et analysées thématiquement. Les participantes ont fait état d'influences positives de la part des professionnels de santé durant leur enfance, d'une forte motivation pour une carrière de sage-femme, de compassion et de désir de sauver des vies. Les obstacles évoqués comprennent les stéréotypes et les mythes sur la sage-femme, les perceptions négatives de la profession par la communauté, les normes sociales et de genre restrictives ; la méfiance envers les compétences des jeunes sages-femmes ; et les problèmes de sécurité. Les diplômées se sentaient bien préparées à la pratique. Cependant, certaines ont identifié des lacunes dans des compétences comme l'épisiotomie et ont exprimé une préférence pour davantage d'opportunités de pratique. Tous ont exprimé leur crainte d'enlèvements et de meurtres liés aux conflits armés. Ces résultats ont des implications importantes pour la rétention de la main-d'œuvre et nécessitent des mesures de la part du gouvernement et des communautés. (*Afr J Reprod Health* 2025; 29 [4]: 131-141).

Mots-clés: Formation des sages-femmes, Sages femmes, conflit, Accompagnateurs en accouchement qualifiés

Introduction

Midwives play a critical role in maternal and newborn health, especially in rural and underserved areas and safeguard the sustainability of health systems.¹ According to a recent World Health

Organization (WHO) report, when international standards are followed to educate midwives, they can prevent over 80% of maternal and neonatal deaths and stillbirths.² Despite the significant role played by midwives, there is a gap in understanding the specific experiences and needs of midwifery

students and early-career midwives in high-risk environments.

The midwifery profession is beset by a range of challenges that have translated into high workforce attrition.³ Most midwives in rural and conflict-affected communities experience excessive workloads, low professional status, insufficient resources and staffing and burnout.⁴ Long standing maldistribution of midwives has been a major maternal and newborn health problem globally, especially in rural, hard-to-reach, and conflict-affected settings.^{5,6} These settings tend to report high maternal mortality ratios. In Nigeria, despite a national Maternal Mortality Ratio (MMR) of 1,047 maternal deaths per 100,000 live births, there are only 6 midwives per 10,000 people.⁷ In conflict-affected northeastern (NE) Nigeria, there are more than 1,500 maternal deaths for every 100,000 live births and 61 neonatal deaths per 1,000 live births.⁸ This region is challenged by weak health systems, maldistribution of health workforce,⁶ poverty and sociocultural practices which are exacerbated by armed conflicts.⁹

Nigeria ranks high on the Fragile States Index due to insecurity, particularly stemming from the Boko Haram insurgency in Northeastern region.¹⁰ This poses significant challenges for the healthcare system and has led to population displacement, destruction of health infrastructure, and, increased shortage of health workers.¹¹⁻¹⁰ The Boko Haram, (which translates to “Western education is forbidden”), is a militant group in Nigeria.¹² During the peak of the armed conflict, in 2015, the healthcare system in Yobe State faced significant challenges.¹³ These included displacement of health workers, looting, disruptions, and complete cessation of healthcare services in the most affected areas.¹⁴ This crisis profoundly affected the rural population of Yobe and neighbouring states like Borno and Adamawa.¹⁵ About 2.3 million people, were displaced with 55% being women and young girls.¹⁶ Yobe state, however, was one of the first to receive approval for a two-year, community midwives’ training for deployment to primary healthcare facilities.¹⁷ Few studies, have investigated the experiences of early-career midwives, who are new to the profession and must

work in complex and demanding contexts characterized by pervasive insecurity.¹⁸⁻²⁰ Such studies have not been conducted in conflict-affected settings like Yobe State where little is known about drivers of workforce turnover and dropout.

This paper seeks to explore the experiences, plans, and aspirations of midwifery students and recent graduates, and to understand how the safety and security situation impacts their educational experience and willingness to join the profession.

Methods

Study design

This qualitative study, exploring participants’ lived experiences was embedded in a larger prospective multi-cohort study of midwifery students and early career midwives that began enrolment in 2023 and will follow participants through 2025. We invited 32 participants and enrolled a purposive sample of 16 final year students and 15 graduates from two midwifery programs in Shehu Sule College of Nursing and Midwifery in Damaturu, Yobe State, Nigeria to participate in a face-to-face focus group discussions (FGDs) exploring their aspirations and experiences in the midwifery field. These students were selected from a cohort of students who enrolled in the longitudinal study.

Study setting and Participants

Shehu Sule College of Nursing and Midwifery is in Damaturu, the capital of Yobe State, located in northeastern Nigeria, and serves as one of the local government areas in the region. The city has been severely impacted by the activities of Boko Haram insurgents, leading to large-scale displacement of its population.²¹

Participants were purposively selected based on the following criteria: (i) current students enrolled in the midwifery program who were part of the baseline longitudinal study, (ii) midwifery graduates also recruited into the baseline cohort study, and (iii) willingness to provide verbal consent for the interview. A total of 31 individuals participated in the four focus group discussions (8 basic midwifery students, 8 community midwifery

students, 8 basic midwifery graduates, 7 community midwifery graduates). All participants were female, with ages ranging from 19 to 26 years old.

Data collection

In-person data collection was conducted by four data collectors, one male and three females (RHA-Biomedical scientist, CMP-Nurse-midwife/ social worker, RSA-Nurse-midwife and SII-Social scientist and qualitative data analyst). They all had graduate level training in data collection and extensive experience with data collection. The question guide was piloted among 8 midwifery students in FCT College of Nursing Sciences, Gwagwalada-Abuja before the data collection in Shehu Sule College of Nursing and Midwifery demonstration hall in Damaturu. The team conducted four focus group discussions, with two data collectors facilitating the discussions and obtaining consent from participants, while the other two were taking notes, documenting verbal and non-verbal signals, and gathering participants' socio-demographic information. The duration of the FGDs were between 45 minutes to 60 minutes and Data saturation was reached during the fourth FGD.

Data analysis

All FGDs were audio-recorded, transcribed, and then translated into English from Hausa. Transcripts were then imported into the Dedoose qualitative data management software. RA and SI performed the data coding, employing a codebook initially developed deductively based on the study objectives and aims, with additional codes generated inductively as new themes emerged. The codebook was piloted, expanded, and refined during the coding process. We employed content analysis that involved writing memos or notes and reflections during the coding and analysis process and engaging in regular discussions with the study team. In April 2024, we organized a workshop to review and further analyse the coded data and discuss preliminary findings. This helped to ensure credibility and accuracy of the findings and

alignment with the perspectives of the in-country team that collected the data.

Ethical considerations and consent to participate

This research was approved by the Yobe State Ministry of Health Ethics Committee under reference “(No. MOH/GEN/747/VOL.I.)” and John Hopkins Bloomberg School of Public Health Institutional Review Board Reference “(No. 00024146)”. All interviewees voluntarily gave their prior informed consent to the interview and audio recording.

During the baseline survey, all participants enrolled in the study provided written consent after the risks and benefits of the study were explained to them by the data collectors, and then during the follow-up FGD, they were consented orally. An oral consent script reintroducing the study, the research team, risks and benefits of participation were reiterated to the participants in the beginning of the FGD. Data was collected and analysed in complete confidentiality. All methods were carried out in accordance with “ethical guidelines”

Results

Motivation for studying midwifery

Both students and graduates of the basic and community midwifery program described their motivation for pursuing a career in midwifery not simply as a career choice but as a profound calling driven by compassion and a deep desire to save lives. They recounted how their childhood experiences, seeing healthcare workers in uniform, using medical equipment, and providing compassionate care and empathy to mothers and babies were a source of inspiration to pursue a career in midwifery.

“Since I was a child, I saw a doctor use a stethoscope I wanted to know what it was meant for, that was how I developed interest”. (Graduate - community midwifery program)

“Since” I was a little girl, I wanted this profession, I use to enjoy watching nurses with their uniforms

taking care of sick people, I made up my mind that I was going to be one too, you know how people you take care of pray for you and thank you, it really helps and that is why I want to be a midwife''. (Graduate - basic midwifery program)

‘‘I chose midwifery because of how friendly they are and mingle with people, how they care for mothers and babies with love and empathy’’. (Graduate - community midwifery program)

One participant emphasized midwifery's essential role in reducing maternal and newborn deaths by managing common complications, particularly in rural areas, underscoring the impact of their commitment to improving health outcomes.

‘‘As a midwife, my career is to reduce post-delivery challenges like PPH, postpartum, sometimes in the rural areas, there are no midwives it is only the Traditional Birth Attendants (TBA) that are responsible for taking delivery, so to reduce the rate of maternal mortality, we find the root cause and to reduce such causes’’. (Graduate – basic midwifery program)

Additionally, some participants stated that their motivation stemmed from the urgent need to address healthcare gaps. They recognized the lack of healthcare professionals in their community and the need to fill the gaps.

‘‘The community do not have professionals that can do the work so that why I want to study community midwifery so I can go back and offer my service back to my community’’. (Graduate – community midwifery program).

‘‘When I finish and go back, since I am like a daughter to them, I will be able to tell them to go to the health facility to be tested to know what to do before and after birth rather than giving birth at home’’. (Student – community midwifery program).

Perceptions of community support and respect for midwives

Students and graduates described diverse opinions of midwifery within their communities. Many

respondents observed that midwifery is often viewed as a profession primarily suited for older women in their communities. This perception stemmed from concerns that pursuing midwifery might reduce younger women's chances of getting married, as it could make them appear less obedient to their future spouses and more financially independent.

In Yobe State, many men in the community were said to believe that young girls should not pursue a career in midwifery, specified that night shifts are inappropriate for young women because it could harm their marriage prospects due to prevailing socio-cultural beliefs that girls and women should not be outside the home at night.

‘‘Most uneducated people think the profession is for mainly women, and our men have a problem with the night duty because we are women, traditionally, you are supposed to be at home with your parents, they look at you in a bad light, even when someone wants to marry you, they will tell him not to, that you work at night.’’ (Graduate – basic midwifery program).

In addition, gender norms dictate that women's primary roles are in the home, therefore, they were regarded as too empowered financially and educationally.

‘‘Sometimes, it is the relatives of your husband or fiancé that will say this girl is richer and more educated than the man so she will not be obedient, they think your salary is very high, so they will discourage it’’. (Graduate – basic midwifery program).

‘‘We have areas of our lives that this job affects like marriage, if your man comes that he wants to marry you, his family will tell him that you are not always at home and you sleep out, not knowing that you are out there saving the lives of people, but they stigmatize you and call you wayward names, even if he agrees to the marriage, his family will kick against it.’’ (Student – basic midwifery program).

Several young midwives and students reported encountering distrust and scepticism from pregnant women, who doubted their level of experience and training. Some pregnant women were said to prefer

older midwives, as they associate age with experience and trust. Respondents noted that older midwives are seen as having more knowledge and skills from years of clinical practice.

'In the facility when posted to antenatal most patient know we are students, and they don't want us to touch them'. (Student – basic and community midwifery program).

Additionally, participants lamented community members' high expectations of midwives and the assumption that midwives should possess comprehensive medical knowledge beyond maternal and newborn health.

'They think that being a midwife is like being a doctor, they expect you to know everything..., sometimes they keep asking questions about their health, and I usually tell them to go to the hospital'. (Graduate – community midwifery program).

Young midwives and students also reported receiving discouraging comments from their peers, who claimed midwifery is challenging and not highly respected in society. Most of the participants' peers perceived midwifery as having lower social status compared to other medical fields, with limited financial benefits and career advancement opportunities.

'When I got admission, one of my brothers said, you are going for nursing? they will chase you back because you will not be able to do it. Even my friends said I will not cope because it involves a lot of reading'. (Graduate– community midwifery program)

Despite the numerous community misconceptions of the midwifery profession, a minority of midwives still reported receiving support and encouragement from their families.

'In my family, nobody discouraged me, they all supported me, but for friends, just as my seniors said, they say downgrading things about the course, that we are not intelligent'. (Graduate – community midwifery program).

Perception of preparedness to practice midwifery

Overall, participants expressed confidence in their training and ability to apply theoretical knowledge to practical situations. They noted that they feel adequately prepared to handle non-complicated cases in primary healthcare settings and know when to refer complex cases to tertiary hospitals.

'Because I have the necessary knowledge both theoretical and practical, I am confident as a midwife that I can attend to non-complicated cases in the primary health care level, the one I cannot attempt, I refer to the tertiary hospital level'. (Student – community midwifery program).

Some concerns were expressed about being unprepared for some second stage of labour skills, such as giving and suturing episiotomy, due to insufficient practical experience during clinical rotations. This is particularly concerning for them because of their posting to rural areas without more experienced midwives or doctors.

Safety and security

Security concerns varied among students and graduates during their commutes to work and school. Some participants expressed a high level of insecurity due to the Boko Haram activities in their work environment while some felt safe and less vulnerable to insurgency in their urban areas.

'It's a red zone, there is Boko haram there, we are always expecting something will happen, we are not safe'. (Graduate– community midwifery program).

Many participants said that the insecurity has been their major challenge. It affects their performance at work.

'Even in Damaturu, we are not safe, ...when you hear about attack somewhere you will be troubled, we pray God brings peace, but some other areas are not safe'. (Graduate and student – basic and community midwifery program)

Some shared their experiences of wearing personal clothes to cover their uniforms to avoid being seen by the insurgents.

“There are times you will hear people running and when you ask, they tell you that the Boko Haram people said they are coming to that place, since you are already in your uniform, you have to look for what to change to, because if they identify you as a health worker, they will kidnap you, so you have to disguise as a villager, because even if you don’t run, you will be there not knowing what will happen and you are not safe. It’s between life and death”. (Student – basic and community midwifery program).

“Even in school we were told to be careful how you wear your uniform”. (Student– community midwifery program).

Those posted in rural areas were at increased risk, with participants citing concerns from family and relatives about their safety and security.

“Where I work is prone to insurgency, my relatives were scared for me because I was the only one there”. (Graduate– community midwifery program).

Discussion

This study underscores the core motivations of midwifery students and early career midwives, rooted in compassion, early positive experiences with healthcare workers, and a strong desire to address critical health issues in their communities. The commitment to reducing maternal and newborn mortality rates and addressing the shortage of healthcare professionals highlights the importance of sustaining these motivations through proper training and support for midwives.

While our study focused specifically on midwifery, we situate our findings in broader nursing-related research due to the limited data available on the experiences of midwifery students and early-career midwives, particularly in conflict-affected contexts. Other studies, which have reported on the motivations for studying nursing,

offer valuable insights that are relevant to our findings. The role of childhood experiences in shaping motivation to join a career in midwifery aligns with other studies. One study examining underlying reasons for choosing a midwifery career highlighted participants’ accounts and reflections of childhood moments where desire and playful imagination were intertwined, and where idealization of the midwifery profession started early.²² Similarly, a study conducted in Nigeria by Ogunyewo *et al.* reported high rates of secondary school students who reported considerations for studying nursing as a future profession.²³ However, the motivation for pursuing the midwifery profession observed in this study contrasts with findings from studies conducted in Saudi Arabia, Bahrain, and Tanzania, where high school students were less likely to choose nursing as a future career^{3,23-24} for reasons including lack of interest, fear of interacting with sick or dying individuals, and perceived lack of recognition for nursing as a profession.²⁵ Our study finds that midwifery is similarly perceived as a low status and poorly recognized profession as our participants expressed significant motivation to study midwifery, but negative community perceptions were seen as a challenge.

Early career exposure strategies are needed to inspire children and youth interest in the midwifery profession, through hands-on experiences in schools.²² Additionally, structured career education and mentorship programs should be implemented to promote midwifery as a respected career, emphasizing its viability and addressing concerns related to advancement and recognition. The study found that communities in Yobe State have various views about midwifery.²⁶ Many think that midwifery is a profession reserved for older women, believing that young girls should not do night shifts because it could harm their chances of getting married. Studies by Al-Omar²⁷, and Tawash²⁸ have identified similar factors that deter women from pursuing a nursing career. These include negative perceptions of the profession and perceived barriers, such as long working hours and high workloads.²⁹ Tadesse *et al.* identified similar barriers in their study on the determinants of

motivation among prep students in Harar, Eastern Ethiopia.³⁰ They found that the low regard for the midwifery profession among community members, coupled with the perception that night shift work is a deterrent, resulted in a lack of interest and motivation to pursue midwifery as a career.³⁰

Our study found that young midwives and students often face distrust from women, who tend to doubt their competencies and prefer more seasoned practitioners, coupled with misconceptions among some pregnant women that midwives should possess the same expertise as doctors. This indicates that patients frequently confuse the distinct roles among healthcare professionals, which place undue expectations on midwives.

The implication of this finding highlights a significant gap in public understanding regarding the specific responsibilities and scope of practice of midwives. The distrust toward young midwives, coupled with these unrealistic expectations, underscores the need for more public education on the role of midwives. Community awareness about the capabilities of midwives can enhance their professional credibility and help patients better appreciate the distinct contributions midwives make to maternal and child healthcare. Studies have consistently shown that the provision of accessible and equitable birth care by skilled attendants, such as midwives, is crucial for saving lives and preventing maternal mortality and morbidity.^{4, 31-32} According to the International Confederation of Midwives, “the midwife is recognized as a responsible and accountable professional who works in partnership with women to give the necessary support, care, and advice during pregnancy, labour, and the postpartum period, to conduct births on the midwife’s own responsibility and to provide care for the newborn and the infant”.³³ This clarification is key to fostering a better understanding of the vital role midwives play in maternal health.

Our findings indicate that family support plays a crucial role in assisting midwives as they navigate societal challenges and confront negative perceptions within their communities. Despite the discouraging and derogatory remarks from certain community members, the support from their families served as a vital buffer, providing both emotional

and practical assistance essential for their success. A similar study by Malwela *et al.* identified that the benefits from family support, along with the intrinsic passion cultivated from caregiving, significantly influenced a particular group of nursing students in their decision to pursue a nursing career.³⁴ This emphasizes the importance of family support as a foundational element that empowers midwives to maintain their commitment to their profession, even in the face of broader community resistance. Therefore, the role of family members in students’ career choice of midwifery merits continued attention, especially in contexts where societal pressures or cultural beliefs may impede early midwifery career choices and advancement.

The perception of preparedness among midwifery students and early career midwives shows both strengths and areas that need improvement. While participants felt confident with managing non-complicated cases, they also reported some anxiety and uncertainty when confronted with more complex cases, which emphasize the need for continuous training and mentoring for midwives to enhance their capacity to handle challenging cases with greater confidence and competence. This finding can be connected to studies highlighting a deficient curriculum, where tutors are confident in teaching theory but lack practical skills instruction, resulting in limited clinical exposure for students.³⁵ This could significantly impact the development of competent midwives capable of delivering the full range of necessary services on their scope of practice.³⁴ Addressing these gaps through better training programs and more practical experience is crucial. These findings emphasize the need for comprehensive and context-specific midwifery education to ensure effective healthcare delivery in different settings.

The safety and security concerns of midwifery students and early career midwives in this study show that conflict and insecurity severely affect healthcare professionals in conflict areas. This is in line with other research in Afghanistan,³⁶ DRC,³⁷ and Nigeria²⁶ that highlights the mental stress, practical challenges, low staff retention, and lack of job satisfaction in such environments. Participants described practical measures they take

to ensure their safety, such as wearing personal clothes over their uniforms to avoid detection by insurgents. This finding is like numerous reports of documented attacks on nurses, community health workers, and healthcare facilities in countries like Uganda, Somalia, Myanmar, South Sudan, and DRC. Health workers are often subjected to threats, beatings, arrests, work restrictions, torture, and even killings.³⁸⁻³⁹ It is crucial to prioritize the protection of healthcare workers, particularly midwives, through the provision of safety training, the use of technology and equipment, and the implementation of flexible work schedules, including a task-shifting policy to enhance preparedness. Offering incentives for work in insecurity and fragile areas and encouraging midwives and students to wear civilian clothing during travel, particularly in conflict zones, to protect them from being targeted as healthcare workers are potential ways to protect midwives and help them cope in these settings. Equipping midwives with the necessary skills and strategies to ensure they can safely and effectively provide maternal care under challenging conditions, mitigating the heightened risks posed by conflict and instability.⁴⁰⁻⁴¹ This will not only safeguard their well-being but also support the continuity of maternal and newborn health service provision in this region.

Limitations and strengths

Our study findings should be interpreted considering some limitations. A notable limitation of this study is that our participants are midwifery students and early-career midwives in Yobe State (only one of 36 states in Nigeria). Therefore, the accounts of participants may not fully capture the experiences of midwifery students and graduates across Nigeria, especially in areas that are more heavily affected by the Boko Haram insurgency. Despite these limitations, the findings are expected to be valuable for policymakers and stakeholders in nursing and midwifery education systems, providing important insights for curriculum enhancement and midwifery workforce development.

Implications for nursing and health policy

This study underscores the critical need for policies and guidelines that address the barriers faced by students and early-career midwives in conflict-affected contexts, such as Nigeria, to ensure a robust and resilient midwifery workforce. The findings emphasize the importance of shaping recruitment and retention strategies that build on the strong motivation and compassion expressed by participants. Enhancing community perceptions of midwifery by countering stereotypes, dispelling myths, and fostering trust in the competencies of young midwives is essential to promoting midwifery as a respected and viable career.

Furthermore, the study highlights the urgent need for policies that seek to secure health workers, not only in their workplaces but also in educational settings, given the unique safety and security concerns they face. By addressing these challenges, policymakers and stakeholders can create an enabling environment that supports the growth, safety, productivity and retention of midwives, ultimately improving maternal and newborn health outcomes in conflict-affected settings

Conclusion

Students and early-career midwives are motivated by compassion, early exposure to healthcare workers, and a desire to address healthcare gaps in their communities. Despite facing societal challenges, including misconceptions about their profession and restrictive gender norms, they are confident in their training and committed to reducing maternal and newborn mortality. There is a need for public education to improve understanding of midwifery and for continued support of midwives' professional development and safety, especially in conflict-affected areas.

Acknowledgements

We thank all the participants who took part in this study. We acknowledge the support of the research staff of the International Research Centre of Excellence of the Institute of Human Virology,

Nigeria, the EQUAL Research Consortium, the International Rescue Committee, and Johns Hopkins University for all the encouragement and technical support during this study. We also thank Paul Spiegel and Geeta Nanda for their time taken to review this manuscript.

Funding

This research was funded by UK International Development from the UK government as part of the EQUAL Research Programme Consortium.

Competing interests

The authors declare no competing interests.

Data availability

Data generated and analysed during the current study are not publicly available due to confidentiality restrictions, but anonymized transcripts are available from the corresponding author upon reasonable request and signing of a data sharing agreement.

Ethical considerations

This research was approved by the Yobe State Ministry of Health Ethics Committee under reference No. MOH/GEN/747/VOL.I. and John Hopkins Bloomberg School of Public Health Institutional Review Board Reference No. 00024146. All interviewees voluntarily gave their prior informed consent to the interview and audio recording. Initially, all participants enrolled in the study provided written consent, and then during the follow-up FGD, they were consented orally. An oral consent script was read to participants in the beginning of the FGD. Data was collected and analysed in complete confidentiality. All methods were carried out in accordance with relevant guidelines and regulations.

Authors contributions

Study design: ENI, CPM, GO, HT, SE
Data collection: RSA, CMP, SII, RHA

Data analysis: SII, RHA, KOA

Study supervision: CMP, HS, HT, SE

Manuscript writing: RHA, SII, SE

Critical revisions for important intellectual content: ENI, SE, CMP, HT, RHA

All authors mentioned in the article approved the manuscript.

References

1. Adegoke AA, Mani S, Abubakar A, and van den Broek N. Capacity building of skilled birth attendants: a review of pre-service education curricula. *Midwifery*. 2013; 29: 64 -72.
2. Nove A, Friberg IK, de Bernis L, McConville F, Moran AC, Najjemba M, ten Hoop-Bender P, and Homer CSE. Potential impact of midwives in preventing and reducing maternal and neonatal mortality and stillbirths: a Lives Saved Tool modelling study. *The Lancet Global Health*. 2021; 9: 24 -32.
3. Rouleau D, Fournier P, Philibert A, Mbengue B, and Dumont A. The effects of midwives' job satisfaction on burnout, intention to quit and turnover: a longitudinal study in Senegal. *Human Resources for Health*. 2012; 10:9.
4. Adatara P, Strumpher J, Ricks E, Adhikari M, Nyarko K, and Kubio C. Challenges experienced by midwives working in rural communities in the Upper East Region of Ghana: a qualitative study. *BMC Pregnancy and Childbirth*. 2021; 21:287.
5. The State of the World's Midwifery 2021: Report & Supplements. Healthy Newborn Network. <https://healthynewbornnetwork.org/resource/2021/the-state-of-the-worlds-midwifery-2021-report-supplements/>.
6. Erim DO, Resch SC, Salomon JA, and Umeh CA. The spillover effect of midwife attrition from the Nigerian midwives service scheme. *BMC Health Services Research*. 2018; 18:295.
7. iAHO_Maternal_Mortality_Regional_Factsheet.pdf. https://files.aho.afro.who.int/afahobckpcontainer/productio n/files/iAHO_Maternal_Mortality_Regional_Factsheet.pdf
8. Umar N, Wickremasinghe D, Hill Z, Usman UA, and Marchant T. Understanding mistreatment during institutional delivery in Northeast Nigeria: a mixed-method study. *Reproductive Health*. 2019; 16:174.
9. Adedini SA, Odimegwu C, Bamiwuye O, Fadeyibi O, and De Wet N. Barriers to accessing health care in Nigeria: implications for child survival. *Global Health Action*. 2014; 7:23499.
10. Iwu EN, Maina CP, Aimu RS, Abimiku RH, Israel SI, Ayodeji KO, Odonye G, Sabo H, Kozuki N, and Mothupi M. Maternal and newborn health prioritization in Yobe State, Nigeria: analysis of stakeholders' perspective. *Conflict and Health*. 2024; 18:67.
11. Ojeleke O, Kalu U, Ojiako U, and Anyanwu F. The impact of armed conflicts on health-care utilization in Northern Nigeria: A difference-in-differences analysis. *World Medical & Health Policy*. 2022. Available from:

- <https://onlinelibrary.wiley.com/doi/full/10.1002/wmh.3.501>.
12. National Counterterrorism Center Groups. https://www.dni.gov/nctc/groups/boko_haram.html.
 13. Ager AK, Saleh J, Wurie HR, Arefaynie M, and Wilkinson E. Health service resilience in Yobe state, Nigeria in the context of the Boko Haram insurgency: a systems dynamics analysis using group model building. *Conflict and Health*. 2015; 9:30.
 14. Nigeria: Violence Against Health Care in Conflict 2022 - Nigeria | ReliefWeb. Available from: <https://reliefweb.int/report/nigeria/nigeria-violence-against-health-care-conflict-2022>; 2022.
 15. Nigeria: Humanitarian Needs Overview 2020 (December 2019) – Nigeria <https://reliefweb.int/report/nigeria/nigeria-humanitarian-needs-overview-2020-december-2019>; 2020.
 16. Yobe_Learning_brief_4.pdf. <https://www.scribd.com/document/491622359/Yobe-Learning-brief-4>
 17. Iwu E, Elnakib S, Abdullahi H, Abimiku RH, Maina C, Mohamed A, Ayodeji KO, Odonye G, Sunday R, Ahmed MA, Omar MA, Dalmar AA, Grant E and Tappis H. Rapid assessment of pre-service midwifery education in conflict settings: findings from a cross-sectional study in Nigeria and Somalia. *Hum Resour Health*. 2025; 23:6. <https://doi.org/10.1186/s12960-025-00977-6>
 18. Olateju Z, Olufunlayo T, MacArthur C, Leung C, and Taylor B. Community health workers' experiences and perceptions of working during the COVID-19 pandemic in Lagos, Nigeria. A qualitative study. *Plos One*. 2022; 17: 0265092.
 19. Okeke C, Obionu I, Ezenwaka U, Kanu N, and Idoko A. Perceptions and Motivation Experiences of Health Workers in a Major Public Tertiary Hospital in Enugu State, Nigeria. 2020;10.
 20. Adeloye D, David RA, Olaogun AA, Auta A, Adesokan A, Gadanya M, Omoleke SA, Iseolorunkanmi A, Auta E, and Njeru MK. Health workforce and governance: the crisis in Nigeria. *Human Resources for Health*. 2017; 15: 32.
 21. Alhaji Ali M, Zakuan UAA, and Ahmad MZB. The Negative Impact of Boko Haram Insurgency on Women and Children in Northern Nigeria: An Assessment. *AIJSSR*. 2018; 3:27 -33.
 22. Sim-Sim M, O'Donnell D, Ahmed A, Kusi-Appiah E, and Ndefo E. Midwifery Now: Narratives about Motivations for Career Choice. *Education Sciences*. 2022; 12: 243.
 23. Ogunyewo OA, Afemikhe JA, Ajio DK, and Olanlesi Aliu A. Adolescents perception of career choice of nursing among selected secondary schools in Jos, Nigeria. *International Journal of Nursing and Midwifery*. 2015; 7:21-29.
 24. Kiwanuka A. Image of nursing profession as viewed by secondary school students in Ilala District, Dar es Salaam. *DMSJ*. 2010; 12 -18.
 25. Why do university students not choose a nursing degree at matriculation? An Italian cross-sectional study - Dante - 2013 - *International Nursing Review* - Wiley Online Library. 2012; 1466 -7657.
 26. Ozor O, Etiaba E, and Onwujekwe O. Strengthening the effectiveness of community health system: Assessing the factors that enhance or constrain the delivery of health services within communities in Nigeria. *Health Research Policy and Systems*. 2024; 22:124.
 27. Al-Omar BA. Knowledge, attitudes and intention of high school students towards the nursing profession in Riyadh city, Saudi Arabia. *Saudi Medical Journal*. 2004; 25:150 -155.
 28. Malcolm MM. Geriatric outreach and training with care (GOT Care!): An interprofessional solution to enhance training for the healthcare workforce and improve outcomes for vulnerable older adults. *Advances in Practice Nursing*. 2018; 03.
 29. Pincha Baduge MSDS, Kalansooriya PF, Siriwardhana A, and Jayasuriya R. Barriers to advancing women nurses in healthcare leadership: a systematic review and meta-synthesis. *E Clinical Medicine*. 2024; 67:102354.
 30. Tadesse D, Weldemariam S, Hagos H, Sema A, and Girma M. Midwifery as a Future Career: Determinants of Motivation Among Prep Students in Harar, Eastern Ethiopia. *Advances in Medical Education and Practice*. 2020; 11:1037-1044.
 31. What Prevents Quality Midwifery Care? A Systematic Mapping of Barriers in Low- and Middle-Income Countries from the Provider Perspective. *Plos One*. 015331.
 32. Koblinsky M, Matthews Z, Hussein J, Mavalankar D, Mridha MK, Anwar I, Achadi E, Adjei S, Padmanabhan P, and van Lerberghe W. Going to scale with professional skilled care. *The Lancet*. 2006; 368:1377-1386.
 33. 08l_en_international-definition-of-the-midwife.pdf. https://internationalmidwives.org/wp-content/uploads/08l_en_international-definition-of-the-midwife.pdf
 34. Malwela T, Maputle S, and Lebese R. Factors affecting integration of midwifery nursing science theory with clinical practice in Vhembe District, Limpopo Province as perceived by professional midwives. *Afr J Prim Health Care Fam Med*. 2016; 8(2):6.
 35. Gavine A, MacGillivray S, McConville F, Gandhi M, and Renfrew MJ. Pre-service and in-service education and training for maternal and newborn care providers in low- and middle-income countries: An evidence review and gap analysis. *Midwifery*. 2019; 78:104-113.
 36. Thommesen T, Kismul H, Kaplan I, Safi K, and Van den Bergh G. 'The midwife helped me ... otherwise I could have died': women's experience of professional midwifery services in rural Afghanistan - a qualitative study in the provinces Kunar and Laghman. *BMC Pregnancy and Childbirth*. 2020; 20:140.
 37. Homer CS, Molyneux M, Kirby A, Lynch M, Kennedy H, Morgan A, and Ten Hoope-Bender P. Enhancing quality midwifery care in humanitarian and fragile settings: a systematic review of interventions, support systems and enabling environments. *BMJ Global Health*. 2022; 7:006872.
 38. Namakula J, and Witter S. Living through conflict and post-conflict: experiences of health workers in northern Uganda and lessons for people-centred health systems. *Health Policy and Planning*. 2014; 29(2): 6-14.
 39. Chi PC, Bulage P, Urdal H, and Sundby J. Perceptions of the effects of armed conflict on maternal and reproductive health

- services and outcomes in Burundi and Northern Uganda: a qualitative study. *BMC International Health and Human Rights*. 2015; 15:7.
40. Brentlinger PE. Health sector response to security threats during the civil war in El Salvador. *BMJ: British Medical Journal*. 1996; 313:1470.
41. Bouchet-Saulnier F, and Whittall J. An environment conducive to mistakes? Lessons learnt from the attack on the Médecins Sans Frontières hospital in Kunduz, Afghanistan. *International Review of the Red Cross*. 2018; 100:337-372.