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ORIGINAL RESEARCH

Perceived Roles of Spouse Involvement and Maternal Gravidity in Enhancing Birth Preparedness and Complication Readiness in Selected Communities of Lagos State, Nigeria

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Abstract

Background: Birth Preparedness and Complication Readiness (BPCR) involves proactive planning for childbirth, including transportation, skilled attendance, financial savings, and identifying blood donors. In low-resource settings like Nigeria, husbands' involvement is essential as they often influence healthcare decisions. Additionally, maternal gravidity affects preparedness; multigravida women are generally more experienced, while primigravidae may be less informed. Understanding the combined effects of spousal involvement and gravidity is critical for improving maternal outcomes.

Objective: To assess pregnant women's perceptions of spouse's involvement and the influence of gravidity on BPCR in Ijanikin and Oto-Awori communities, Lagos State, Nigeria

Methods: A descriptive cross-sectional design was adopted. Using multi-stage sampling, 216 pregnant women were recruited. Data were collected using a validated self-structured questionnaire (Cronbach's alpha = 0.891 for demographics and 0.794 for BPCR-related items) and analysed using SPSS v21. Descriptive statistics and Pearson correlation were applied at a 0.05 significance level.

Results: Among respondents, 65.3% reported spousal support for skilled delivery; 69.9% indicated no financial planning by husbands. While 62.0% stated their husbands recognised danger signs, 64.8% had transport plans. Most participants (63.9%) were multigravida and demonstrated better BPCR awareness. A significant positive correlation existed between spouse involvement and BPCR ($r = .153$, $p = .025$), and a negative correlation between low gravidity and BPCR ($r = -.148$, $p = .030$).

Conclusion: Spousal involvement and maternal gravidity significantly affect BPCR. Strengthening male participation and enhancing education for primigravida women may improve maternal health outcomes in similar low-resource contexts.

Keywords: Birth preparedness, Complication readiness, Maternal mortality, Obstetric emergencies, Spousal involvement.

Introduction

The World Health Organisation (WHO) asserts that the elevated incidence of maternal fatalities in some areas of the world is indicative of disparities in access to healthcare services, thereby emphasising the divide between affluent and impoverished populations. Nearly one hundred per cent of global maternal deaths are recorded in developing nations, with over fifty per cent occurring in Sub-Saharan Africa, and almost one-third transpiring in South Asia. Moreover, a significant proportion of maternal fatalities arises in fragile and humanitarian contexts.[1]

According to a WHO report, Nigeria is the second-highest country for maternal deaths, contributing around 29% of the global total of 290,000 fatalities annually. [2] This poses a risk to achieving the Sustainable Development Goals for reducing maternal and newborn mortality by 2030. [3] Women die from complications during pregnancy, childbirth, and postpartum. Some pre-existing complications worsen during pregnancy. Major complications causing 80% of maternal deaths include severe bleeding (mainly after childbirth), infections (usually post-childbirth), high blood pressure during pregnancy (pre-eclampsia and eclampsia), and unsafe abortion. [4] Most maternal deaths are preventable, as effective healthcare solutions are known and can be applied through basic maternal and child health services. Educating expectant mothers and families about childbirth can significantly reduce life-threatening delays in medical care. [5]

Birth preparedness extends beyond acquiring baby clothes; it encompasses physiological, psychological, and physical preparations for the pregnant woman and her family to ensure a safe delivery and a smooth postpartum period. Educating the mother and family to recognise normal labour signs is crucial.[6] Delivery can occur days or weeks before or after the estimated due date, typically calculated from the last normal menstrual period. Knowing the signs and process of labour helps expectant mothers feel more confident as childbirth approaches. Clear guidance on features indicating the onset of labour, such as recognising cramping pain or amniotic fluid leakage, is essential. [7]

Birth preparedness requires making arrangements for delivery in advance. The key components include organising transportation, allocating funds for childbirth, selecting a qualified healthcare provider, identifying a medical facility for emergencies, and designating a potential blood donor, if necessary. A birth plan focuses on woman-centred care, which can lead to improved outcomes. The BPCR is a strategy to promote safe motherhood by encouraging the timely use of maternal and neonatal services during childbirth, ensuring proper preparation and informed decision-making. To optimise maternal health services and ensure access to skilled childbirth assistance, awareness of obstetric danger signs, adherence to birth preparedness practices, and readiness for emergency complications are essential. [8,9]

In many regions globally, cultural norms and limited awareness hinder families from adequately preparing for childbirth in advance. [10] Consequently, measures are frequently undertaken only at the onset of labour. A significant number of expectant mothers and their families lack awareness of the warning signs indicative of potential complications. When such issues emerge, their insufficient preparation often results in delays in recognising the problem and arranging necessary finances, transportation, and access to appropriate healthcare facilities. [11] Many women struggle to make critical decisions due to the absence of a pre-established plan. The concepts of birth preparedness and complication readiness (BPCR) are crucial for mitigating delays in accessing medical care.

The most overlooked aspect of maternal health services, which poses a significant concern in Nigeria, is the lack of involvement of husbands in birth preparedness and complication readiness during childbirth. This oversight is of particular concern given the crucial decision-making role that husbands play in family affairs, including skilled birth attendance.[12] Developing nations increasingly leverage BPCR as strategies to enhance safe motherhood initiatives, aimed at preventing maternal mortality and addressing the potential complications associated with pregnancy and delivery. This approach can be effectively implemented through the efforts and support of male partners, as husbands are influential decision-makers within the household. The husband or male partner is responsible for BPCR, including recognising danger signs, arranging for a birth attendant, selecting an appropriate delivery location, setting aside funds for transportation, and identifying a potential blood donor. These initiatives foster early access to expert maternal and neonatal care. Enhanced male involvement in maternal health care has the potential to reduce maternal mortality by facilitating well-planned births and preparing for possible complications. [13,14]

A study rated a husband as well involved if he made arrangements for at least three of the six birth preparedness and complication readiness practices: identifying a birth kit, finding a skilled attendant, saving money for delivery, knowing where to go for emergencies, arranging transportation in advance, or contacting a blood donor beforehand. [15] A study revealed that nearly half (43.2%) of the husbands responded to five or more BPCR components. This indicates that some male partners are engaged in birth preparedness and complication readiness, which can positively influence decision-making regarding maternal care. [16]

Research has extensively explored the role of spouses in BPCR. Maternal factors, such as gravidity, are known to play a crucial role in preparedness levels. Women who are multigravida, having gone through previous pregnancies, typically exhibit a higher level of awareness and readiness for childbirth along with its potential complications. Conversely, primigravida women may lack this experiential insight, potentially leading to insufficient preparation. A study in Gambia on birth preparedness and complication readiness indicated that 71.9% of respondents had experienced more than one delivery, with 62.9% reporting eventful pregnancies that shaped their approach to birth preparedness and complication readiness.[17] A study found that more than half of respondents reported five or more danger signs during delivery, and approximately a third reported five or more during the postnatal period. [16] Mothers with a history of stillbirth were better prepared for birth than those without. In Ethiopia, 21.4% of respondents delivered their last child in a health institution, and 79% attended at least one antenatal clinic during their previous pregnancy. [18] Mothers fearing birth complications were more likely to participate in ANC visits and give birth in health facilities.

The concepts of BPCR are essential for advancing maternal and child health. Substantial research conducted on male involvement in these areas has primarily utilised information gathered from male partners. There is a lack of recognition regarding pregnant women's perspectives on their husbands' participation in BPCR. Among the various factors considered in this context, the role of a woman's gravidity has been overshadowed by other elements. This study aimed to evaluate pregnant women's assessments of their husbands' involvement and the role of gravidity in promoting BPCR within a low-resource setting of Lagos State, Nigeria.

Methods

The study utilised a descriptive, cross-sectional method to examine pregnant women in Ijanikin and Oto-Awori Communities of the Suburb of Lagos State.

Ethical Consideration

Ethical approval was obtained from the Babcock University Health Research Ethics Committee (BUHREC) with protocol approval number BUHREC156/21. Informed consent was obtained from each participant after a thorough verbal and written explanation of the study objectives, procedures, potential risks, and benefits.

Sample size determination

The estimated population of pregnant women in Ijanikin was 216, while Oto-Awori had 185. The estimated population size was obtained from the pregnant women register submitted to the office of the Apex Nurse in the Department of Nursing at Oto-Awori/Ijanikin Local Government. Also, the addresses of the pregnant women were scrutinised to exclude those who were not living in the two communities. The Cochran formula was used to calculate the sample size as 385, and since the entire population of pregnant women in the research settings was 401 (less than 10,000), it was corrected to 196. With the addition of a 10% non-response rate, the final sample size was 216.

Sampling Technique

A multi-stage sampling technique was employed to select participants for the study from Ijanikin and Oto-Awori, the two study sites.

Stage 1: *Stratification of the study area.* The entire study area was first divided into two main strata based on geographical and administrative boundaries: the Ijanikin and Oto-Awori communities.

Stage 2: *Cluster sampling of households*. Within each community, cluster sampling was applied. Neighbourhoods (also known as enumeration areas) were grouped into clusters. These clusters served as the primary units from which households were selected.

Stage 3: *Identifying eligible households*. All households in the selected clusters were screened to identify those with at least one pregnant woman at the time of data collection. This screening was conducted with the support of local community health workers and traditional leaders, who provided household listings and verified the status of pregnant women. A total of 219 eligible households were identified in the two communities, containing 401 pregnant women.

Stage 4: *Systematic random sampling*. From the 401 eligible pregnant women, a systematic random sampling method was used to select the final sample of 216 respondents. The sampling interval (k) was calculated as: K= 401 ÷216 = 1.86 A random starting point between 1 and 2 was chosen, and every 1.86th woman on the ordered list was selected using a cumulative fractional approach (1st respondent was selected; 1 + 1.86 = 2.86 ≈ 3). Therefore, the 2nd respondent will be in the 3rd position. This ensured the even distribution of individuals chosen throughout the sample pool. Where multiple eligible women resided in the same household, the selection process was designed to maintain balance and reduce intra-household clustering, while still achieving the target sample size.

Instrument for data collection

The data collection instrument was a self-structured questionnaire. The reliability of the instrument was tested using Cronbach's Alpha model technique to ensure internal consistency and construct validity of the instrument, with the values of 0.891 for Demographic data and 0.794 for husband involvement and gravidity. Data was obtained for the period of six weeks; two days that are not market days and antenatal visit days were chosen after speaking to the heads of the communities, who gave suggestions on a convenient day to ensure the availability of the pregnant women. The women were gathered under a shed at the centrally located local government building between the two

communities. Two Research Assistants assisted with the administration of the instrument.

Data analysis

The survey data were checked for completeness. The data were then coded and analysed electronically using the Statistical Package for Social Sciences (SPSS) version 21. The data were presented using descriptive statistics in the form of frequencies, percentages, and tables, while hypotheses were tested using a Pearson correlation coefficient at a 0.05 level of significance.

Results

Demographic profile

The majority of respondents were aged 28–37 years (39.8%), predominantly married (58.3%), and a significant proportion (36.1%) had only secondary education. 46.8% of the respondents were employed, and over half (51.4%) identified as Yoruba.

Spouse Involvement and Birth Preparedness/Complication Readiness

Regarding spouse involvement in Birth Preparedness and Complication Readiness (BPCR), 65.3% of husbands supported delivery by skilled birth attendants, while 64.8% arranged transportation. However, only 30.1% had saved money for childbirth, indicating limited financial preparedness. Notably, 76.4% of husbands expressed concern for their family's health, and 62.0% were aware of obstetric danger signs. Despite these encouraging indicators, only 47.7% of husbands had attended at least four antenatal visits with their wives.

Maternal Gravidity and Birth Preparedness and Complication Readiness

Close to two-thirds (63.9%) of women were multigravida and showed higher awareness of complication readiness compared to 36.1% who were primigravida and less informed. Additionally, 43.5% of respondents reported greater preparedness in subsequent pregnancies due to prior negative birth experiences, while 77.8% agreed that complications in previous pregnancies improved their preparedness.

Relationships between spouse involvement, maternal gravidity and Birth Preparedness/Complication Readiness

Table IV reveals significant relationships between spouse involvement and birth preparedness ($r = 0.153$, $p = 0.025$) and between low maternal gravidity and complication readiness ($r = -0.148$, $p = 0.030$).

Table I: Sociodemographic profile of the respondents

Variable	*Frequency*	*Percentage*
Age (Years)		
18-27	81	37.5
28-37	86	39.8
38-47	49	22.7
Marital status		
Single	59	27.3
Married	126	58.3
Divorce	27	12.5
Widow	4	1.9
Level of education		
No formal education	63	29.2
Primary education	43	19.9
Secondary education	78	36.1
Tertiary education	32	14.8
Occupation		
Employed	101	46.8
Self-employed	80	37
Unemployed	35	16.2
Tribe		
Yoruba	111	51.4
Igbo	79	36.6
Hausa	26	12

Table II: Spouse Involvement in Birth Preparedness and Complication Readiness

Item	*Frequency*	*Percentage*
My husband supports me in giving birth with a skilled birth attendant	141	65.3
My husband plans to save money for childbirth	65	30.1
My husband cares about the health of his family, including my unborn child.	165	76.4
My husband knows the key danger signs during pregnancy	134	62
My husband plans a mode of transportation to a place of delivery	140	64.8
My husband did not accept my pregnancy; therefore, I did not prepare for delivery.	59	27.3
My husband is not educated, hence I did not prepare for the pregnancy	85	39.4
I have bought all the delivery items needed in the hospital	126	58.3
My husband attended at least three antenatal clinic sessions with me	103	47.7

Table III: Maternal Gravidity in relation to Birth Preparedness and Complication Readiness

Item	*Frequency*	*Percentage*
This is not my first pregnancy, so I know about birth preparedness and complication readiness at childbirth	138	63.9
I did not have a problem in the previous pregnancies, and I believe there will not be problems with this pregnancy	111	51.4
I had delivery(s) with a traditional birth attendant before, and there were no problems	83	38.4
I have learnt my lesson in the previous pregnancy the hard way, so I am preparing for both delivery and any complications to prevent losses	94	43.5
This is my first pregnancy; I do not know what you are talking about	78	36.1
Experience of complications in the previous pregnancy helps pregnant women prepare well for subsequent pregnancies	168	77.8

Table IV: Correlation analysis of the relationship between Birth Preparedness/Complication Readiness and spouse involvement and maternal gravidity

		Spouse involvement	**Maternal Gravidity**
Birth Preparedness/ Complication Readiness	R	0.153	-0.148
	p-value (2-tailed)	0.025	0.03

R – Pearson Correlation Coefficient

Discussion

This study explored the relationships among spouse involvement, maternal gravidity, and their combined influence on Birth Preparedness and Complication Readiness (BPCR) among pregnant women in low-resource settings of Lagos State, Nigeria. The findings demonstrate meaningful associations that hold significance for clinical practice, community health interventions, and future research in maternal healthcare.

The study shows that the majority indicated their husbands supported skilled birth attendance and arranged transportation for delivery. However, only about a third reported that their husbands made financial preparations for childbirth. In a similar study, 86.8% of respondents reported that their husbands had identified a delivery location.[19] In contrast, research conducted in South Gondar reveals that 81.7% of men saved money for delivery, 16.8% identified a skilled birth attendant, 11.2% named a potential blood donor, and 74.6% helped their wives attend antenatal care (ANC) visits.[14] Furthermore, the findings of this study differ from those that found that only 30.2% of husbands participated in planning for birth preparedness and complication readiness.[20] This difference in results may stem from variations in countries and cultures where the studies were performed. This study reveals a significant gap in male involvement, where support tends to be more moral or logistical rather than including proactive financial

commitment, which is crucial for emergency obstetric situations.

The strong relationship between spouse involvement and BPCR in this study supports the existing research indicating that male engagement in maternal health positively influences health-seeking behaviours and promotes timely access to skilled care. This finding is consistent with another study that found that over half of respondents (55.9%) could identify five or more obstetric danger signs during delivery. In comparison, 31.0% were aware of at least five danger signs during the postnatal period. These findings highlight the necessity of including men in antenatal education initiatives and maternal health policies. Health facilities and community outreach efforts ought to engage men in prenatal classes, birth preparation, and decision-making activities. Establishing male-friendly antenatal care settings and engaging traditional leaders in advocacy could improve cultural acceptance.

The study also revealed that multigravida women had a higher level of knowledge about BPCR than primigravida women. This preparedness, stemming from past experiences, was evident, as most respondents felt that complications during previous pregnancies had helped them be better prepared for future ones. In contrast, 36.1% of primigravida women confessed to lacking knowledge about handling complications. This contrasts with a study assessing the knowledge, attitudes, and practices of primigravida women regarding birth preparedness, which found that over half of the primigravida women demonstrated a good level of preparedness. At the same time, 35.0% and 6.5% had a moderate and poor level of practice, respectively. [21] The contrast may arise from the study's exclusive focus on primigravida women.

The notable inverse correlation between gravidity and readiness to respond to complications suggests that first-time mothers may be more susceptible to delayed responses in obstetric emergencies. This supports previous studies showing that primigravida women, lacking experience, may fail to recognise the significance of preparing for childbirth and potential emergencies. This highlights the importance of personalised antenatal counselling. Primigravida women should receive priority for comprehensive health education regarding obstetric danger signs, the importance of skilled birth attendance, and the necessary preparations for emergencies. Antenatal clinics should implement varied health education strategies tailored to gravidity levels to enhance learning outcomes.

Conclusion

Spouse involvement and maternal gravidity significantly influence birth preparedness and complication readiness (BPCR). Enhancing male engagement and offering targeted antenatal education for first-time mothers are key strategies to improve maternal health outcomes in low-resource settings.

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