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Midwives' Perspective on Birth Preparedness and Complication Readiness Structure: A Qualitative Study

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ABSTRACT

Background: Birth Preparedness and Complication Readiness (BPCR) is a key strategy for reducing maternal and neonatal mortality, particularly in resource-limited settings. Midwives are central to BPCR implementation, but their perspectives on BPCR structure remain underexplored in Nigeria. This study explored midwives' perspectives on BPCR structure in resource-limited environments.

Methods: A qualitative exploratory study was conducted over three months, from February to April 2025, using semi-structured interviews with 14 purposively selected midwives from primary, secondary, and tertiary healthcare facilities in Ogbomoso, Oyo State, Southwest Nigeria. Data collection was continued till data saturation. Data were analyzed thematically using Braun and Clarke's six-phase framework. Rigor was ensured through strategies addressing credibility, transferability, dependability, and confirmability, and ATLAS.ti version 25 was used for data analysis.

Results: Three themes emerged from the data analysis: 1) Provide education and planning prerequisites, 2) Institutional support for midwives, and 3) Supportive network for pregnant women. Three subthemes emerged under providing education and planning requisites: complication orientation, detailed information access, and proper planning. Two subthemes were identified under institutional support for midwives: professional development and collaborative support. Two subthemes emerged under supportive network for pregnant women: emergency preparedness infrastructure and community-based support networks.

Conclusion: Midwives in the resource-limited setting perceived BPCR as a comprehensive framework encompassing education about complications, detailed information provision, and practical planning with families, alongside the dual nature of support institutional mechanisms for providers and community networks for pregnant women.

Keywords: Health services accessibility; Midwifery; Maternal health services; Neonatal mortality; Pregnancy

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Introduction

Maternal mortality remains a significant global health challenge, particularly in resource-limited settings where access to quality obstetric care is constrained.[1] Birth Preparedness and Complication Readiness (BPCR) has been recognized as a key strategy for reducing maternal and neonatal mortality by ensuring that pregnant women, families, communities, and healthcare providers are equipped to prepare for childbirth and respond promptly to obstetric emergencies.[2, 3] Midwives, as frontline maternal healthcare providers, play a pivotal role in BPCR implementation; however, their effectiveness depends not only on individual competence but also on institutional support, continuous professional development, and the availability of functional health system structures.[4]

Despite global and national maternal health initiatives, many low-resource health systems continue to face persistent barriers, such as insufficient training, weak referral systems, inadequate supplies, sociocultural influences, and limited community engagement, all of which undermine effective BPCR implementation.[5-7] Previous studies have shown that ongoing capacity building, teamwork, and structured clinical guidance enhance the midwives' ability to manage obstetric emergencies.[8, 9] However, most existing Nigerian literature has focused primarily on BPCR awareness and practices among pregnant women, with limited attention to how midwives themselves experience BPCR delivery within institutional and systemic contexts.[10, 11]

In Nigeria, where maternal mortality remains among the highest globally, midwives play a particularly critical role in providing maternal healthcare in rural and semi-urban environments.[2] Within Oyo State, including Ogbomoso, maternal healthcare services exist within resource-constrained and sometimes fragmented systems. Although national maternal health policies emphasize skilled birth attendance, access to emergency obstetric care, and strengthening referral pathways, the extent to which these policies translate into meaningful clinical practice depends largely on institutional commitment, workforce support, and resource availability.[5] Even when midwives possess adequate knowledge, inconsistent institutional support, workforce shortages, and infrastructural limitations may hinder effective BPCR implementation.[6, 9] Furthermore, there remains limited context-specific qualitative evidence from Oyo State exploring how institutional systems shape midwives' capacity to provide BPCR services.[12]

A qualitative approach is, therefore, essential to uncover the experiences, contextual realities, and nuanced challenges faced by midwives in delivering BPCR services. Unlike quantitative assessments that capture knowledge and coverage indicators, qualitative inquiry provides deeper insight into how systemic, institutional, and sociocultural factors influence implementation in real-world clinical environments. Thematic analysis offers a systematic approach to identifying patterns within midwives' narratives while preserving depth and meaning, making it appropriate for exploring complex healthcare experiences. Therefore, this study aimed to explore midwives' perspectives on BPCR structure in resource-limited environments in Oyo State, Nigeria.

Materials and Methods

This study employed qualitative exploratory design using thematic analysis. Qualitative methods were selected to capture nuanced experiences and contextual challenges.[13] The study was conducted over three months, from February to April 2025, encompassing recruitment, data collection, transcription, and preliminary analysis.

The research was conducted in four healthcare facilities in Ogbomoso (two primary healthcare centers, a secondary health facility, and a tertiary health facility). These facilities were selected because they offer maternal health services to the local population and

neighboring communities, reflecting a diverse healthcare infrastructure. Ogbomoso is a semi-urban city in Oyo State, southwestern Nigeria, with an estimated population of 645,000.[14] The city was purposively selected for this study because it represents a typical resource-limited healthcare context in Nigeria, with a mix of public and private healthcare facilities serving both urban and semi-urban populations. The diverse healthcare infrastructure (ranging from primary health centers to a tertiary teaching hospital) allowed for the recruitment of midwives with varied practice environments and experiences, which was essential for capturing a comprehensive understanding of BPCR implementation across different levels of care. Additionally, Oyo State has been identified as having maternal mortality challenges despite the presence of healthcare facilities, making it a relevant setting for exploring the role of institutional support in BPCR.[15]

Midwives were eligible if they were currently practicing in the study hospital, had a minimum of two years of experience in antenatal and labor care, and were willing to participate in the study. Those unwilling to participate or unavailable during the study period were excluded.

Purposive sampling was used to recruit midwives (n=14) to ensure representation across different facility types. Each participant was interviewed once. Recruitment was conducted at the antenatal and maternity units of the healthcare facilities. The sample size was determined based on data saturation, the point at which no new themes emerge.[16] During analysis, by the 12th interview, responses became repetitive, and two additional midwives were interviewed to ensure referential adequacy.

Data were collected using in-depth face-to-face interviews, guided by a semi-structured interview tool, a digital audio recorder, and field notes. The interviews were conducted by the second author, a male who was a registered nurse with a Bachelor of Nursing Science degree, under the supervision of the first author. The first author who held a PhD degree and was experienced in qualitative research trained him in qualitative data collection. Interviews lasted 30–60 minutes and explored the Midwives' perspectives on BPCR, Training and professional development, and Institutional support mechanisms.

The semi-structured interview guide was developed by the research team through a three-stage process: (1) comprehensive review of existing BPCR literature to identify the key domains; (2) consultation with two maternal health experts with extensive experience in qualitative research and BPCR programs; and (3) pilot testing with two midwives who met the inclusion criteria but were not included in the final sample. Feedback from the pilot testing was used to refine question wording, adjust probes for clarity, and ensure questions were culturally appropriate and non-threatening. The semi-structured interview guide included questions such as: "How do you define BPCR in the context of your practice as a midwife?", and "How does your institution support you in managing BPCR?". Some probing questions included "Can you share an example?"and "Can you describe more?". The research team configuration ensured reflexivity and transparency, so that professional preconceptions could influence data collection and interpretation.[17]

Data were analyzed using thematic analysis following Braun and Clarke's six-phase framework, which included familiarization, coding, developing themes, reviewing themes, defining themes, and reporting.[16] ATLAS.ti version 25 was used to support systematic coding and organization. Initial coding was conducted independently by the first and second authors, who reviewed all transcripts line-by-line to identify meaningful text units. The initial codes from both researchers were then compared in team meetings, where discrepancies were discussed until consensus was reached. The agreed-upon codes were organized into potential sub-themes, which were subsequently reviewed and refined by all three authors through iterative discussion to develop the final thematic framework.

Reflexive journaling and team discussions were maintained throughout to enhance rigor.[17] Specifically, as healthcare professionals with clinical and academic backgrounds in maternal health, the research team members acknowledged potential preconceptions about optimal BPCR practices and assumptions regarding institutional support systems. These preconceptions were documented in individual reflexive journals before and during data collection. During analysis, team members regularly discussed their assumptions and actively sought disconfirming evidence to ensure that emerging themes reflected the participants' voices rather than researchers' expectations. For instance, the team initially assumed that lack of knowledge would be a primary barrier to BPCR implementation, but reflexive analysis revealed that midwives possessed substantial knowledge while facing systemic and resource constraints—a finding that emerged from the data rather than researcher assumptions.

Trustworthiness was ensured through multiple strategies.[18] Credibility was enhanced through triangulation of data sources (interviews, field notes, reflexive journals) and rigorous member checking. After preliminary thematic analysis was completed, five participants were purposively selected to represent different facility levels and years of experience. These participants were contacted individually via telephone, presented with a summary of the three main themes and their sub-themes, and asked to confirm whether the interpretations resonated with their experiences and accurately captured their perspectives. All five participants confirmed the accuracy and relevance of the findings, with minor clarifications on terminology incorporated into the final analysis.

Dependability was achieved through detailed audit trails documenting all methodological decisions. Transferability was promoted through rich descriptions of the study context and participants. Confirmability was strengthened by external qualitative research expert review of coding and interpretation.[13, 18]

Ethical approval was obtained from the Institutional Review Board of Bowen University Teaching Hospital (Ethical Code: BUTH/REC-2564). Written informed consent was obtained from all participants before data collection commenced. Additionally, at the beginning of each interview session, the participants were reminded of the purpose and procedures of the study, and oral consent was explicitly obtained for audio recording of the interviews. Participants were informed of their right to pause or stop recording at any time during the interview. Confidentiality was maintained through anonymization and secure data storage. Participants could withdraw at any time without repercussions. The study adhered to the ethical principles outlined in the Declaration of Helsinki.

Results

A total of 14 midwives participated in the study. Their professional experience ranged from 4 to 32 years, with most participants having between 7 and 12 years of experience in maternal care. The duration of employment at their current facility varied from 3 to 10 years (Table 1). The participants had diverse educational qualifications, including Registered Nurse, Registered Midwife, Bachelor of Nursing Science, and Community Health Diploma. This variation ensured that perspectives captured reflected both newly trained and experienced midwives.

Participants were distributed across the four healthcare facilities as follows: four midwives from the two primary healthcare centers (2 from each center), six from the secondary healthcare facility, and four from the tertiary teaching hospital. This distribution ensured representation across different levels of care and healthcare contexts. Regarding BPCR-specific training, all participants had received foundational training on birth preparedness during their pre-service midwifery education. However, the extent of in-service training varied considerably:

Table 1: General Characteristics of the Participants

Participants Code	Qualification	Years of experience	Years at the current institution
P1	RM[a]/BSc[b].	7	4
P2	RN[c]/RM	10	4
P3	BSc.	10	5
P4	RN/RM	12	6
P5	RM/Community Health Diploma	32	10
P6	BSc.	8	8
P7	BSc.	10	6
P8	BSc	10	5
P9	RM	7	5
P10	BSc.	10	5
P11	RM	10	6
P12	RM	4	3
P13	RN/RM	6	4
P14	BSc.	9	5

[a]RM: Registered Midwife; [b]BSc: Bachelor of Nursing Science; [c]RN: Registered Nurse

eleven participants (78.6%) reported attending at least one formal workshop or seminar on maternal emergency care or BPCR in the past five years, while three had not received any structured in-service training beyond their basic qualification. The training workshops mentioned by participants were primarily organized by non-governmental organizations (n=7), the State Ministry of Health (n=3), or the employing healthcare facility (n=4), with durations ranging from one-day seminars to three-day intensive training sessions. Most participants (n=10) were native to Ogbomoso or had resided in the area for more than five years, which contributed to their understanding of local cultural contexts and community health needs.

Three major themes emerged from the thematic analysis, including Providing Educational and Planning Prerequisites, Institutional Support for Midwives, and Supportive Network for Pregnant Women. These themes were supported by seven sub-themes (Table 2).

1. Providing Educational and Planning Prerequisites

The thematic analysis of midwives' perspectives regarding BPCR revealed three key sub-themes: Complications Orientation, Detailed Information Access, and Proper Planning.

1.a. Complication Orientation

Midwives highlighted the importance of educating pregnant women about potential complications and early recognition of risk signs such as hemorrhage, obstructed labor, and preeclampsia. They emphasized that awareness and prompt action could reduce maternal and neonatal mortality. One participant stated:

"We discuss potential complications like hemorrhage and obstructed labor and explain

Table 2: Sub-themes and themes generated from the data

Sub-theme	Themes
Complication Orientation Detailed Information Access Proper Planning	Providing Educational and Planning Prerequisites
Professional Development Collaborative Support	Institutional Support for Midwives
Emergency Preparedness Infrastructure Community-Based Support Networks	Supportive Network for Pregnant Women

the signs that require immediate attention. I ensure they understand when to seek emergency care." (P2)

Another noted:

"Complication readiness involves recognizing potential complications and having a plan, including when to get help. Both are essential for the mother and baby's safety." (P8)

1.b. Detailed Information Access

Midwives explained that BPCR goes beyond knowledge, requiring practical plans including transport, finances, and identification of blood donors. A midwife said:

"It's about helping the woman plan for delivery and complications: where to go, what to bring, how to arrange transport, how to identify blood donors, and how to save money." (P1)

1.c. Proper Planning

Midwives emphasized that BPCR involved a clear delivery plan and family involvement. One participant said:

"BPCR is about equipping the woman and her family with knowledge and plans for labor, delivery, and emergencies." (P7)

2. Institutional Support for Midwives

Participants reported a combination of formal training opportunities and collaborative team efforts, as well as institutional support received. Two major sub-themes emerged: professional development and collaborative support.

2.a. Professional Development

Midwives reported that training workshops, seminars, and continuous learning enhanced their competence in promoting BPCR. Two participants implied:

"I've attended hospital workshops and online courses. They help me improve my practice." (P1)

"NGO and Ministry-of-Health-led seminars on danger signs and community engagement are very helpful." (P7)

2.b. Collaborative Support

Team briefings and regular case reviews provide opportunities for knowledge sharing and refining BPCR approaches. A midwife said:

"We have team briefings to review our BPCR approaches, which helps us learn from each other." (P1)

3. Supportive Network for Pregnant Women

This theme encompasses the institutional mechanisms and community-based structures that support pregnant women in preparing for childbirth and managing complications. Two sub-themes emerged: emergency preparedness infrastructure and community-based support networks.

3.a. Emergency Preparedness Infrastructure

Participants described formal systems that facilitated rapid response to obstetric emergencies. A key component was the availability of visible emergency contact numbers at healthcare facilities and within communities. A participant said:

"Emergency numbers are displayed everywhere—on walls, in waiting areas, even on handbills we give to pregnant women. This ensures that women and their families know exactly who to call when complications arise." (P7)

Beyond static displays, midwives emphasized the importance of establishing direct communication pathways between pregnant women and healthcare providers. A participant said:

"We give women our facility's hotline and sometimes personal contacts for emergencies. This direct access reduces delays in seeking care." (P3)

3.b. Community-Based Support Networks

Midwives highlighted the critical role of community health workers (CHWs) in extending BPCR support beyond facility walls. CHWs conduct home visits to reinforce BPCR messages, monitor pregnant women for danger signs, and facilitate referrals when

needed. A participant noted:

"Our CHWs are invaluable. They visit pregnant women at home, check on their preparation, and alert us if they detect any problems. This community-level monitoring catches complications early." (P7)

Additionally, participants described peer support groups, where pregnant women share experiences, provide mutual encouragement, and learn from one another about childbirth preparation. A participant emphasized:

"The peer groups create a supportive environment. Women who have given birth before share their experiences, which helps first-time mothers understand what to expect and how to prepare. It reduces anxiety and improves preparedness." (P10)

These community-based networks complement facility-based services, creating a continuum of support that extends from the community to the healthcare facility.

Discussion

This study explored midwives' perspectives on BPCR structure within resource-constrained healthcare settings in Ogbomoso, Nigeria. Three major thematic areas emerged: provision of educational and planning prerequisites, the support they receive to provide BPCR-related services, and the systems in place to support pregnant women.

Participants demonstrated a practical and holistic perspective toward BPCR structure, recognizing it as a comprehensive strategy that encompasses early identification of obstetric danger signs, timely decision-making, and practical planning for childbirth and potential complications. Their descriptions align with the World Health Organization (WHO) definition of BPCR, which emphasizes early recognition of complications and preparation for rapid intervention.[1] The inclusion of transport arrangements, financial planning, and emotional readiness reflects an advanced, patient-centered perspective consistent with previous studies in Nigeria and other LMICs.[2, 19]

These findings confirm that midwives serve as essential links between knowledge and practice. While pregnant women may attend antenatal care, they often lack the resources or understanding to implement BPCR plans independently.[2] Midwives, therefore, bridge this gap by translating knowledge into practical actions, reinforcing the critical role of skilled birth attendants in reducing maternal morbidity and mortality.

The study revealed that the comprehensive structure of BPCR is shaped by institutional support mechanisms. Engagement in workshops, in-house team briefings, mentorship programs, and NGO-led training sessions enhanced midwives' competence and confidence in promoting BPCR. Continuous professional development is essential for maintaining quality care, particularly in resource-limited settings, where guidelines and protocols may rapidly evolve.[20] However, participants highlighted that these opportunities were often irregular, donor-dependent, or inconsistently provided, reflecting systemic weaknesses in workforce development.[21] Limited and unsystematic professional development may undermine midwives' preparedness and reduce adherence to evidence-based practices. Additionally, structural barriers such as staff shortages, inadequate equipment, and poorly maintained infrastructure further constrain their ability to provide comprehensive maternal care, as reported in other Nigerian and sub-Saharan African studies.[19, 22]

Midwives described another part of BPCR structure as several community-level strategies which aimed at supporting pregnant women, including emergency contact numbers, home visits by CHWs, and peer support groups. These interventions align with WHO recommendations for integrating community-based strategies into formal maternal health programming.[23] Such approaches help mitigate delays in reaching healthcare facilities—the second delay in the "Three Delays Model"—by improving accessibility, preparedness, and social support.[24, 25]

The findings of this study demonstrate that effective BPCR structure extends beyond individual midwife's competence to encompass interconnected support systems. The dual nature of support institutional mechanisms for providers and community networks for pregnant women reflects the comprehensive approach needed in resource-limited settings. Professional development opportunities and collaborative learning environments enable midwives to maintain current knowledge and refine their practice, while emergency contact systems and peer support groups create safety networks for pregnant women at the community level. This multi-layered approach aligns with health systems strengthening frameworks that emphasize both provider capacity and community engagement as essential components of maternal health improvement.

A key strength of this study is the inclusion of midwives from primary, secondary, and tertiary facilities, which allowed for a diverse range of perspectives on BPCR structure. Rigorous qualitative methods, including thematic analysis, member checking, reflexivity, and audit trails, enhanced the credibility and trustworthiness of the findings.

However, several limitations must be acknowledged. The exclusion of other stakeholders, such as pregnant women, male partners, and facility administrators, may have reduced data triangulation. Social desirability bias may also have influenced the participants' responses.

Conclusion

This study reveals midwives' comprehensive perspectives of BPCR structure as encompassing three interconnected dimensions. Midwives conceptualize BPCR not merely as information provision but as a holistic framework requiring complication awareness, detailed planning with families, and practical preparation involving transport, finances, and support persons. Strengthening BPCR in resource-limited settings requires sustained institutional commitment to capacity-building, functional referral systems, adequate supplies, and structured community engagement. Future research could design to validate the BPCR structure dimensions across diverse settings.

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Authors' Contribution

D.E., K.O., and C.R. made substantial contributions to the conception and design of the study. Data collection was conducted by D.E., and K.O. Data analysis and interpretation were carried out by K.O., D.E., and C.R. All authors participated in drafting, critically reviewing, and revising the manuscript for important intellectual content. All authors have approved the final version of the manuscript for publication and agreed to be accountable for the accuracy and integrity of the work. The corresponding author attests that all listed authors meet the authorship criteria, and no individuals meeting these criteria have been omitted.

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Conflict of Interest

Non declared

Declaration on the use of AI

This study did not utilize Artificial Intelligence (AI)-Assisted Technology in data collection, analysis, or manuscript preparation.

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