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Practice of Birth Preparedness and Complication Readiness and Its Associated Factors among Pregnant Women in Mgbundukwu Primary Health Center, Port Harcourt

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Abstract

Birth preparedness and complication readiness (BPCR) remains a critical safe motherhood strategy aimed at reducing maternal and neonatal morbidity and mortality by promoting timely access to skilled obstetric care. Despite ongoing efforts to improve maternal health outcomes in Nigeria, preventable maternal deaths persist due to delays in decision-making, transportation challenges, financial constraints, and limited access to skilled providers. This study assessed the factors associated with BPCR among pregnant women attending antenatal clinic at Mgbundukwu Model Primary Health Center, Port Harcourt, Rivers State. A descriptive cross-sectional design was adopted. The target population comprised pregnant women attending antenatal clinic at the facility, with an estimated monthly attendance of 150. Using the Taro Yamane formula and a 10% non-response adjustment, a sample size of 120 was determined. A total of 109 correctly completed questionnaires were analyzed, yielding a response rate of 90.8%. Data were collected using a structured, self-administered questionnaire and analyzed with SPSS version 25 using descriptive and inferential statistics. Findings revealed that most respondents were aged 26–40 years (86.2%), married (89.0%), and had attained at least a Diploma-level education (56.9%). Logistic factors emerged as important determinants of BPCR: 45.9% reported difficulty obtaining transportation at night, and 51.4% experienced traffic congestion en route to the hospital. Financial constraints were also notable, with 27.5% lacking adequate funds for BPCR requirements and 18.3% reporting unstable income. However, cultural and religious barriers were minimal, as only 15.6% believed emergency planning invites misfortune and 8.3% reported cultural resistance to hospital delivery or caesarean section. Family support was strong, with 92.7% reporting spousal involvement and 85.3% having access to potential blood donors. Nonetheless, 29.4% of respondents were unable to confidently identify skilled birth attendants. The study concludes that while socio-cultural resistance is low and family support is high, logistical challenges, financial instability, and knowledge gaps regarding skilled birth attendants significantly influence BPCR in this urban primary healthcare setting. Strengthening antenatal education, improving emergency transport planning, and enhancing financial preparedness strategies are recommended to improve safe delivery outcomes.

Keywords: Birth preparedness and complication readiness (BPCR), Maternal health, Antenatal care, Skilled birth attendants, Nigeria

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1. Introduction

Birth preparedness and complication readiness (BPCR) is a key safe motherhood strategy aimed at reducing maternal and neonatal morbidity and mortality by promoting timely access to skilled obstetric care. The concept emphasizes proactive planning during pregnancy for normal delivery and possible complications. It involves identifying a skilled birth attendant, selecting a health facility for delivery, arranging transportation, saving money, recognizing danger signs, and identifying potential blood donors. By addressing delays in decision-making, transportation, and receipt of adequate care, BPCR plays a critical role in improving maternal health outcomes.

Despite global efforts to improve maternal health, maternal mortality remains a significant public health challenge, particularly in low- and middle-income countries. Nigeria continues to bear a disproportionate share of the global maternal mortality burden. Evidence from northern Nigeria highlights persistently high maternal mortality ratios, largely attributed to preventable causes and delayed access to care (Doctor *et al.*, 2012). Broader national analyses have also shown worrying trends in childbirths occurring without skilled attendance, underscoring systemic and socio-economic barriers to safe delivery services (Fagbamigbe *et al.*, 2021). These realities emphasize the importance of strengthening BPCR practices at the community and primary healthcare levels.

Several studies conducted across Nigeria have assessed BPCR awareness and practice. In Edo State, Tobin *et al*. (2014) reported varying levels of preparedness among women attending primary healthcare centres, with financial and transportation barriers identified as key constraints. Similarly, Onoh *et al*. (2020) in Abakaliki and Akpan *et al*. (2017) in Calabar found that while awareness of BPCR was relatively high, actual preparedness was influenced by socio-economic and health system factors. Studies in South West Nigeria have also demonstrated that financial capacity and knowledge of danger signs significantly predict BPCR practice (Aduloju *et al*., 2017). Emma-Ukaegbu *et al*. (2014) reported similar findings in Abia State, emphasizing the need for targeted interventions at the primary healthcare level.

Beyond Nigeria, research from other low-resource settings supports these findings. Kabakyenga *et al*. (2011) in rural Uganda and Urassa *et al*. (2012) in Tanzania identified limited knowledge of obstetric danger signs and inadequate preparation as contributors to poor maternal outcomes. Mukhopadhyay *et al*. (2013) in India also documented gaps in BPCR practices despite antenatal clinic attendance. Furthermore, Shehu *et al*. (2019) observed that awareness does not always translate into adequate preparedness, highlighting the influence of contextual factors.

Multiple determinants influence BPCR. Logistic barriers such as poor road networks, traffic congestion, insecurity, and transportation difficulties can delay access to care, particularly during emergencies. Insecurity and conflict, as reported in parts of northern Nigeria, further exacerbate maternal health risks by limiting access to healthcare facilities (Bello & Abdullahi, 2021). Climate variability and environmental challenges may also indirectly affect access to health services and economic stability (Adejuwon, 2018). Financial instability, lack of consistent income, and absence of social support can prevent women from saving adequately for delivery expenses. Conversely, male involvement and family support have been shown to significantly improve maternal health outcomes. Evidence from Tanzania demonstrates that community health worker engagement can enhance male involvement in maternal health, thereby improving preparedness (August *et al*., 2019).

Health system factors are equally important. Women must be able to identify skilled birth attendants and trust the competence of nearby health facilities. Supportive supervision and monitoring mechanisms have been shown to strengthen health program performance in Nigeria (Tegegne *et al*., 2018). Additionally, project evaluations in fragile settings such as South Sudan reveal that bridging gaps in maternal health requires strengthening community-level preparedness alongside facility-based care (Amir *et al*., 2019).

Although previous studies have explored knowledge and practice of BPCR in various Nigerian states, contextual differences necessitate localized assessment of associated factors. Mgbundukwu Model Primary Health Center in Port Harcourt serves a diverse urban population where traffic congestion, economic variability, and health system dynamics may uniquely influence preparedness. Understanding the specific logistical, financial, socio-cultural, family, and health system factors associated with BPCR in this setting is essential for designing effective interventions.

Therefore, this study aimed to assess the factors associated with birth preparedness and complication readiness among pregnant women attending antenatal clinic at Mgbundukwu Model Primary Health Center, Port Harcourt. Identifying these determinants will provide evidence-based recommendations for strengthening maternal health services and improving safe delivery outcomes in the community.

2. Methodology

2.1 Study Design

This study adopted a descriptive cross-sectional research design to assess the knowledge and practice of Birth Preparedness and Complication Readiness (BP/CR) among pregnant women attending antenatal clinic services. The cross-sectional approach enabled the collection of data from respondents at a single point in time in order to evaluate their level of preparedness for childbirth and potential obstetric complications.

2.2 Study Area

The study was conducted at Mgbundukwu Model Primary Health Center located at No. 1 Okija Street, by Emenike Bus Stop in Port Harcourt, Rivers State, Nigeria. The health facility is licensed by the Federal Ministry of Health as a primary healthcare center and provides a wide range of medical services including antenatal care, immunization, family planning, obstetrics and gynecology services, and treatment of infectious diseases. The antenatal clinic operates from Monday to Saturday on a 24-hour basis, offering services such as booking, health education, clinical examination of pregnant women, laboratory investigations, and prescription of medications by qualified healthcare professionals including nurses, midwives, and medical doctors.

2.3 Target Population

The target population for this study comprised all pregnant women attending antenatal clinic at Mgbundukwu Model Primary Health Center during the study period. The average monthly attendance of pregnant women at the antenatal clinic was estimated to be approximately 150.

2.4 Sample Size Determination

The sample size for this study was determined using the Taro Yamane formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Sample size

N = Total population (150)

e = Margin of error (0.05)

$$n = \frac{150}{1 + 150(0.05)^2}$$

$$n = \frac{150}{1 + 150(0.0025)}$$

$$n = \frac{150}{1.375}$$

$$n \approx 109$$

To account for possible non-response or attrition, an additional 10% of the calculated sample size was added:

10% of 109 ≈ 11

Therefore, the final sample size for the study was:

109 + 11 = **120 respondents**

2.5 Sampling Technique

A non-probability sampling technique was employed for the selection of respondents. Pregnant women who attended the

antenatal clinic during the study period and met the inclusion criteria were recruited consecutively until the required sample size was achieved.

2.6 Inclusion and Exclusion Criteria

Inclusion Criteria:

- Pregnant women attending antenatal clinic at Mgbundukwu Model Primary Health Center during the study period.
- Pregnant women who consented to participate in the study.

Exclusion Criteria:

- Pregnant women who were critically ill at the time of data collection.
- Pregnant women with mental health conditions that could impair effective communication.

2.7 Instrument for Data Collection

Data were collected using a structured, self-administered questionnaire designed by the researcher based on relevant literature and the objectives of the study. The questionnaire consisted of sections that assessed respondents' socio-demographic characteristics as well as their knowledge and practices regarding birth preparedness and complication readiness.

2.8 Validity of the Instrument

The validity of the research instrument was established through expert review. The questionnaire was examined by a research supervisor and a clinical data analyst to ensure content and face validity. Their observations and recommendations were incorporated into the final version of the instrument.

2.9 Reliability of the Instrument

The reliability of the questionnaire was tested using the Cronbach Alpha (α) method to determine internal consistency. The reliability coefficient obtained was 0.68, indicating an acceptable level of reliability for the instrument as recommended in similar social science and health-related studies.

2.10 Method of Data Collection

A total of 120 questionnaires were administered to eligible respondents with the assistance of antenatal clinic midwives over a period of seven days. Respondents were provided with clear instructions on how to complete the questionnaire, and the researcher closely monitored the data collection process to ensure accuracy and completeness of responses.

2.11 Method of Data Analysis

Data collected from the respondents were coded and entered into the Statistical Package for Social Sciences (SPSS) version 25 for analysis. Descriptive statistics such as frequency distribution, percentages, mean, and standard deviation were used to summarize the data, while inferential statistical tools including Pearson correlation and linear regression analysis were employed to test relationships between variables.

2.12 Ethical Consideration

Ethical approval for the study was obtained from the management of Mgbundukwu Model Primary Health Center prior to data collection. Informed consent was obtained from all participants after providing them with detailed information regarding the purpose and procedures of the study. Participation was voluntary, and respondents were assured of confidentiality and anonymity. Data collected were used strictly for research purposes and stored securely to prevent unauthorized access. The study adhered strictly to ethical guidelines governing research involving human participants.

3. Results

3.1 Response Rate of Respondents

A total of 120 questionnaires were distributed to pregnant women attending the prenatal clinic at Mgbundukwu Model Primary Health Center in Port Harcourt (Table 1). Out of these, 109 surveys were correctly completed and returned, for a response rate of 90.8%. This high response rate implies that respondents participated actively and provides a solid foundation for data analysis.

Table 1: The Response Rate of respondents

Questionnaire	F Frequency	Percentage (%)
Number Administered	120	100
Number Recieved	109	90.8

Source: field survey, 2024

3.2 Respondents' Socio-demographic Characteristics

3.2.1 Age Distribution

The age distribution of the respondents revealed that the majority of the pregnant women were within the reproductive age group of 21–40 years. Specifically, 7.3% of the respondents were aged 21–25 years, 22.0% were between 26–30 years, 33.0% were aged 31–35 years, and 31.2% were aged 36–40 years. Only 5.5% of the respondents were between 15–20 years, while 0.9% were within the age range of 41–45 years.

3.2.2 Marital Status

With respect to marital status, the majority (89.0%) of the respondents were married, while 5.5% were single. Additionally, 1.8% of the respondents were divorced and 3.7% were widowed.

3.2.3 Years of Marriage

Findings on the duration of marriage indicated that 37.6% of respondents had been married for 0–5 years, 36.7% for 6–10 years, and 23.9% for 11–15 years. A small proportion of respondents (0.9%) reported being married for 16–20 years and above 21 years respectively.

3.2.4 Residential Location

The residential distribution showed that 74.3% of the respondents resided within Mgbundukwu community, while 25.7% lived in other parts of Port Harcourt metropolis (Table 2).

Table 2: Respondents' Socio-demographic Characteristics

Characteristics		Frequency	Percentage (%)
Age group	15-20 years	6	5.5
	21-25 years	8	7.3
	26-30 years	24	22.0
	31-35 years	36	33.0
	36-40 years	34	31.2
	41-45 years	1	0.9
	Total	**109**	**100**
Marital Status	Single	6	5.5
	Married	97	89.0
	Divorced	2	1.8
	Widowed	4	3.7
	Total	**109**	**100**
Years of marriage	0-5 years	41	37.6
	6-10 years	40	36.7
	11-15 years	26	23.9
	16-20 years	1	0.9
	21 + years	1	0.9
	Total	**109**	**100**
Residential location	**Rural**	81	25.7
	Urban	28	74.3
	Total	**109**	**100**

3.3 Distribution: Socio-Demographic Characteristics of Respondents

Table 3 presents the distribution of respondents according to selected socio-demographic variables including tribe, occupation, educational level, and social status. The findings revealed that 42.2% of the respondents identified with the Yoruba tribe while 33.9% of the respondents comprises of pregnant women from other tribes such as Ogoni, Etche, Kalabari and Andoni. In terms of occupation, 17.4% of the respondents were civil servants, while the majority (89.0%) were business women or traders. Additionally, 1.8% of the respondents were unemployed, and 3.7% were employed in private companies.

Analysis of respondents' educational level showed that 18.3% had no formal education, 24.8% had completed O'Level education, 19.3% possessed a Diploma certificate, 32.1% had attained B.Sc./HND qualifications, and 5.5% had postgraduate degrees. This indicates that more than half (56.9%) of the respondents had attained at least a Diploma-level education.

Furthermore, assessment of respondents' social status based on family income revealed that 31.2% belonged to the lower social class, 33.9% to the middle class, while only 34.9% were categorized under the upper social class.

Table 3: Respondents' Socio-demographic Characteristics

Characteristics		Frequency	Percentage (%)
Tribe	Ikwerre	40	
	Yoruba	5	
	Igbo	15	13.8
	Hausa	11	10.1
	Others	37	33.9
	Total	**109**	**100**
Occupation	Civil servant	19	17.4
	Business woman	97	89.0
	Unemployed	2	1.8
	Private company Worker	4	3. 7
	Total		
		109	**100**
	No formal education		
Educational level	O'Level	20	18.3
	Diploma	27	24.8
	B.Sc/HND	21	19.3
	Postgraduate degree	35	32.1
	Total	6	5.5
		109	**100**
	Lower class		
Social status	Middle class	34	31.2
	Upper class	37	33.9
	Total	38	34.9
		109	**100**

3.4 Obstetric Characteristics of Respondents

3.4.1 Number of Previous Pregnancies

Analysis of respondents' obstetric history showed that 23.9% of the respondents were experiencing pregnancy for the first time (Table 4). Meanwhile, 20.2% had one previous pregnancy, 20.2% had two previous pregnancies, 18.3% had three previous pregnancies, 11.9% had four previous pregnancies, and 5.5% had five or more previous pregnancies.

3.4.2 Number of Living Children

Findings revealed that 25.7% of respondents had no living children, 21.1% had one child, 23.9% had two children, and 18.3% had three children, while 11.0% reported having four or more children.

3.4.3 Trimester of Current Pregnancy

With regard to gestational age, 13.8% of the respondents were in their first trimester, 31.2% were in their second trimester, and the majority (53.2%) were in their third trimester. Only 1.8% of the respondents reported being pregnant for more than nine months.

Table 4: Obstetric Characteristics of Respondents

Characteristics		**Frequency**	**percentage**
Number of previous pregnancy	none	26	23.9
	one	22	20.2
	two	22	20.2
	Three	20	18.3
	Four	13	11.9
	Five +	16	5.5
	TOTAL	**109**	**100**
Number of children alive	none	28	25.7
	one	23	21.1
	Two	26	23.9
	three	20	18.3
	Four+	12	11.0
	Total	**109**	**100**
Trimester of current pregnancy	1-3 months	15	13.8
	4-6 months	34	31.2
	7-9 months	58	53.2
	More than 9 months	2	1.8
	Total	**109**	**100**

3.5 Factors Associated with Birth Preparedness and Complication Readiness

This section presents the findings on the factors associated with birth preparedness and complication readiness (BPCR) among pregnant women attending antenatal clinic at Mgbundukwu Model Primary Health Center, Port Harcourt (Tables 5a & b).

Table 5a: Factors Associated with Birth Preparedness and Complication Readiness

S/N	**Statements** **Logistics**	**No** **F (%)**	**Yes** **F (%)**
1	The road from my house to the hospital is bad	85 (78.0)	24 (22.0)
2	Getting vehicle or ferry to the nearest hospital is not easy especially at night	59 (54.1)	50 (45.9)
3	There is usually traffic congestion along the way to the nearest hospital to me	53 (48.6)	56 (51.4)
S/N	**Statements** **Cultural/Religious Believes And Practices**	**No** **F (%)**	**Yes** **F (%)**
1	Planning for emergencies may invite misfortune	92 (84.4)	17 (15.6)
2	Planning for emergencies is against my religious believe	86(78.9)	23(21.1)
3	My culture does not give room for emergency measures like caesarean section (C.S) or hospital delivery.	100 (91.7)	9 (8.3)
S/N	**Statements**	**No**	**Yes**
Finance		**F (%)**	**F (%)**
1	I do not have the money to get the requirements for birth preparedness and complication readiness	79 (72.5)	30(27.5)
2	I do not have anyone to support me financially	92 (84.4)	17(15.6)
3	I do not have a constant and consistent source of income; hence I could not prepare properly for birth experience.	89 (81.7)	20 (18.3

3.5.1 Logistic Factors

With respect to transportation and access to health facilities, 78.0% of the respondents reported that the road from their residence to the hospital is motorable, while 22.0% indicated that the road is bad (Table 5a). However, despite generally good road conditions, 45.9% of respondents stated that obtaining transportation to the nearest hospital, especially at night, is difficult. In addition, 51.4% expressed concern about traffic congestion along the route to the hospital. These findings suggest that although infrastructure may not be a major barrier for most respondents, transportation availability and traffic delays remain significant logistical challenges that could affect timely access to skilled obstetric care during emergencies.

3.5.2 Cultural and Religious Beliefs

The majority of respondents did not perceive cultural or religious beliefs as barriers to BPCR. Only 15.6% agreed that planning for emergencies may invite misfortune, whereas 84.4% disagreed with this belief (Table 5a). Similarly, 21.1% reported that planning for emergencies is against their religious beliefs, while 78.9% did not share this view. Furthermore, only 8.3% indicated that their culture does not permit emergency measures such as caesarean section or hospital delivery, while a large majority (91.7%) reported no cultural restrictions. These findings indicate that cultural and religious beliefs were not major hindrances to BPCR practice among the respondents.

3.5.3 Financial Factors

Financial capacity emerged as an important factor influencing BPCR. Although 72.5% of respondents reported that they had sufficient money to meet the requirements for BPCR, 27.5% indicated that they lacked adequate funds (Table 5a). Additionally, 15.6% stated that they had no one to support them financially, and 18.3% reported having no constant or consistent source of income. While the majority appeared financially prepared, a notable proportion of respondents experienced financial instability, which may limit comprehensive birth preparedness.

3.5.4 Support from Family and Friends

Family and social support were generally strong among the respondents. Only 7.3% reported that their spouse does not care about their pregnancy, indicating that 92.7% receive spousal support (Table 5b). Similarly, 85.3% of respondents reported that they have someone who could donate blood in case of emergency, while 14.7% lacked such support. These findings suggest that family involvement and social networks play a supportive role in enhancing BPCR practices.

3.5.5 Difficulty in Identifying Skilled Birth Attendants

Regarding knowledge and identification of skilled birth attendants, 70.6% of respondents reported that they know how to determine whether a birth attendant is skilled, while 29.4% indicated that they do not (Table 5b). In addition, 78.0% believed that there are skilled birth attendants in the hospital closest to their residence, whereas 22.0% expressed doubts about the availability of skilled providers. Although most respondents demonstrated awareness and confidence in accessing skilled care, a significant minority lacked clarity in identifying competent birth attendants.

Summary of Key Associated Factors

Overall, the findings indicate that the major factors associated with BPCR among the respondents include logistical challenges (transport difficulties and traffic congestion), financial constraints (insufficient funds and unstable income), and difficulty in identifying skilled birth attendants. Cultural and religious beliefs were found to have minimal influence on BPCR practices, while spousal and family support were generally strong and acted as facilitators rather than barriers to preparedness.

Table 5b: Factors Associated with Birth Preparedness and Complication Readiness

	Statements **Support from Family And Friends**	**No** **F (%)**	**Yes (%)** **F (%)**
	My spouse does not care about my pregnancy	101 (92.7)	8 (7.3)
	I do not have anyone who can donate blood in case of emergencies for me	93(85.3)	16(14.7)
2	**Statements** **Difficulty in Identifying Skilled Birth Attendants**	**No** **F (%)**	**Yes (%)** **F (%)**
1	I do not know how to determine if my birth attendants are skilled or not	77 (70.6)	32 (29.4)
2	I don't think there is skilled birth attendants in the hospital closest to my house	85 (78.0)	24 (22.0)

Discussion of Findings

This study assessed factors associated with birth preparedness and complication readiness (BPCR) among pregnant women attending antenatal clinic at Mgbundukwu Model Primary Health Center, Port Harcourt. The findings demonstrate that while socio-cultural barriers were minimal and family support was strong, logistical challenges, financial instability, and gaps in identifying skilled birth attendants remain important determinants of preparedness.

Socio-Demographic Characteristics and Implications for BPCR

The majority of respondents were within the active reproductive age group of 26–40 years (86.2%), with 33.0% aged 31–35 years and 31.2% aged 36–40 years. Additionally, 89.0% were married and 56.9% had attained at least a Diploma qualification. These characteristics are generally associated with improved maternal health-seeking behavior and greater autonomy in decision-making. The relatively high educational attainment observed in this study likely contributed to the generally positive attitudes toward BPCR.

This finding aligns with studies conducted in Edo State by Tobin *et al*. (2014) and in South West Nigeria by Aduloju *et al*. (2017), where higher educational status significantly predicted better birth preparedness practices. Education enhances awareness of obstetric danger signs, facilitates financial planning, and increases utilization of skilled birth attendants.

Logistic Factors and Access to Care

Although 78.0% of respondents reported that the road to the hospital was not bad, substantial proportions identified transport-related challenges. Nearly half (45.9%) reported difficulty obtaining transportation at night, and 51.4% experienced traffic congestion en route to the hospital. These findings suggest that physical infrastructure alone does not guarantee timely access; availability and reliability of transport—especially during emergencies—remain critical.

The implications are significant in light of Nigeria's persistent maternal mortality burden as documented by Doctor *et al*. (2012), who emphasized delays in reaching facilities as a major contributor to maternal deaths in northern Nigeria. Similarly, national analyses by Fagbamigbe AF *et al*. (2021) highlighted structural and systemic barriers to skilled delivery care. Even in an urban setting like Port Harcourt, traffic congestion and nighttime transport limitations may constitute the "second delay" in the three-delay model.

Thus, while road conditions may be acceptable for most women, emergency mobility constraints remain a key vulnerability in BPCR implementation.

Cultural and Religious Beliefs

Cultural and religious barriers were minimal in this study. Only 15.6% believed that planning for emergencies invites misfortune, 21.1% felt it conflicts with religious beliefs, and merely 8.3% reported cultural resistance to caesarean section or hospital delivery. This indicates a relatively progressive perception of facility-based obstetric care among respondents. This finding contrasts with reports from more rural or conservative settings. For example, Kabakyenga *et al*. (2011) documented significant cultural misconceptions affecting BPCR in rural Uganda. The current study suggests that urbanization, higher literacy levels, and sustained antenatal health education in Port Harcourt may have mitigated such socio-cultural barriers.

Financial Constraints and Economic Stability

Although 72.5% reported having sufficient funds for BPCR requirements, a substantial minority (27.5%) lacked adequate financial resources. Additionally, 18.3% had no consistent source of income, and 15.6% lacked financial support from others. These figures underscore that financial instability remains a meaningful barrier for a notable segment of pregnant women.

Financial readiness is a central component of BPCR, as emphasized by Onoh *et al*. (2020) in Abakaliki and Akpan *et al*. (2017) in Calabar, who found that economic capacity significantly predicted preparedness. Even in this relatively urban and economically active sample—where 89.0% were traders or business women—income inconsistency may limit comprehensive preparation for emergencies such as blood transfusion, caesarean section, or prolonged hospitalization.

These findings suggest that BPCR interventions should integrate financial planning education and possibly community-based health insurance schemes to cushion emergency expenditures.

Family and Spousal Support

Family support emerged as a strong facilitating factor. A substantial 92.7% reported spousal involvement and concern regarding their pregnancy, while 85.3% had someone available to donate blood in case of emergency. These findings are encouraging and reflect a supportive social environment.

The positive role of male involvement aligns with evidence from Tanzania reported by August F *et al*. (2019), which demonstrated that community engagement strategies significantly improve maternal health preparedness. In this study, strong spousal support likely enhances decision-making speed, financial planning, and willingness to seek skilled care.

Identification of Skilled Birth Attendants

While 70.6% knew how to determine whether a birth attendant is skilled, 29.4% lacked this knowledge. Furthermore, 22.0% doubted the availability of skilled birth attendants in nearby facilities. These gaps are noteworthy because BPCR fundamentally depends on the timely utilization of skilled obstetric care.

This finding supports observations by Shehu *et al*. (2019), who noted that awareness does not always translate into adequate preparedness. Even among antenatal attendees, misconceptions or uncertainty about provider competence may delay care-seeking during emergencies.

Strengthening antenatal counseling to explicitly educate women on how to identify skilled providers—such as trained midwives, nurses, or doctors licensed to manage obstetric emergencies—could enhance confidence and improve facility-based delivery rates.

Obstetric Profile and Preparedness

The majority of respondents (53.2%) were in their third trimester, and 76.1% had experienced at least one previous pregnancy. Prior obstetric experience can positively influence preparedness due to experiential learning. However, multiparity does not automatically guarantee optimal planning. Continuous reinforcement of BPCR components during antenatal visits remains essential, particularly for first-time mothers (23.9%).

Overall Interpretation

In summary, this study reveals that BPCR among pregnant women in Mgbundukwu Primary Health Center is influenced primarily by:

- Logistic barriers (transport difficulty at night – 45.9%; traffic congestion – 51.4%)
- Financial instability (27.5% lacking adequate funds; 18.3% without stable income)
- Knowledge gaps in identifying skilled birth attendants (29.4%)

Conversely, cultural and religious beliefs appear to have minimal negative impact, and family support is generally strong.

These findings are consistent with Nigerian and broader Sub-Saharan African literature indicating that structural and economic determinants often outweigh cultural constraints in urban settings. The study reinforces the need for multifaceted interventions focusing on emergency transport planning,

economic empowerment, strengthened antenatal counseling, and improved communication about skilled birth attendance. By addressing these context-specific barriers within the primary healthcare framework in Port Harcourt, BPCR practices can be strengthened, ultimately contributing to reductions in preventable maternal morbidity and mortality.

Conclusion

This study assessed the factors associated with birth preparedness and complication readiness (BPCR) among pregnant women attending antenatal clinic at Mgbundukwu Model Primary Health Center, Port Harcourt. The findings demonstrate that BPCR in this urban primary healthcare setting is influenced more by structural and economic determinants than by socio-cultural barriers.

Logistical challenges—particularly difficulty in accessing transportation at night (45.9%) and traffic congestion (51.4%)—remain significant concerns that may delay timely access to skilled obstetric care during emergencies. Financial instability also poses a constraint, as 27.5% of respondents lacked adequate funds for BPCR requirements and 18.3% reported inconsistent income. Furthermore, nearly one-third (29.4%) were unable to confidently identify skilled birth attendants, indicating gaps in antenatal counseling and knowledge translation.

Conversely, cultural and religious resistance to emergency planning was minimal, and family support was generally strong, with high levels of spousal involvement (92.7%) and availability of potential blood donors (85.3%). These supportive social dynamics provide a strong foundation upon which targeted interventions can build.

In conclusion, improving BPCR in this setting requires strengthening emergency transport planning, enhancing financial preparedness mechanisms, and intensifying antenatal education on recognition of skilled birth attendants and obstetric danger signs. Addressing these context-specific barriers at the primary healthcare level will contribute meaningfully to reducing preventable maternal morbidity and mortality in Port Harcourt.

References

Adejuwon, J. O. (2018). Climate variability and the dichotomy in male–female school attendance: A case study of Zamfara State in semi-arid Nigeria. *Weather, 73*(4), 125–132.

Aduloju, O. P., Akintayo, A. A., Aduloju, T., & Akin-Akintayo, O. O. (2017). Birth preparedness and complication readiness among prenatal attendees in a teaching hospital in South West Nigeria. *International Journal of Gynecology & Obstetrics, 139*(2), 202–210. https://doi.org/10.1002/ijgo.12271

Akpan, U., Asibong, U., Ekott, M., Moko, B., & Etuk, S. (2017). Awareness and factors that influence birth preparedness and complication readiness among pregnant women attending antenatal clinic in the General Hospital Calabar, Nigeria. *Nigerian Journal of Public Health Research, 7*(3), 78–84.

Amir, A., Seidman, D. S., Amene, W., & Herbst, R. L. (2019). Evaluation of a maternal health care project in South Sudan: How do we bridge the gap in the millennium development goal for maternal health? *Rural and Remote Health, 19*(1), 4710. https://doi.org/10.22605/RRH4710

August, F., Pembe, A. B., Mpembeni, R., Axemo, P., & Darj, E. (2019). Community health workers can improve male involvement in maternal health: Evidence from rural Tanzania. *Global Health Action, 12*(1), 1633. https://doi.org/10.3402/gha.v9.30064

Bello, B., & Abdullahi, M. M. (2021). Farmers' herdsmen conflict, cattle rustling, and banditry: The dialectics of insecurity in Anka and Maradun local government area of Zamfara State, Nigeria. *SAGE Open, 11*(4), 21582440211040117.

Doctor, H. V., Olatunji, A., Findley, S. E., Afenyadu, G. Y., Abdulwahab, A., & Jumare, A. (2012). Maternal mortality in northern Nigeria: Findings of a health and demographic surveillance system in Zamfara State, Nigeria. *Tropical Doctor, 42*(3), 140–143. https://doi.org/10.1258/td.2012.120062

Emma-Ukaegbu, U. C., Nwokeukwu, H. I., & Uzochukwu, B. S. (2014). An assessment of birth preparedness and complication readiness in antenatal women in Umuahia North Local Government Area, Abia State. *IOSR Journal of Dental and Medical Sciences, 13*, 90–94.

Fagbamigbe, A. F., Bello, S., Salawu, M. M., Afolabi, R. F., Gbadebo, B. M., & Adebowale, A. S. (2021). Trend and decomposition analysis of risk factors of childbirths with no one present in Nigeria, 1990–2018. *BMJ Open, 11*(12), e054328. https://doi.org/10.1136/bmjopen-2021-054328

Kabakyenga, J. K., Östergren, P. O., Turyakira, E., & Pettersson, K. O. (2011). Knowledge of obstetric danger signs and birth preparedness practices among women in rural Uganda. *Reproductive Health, 8*, 33. https://doi.org/10.1186/1742-4755-8-33

Mukhopadhyay, D. K., Mukhopadhyay, S., Bhattacharjee, S., Nayak, S., Biswas, A. K., & Biswas, A. B. (2013). Status of birth preparedness and complication readiness in Uttar Dinajpur District, West Bengal. *Indian Journal of Public Health, 57*(3), 147–154. https://doi.org/10.4103/0019-557X.119827

Onoh, R. C., Egede, J. O., Lawani, L. O., Ekwedigwe, K. C., Aja, L. O., & Anozie, B. O. (2020). Birth preparedness and complication readiness among women of reproductive age group in Abakaliki, Southeast Nigeria. *Nigerian Journal of Clinical Practice, 23*(3), 362–370. https://doi.org/10.4103/njcp.njcp_670_18

Orukwowu, U & Ene-Peter (2022). The Knowledge and Attitude of Pregnant Women towards Cesarean Section in the University of Port Harcourt Teaching Hospital (UPTH). IPS Journal of Basic and Clinical Medicine, 1(3): 1-12.

Orukwowu, U., & Wonodi, V. O. (2024). Impact of nutrition on blood pressure and body mass index of staff of Rivers State College of Health Science and Management Technology, Port Harcourt, Rivers State. IPS Journal of Public Health, 4(1), 88–95.

Orukwowu, U., Nwondah, C., Wogu, D. & Akpan, I. J. (2022). Relationship between knowledge and practice of physical activity and development of chronic diseases among adults in Port Harcourt, Rivers State. Journal of Advances in Medicine and Medical Research. 34(1): 88-104.

Shehu, C. E., Ekele, I. O., & Panti, A. A. (2019). Awareness, acceptance and practice of birth preparedness and complication readiness in a university teaching hospital. *International Journal of Scientific Research, 8*(7), 867–871.

Tegegne, S. G., Shuaib, F., Braka, F., Mkanda, P., *et al*. (2018). The role of supportive supervision using mobile technology in monitoring and guiding programme performance: A case-control study in Nigeria. *BMC Public Health, 18*(Suppl 4), 75–81. https://doi.org/10.1186/s12889-018-6189-8

Tobin, E. A., Ofili, A. N., Enebeli, N., & Enueze, O. (2014). Assessment of birth preparedness and complication readiness among pregnant women attending primary health care centres in Edo State, Nigeria. *Annals of Nigerian Medicine, 8*(2), 76–81.

Urassa, D. P., Pembe, A. B., & Mganga, F. (2012). Birth preparedness and complication readiness among women in Mpwapwa District, Tanzania. *Tanzania Journal of Health Research, 14*(1), 42–47. https://doi.org/10.4314/thrb.v14i1.8