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MARRIED MEN'S KNOWLEDGE AND PARTICIPATION IN BIRTH PREPAREDNESS AND COMPLICATIONS READINESS IN THE FEDERAL CAPITAL TERRITORY, ABUJA, NIGERIA

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Abstract.

Male involvement in maternal healthcare is a critical aspect of social and behavioral change, encouraging married men to play active roles in supporting maternal health to enhance the wellbeing of women and children while reducing maternal mortality and morbidity. This study aimed to assess married men's knowledge and participation in birth preparedness and complications readiness to improve maternal health outcomes. A cross-sectional study design was employed, involving 400 married men selected through multistage sampling. Data were collected using a structured, interviewer-administered questionnaire. The findings revealed that men with a higher number of children were approximately three times less likely to participate in birth preparedness and complication readiness compared to men with fewer children. Additionally, respondents with good knowledge of birth preparedness were 5.6 times more likely to actively participate in these activities compared to those with poor knowledge, a statistically significant finding. Multivariate logistic regression analysis identified key predictors of participation in birth preparedness and complication readiness, including the number of children (aOR 2.97, CI 1.02-8.66, p=0.04), good communication with spouses (aOR 3.1, CI 4.0-228, p=0.01), and good knowledge of birth preparedness and complication readiness (aOR 5.6, CI 10-100, p=0.003). While the majority of respondents demonstrated good knowledge of birth preparedness, participation levels were relatively low. Contributing factors to participation included effective communication with spouses, the number of children, and the number of wives. These findings highlight the need for targeted interventions to enhance male involvement in maternal healthcare, addressing barriers and leveraging enablers to improve maternal health outcomes.

Keywords: knowledge, Participation, Fathers, Birth preparedness, Complication

Introduction

Globally, an estimated 303,000 maternal deaths occur annually from causes related to pregnancy and childbirth, with 99% of these deaths occurring in developing countries and Sub-Saharan Africa accounts for nearly half (44%) of these deaths (Kakaire, 2011 & WHO, 2019). The vast majority of these deaths (94%) occurs in low-resource settings, and is largely preventable. Despite global and regional efforts to reduce maternal mortality, progress has been slow, particularly in countries like Nigeria. Nigeria alone contributes about 20% of global maternal deaths, with a maternal mortality ratio of 576 per 100,000 live births (National Population Commission, 2013). While several factors influence maternal health, including socioeconomic and environmental factors, one critical but often overlooked determinant is the role of men in maternal healthcare (Mullick, 2005).

Male involvement in maternal healthcare is not merely a supportive role but an essential aspect of fostering better maternal and child health outcomes. It is described as a process of social and behavioral change that enables men to assume more responsible roles in maternal health care. This involvement includes active participation in discussions about maternal health, joint decision-making with spouses regarding care-seeking and supporting access to maternal health services (United Nations Population Fund, 1995). Unfortunately, policymakers, program planners, and implementers of maternal health services have often failed to fully integrate men into maternal health promotion, prevention, and care programs, limiting the effectiveness of these initiatives (Consultant, 1995). Studies from developing countries have highlighted the positive impact of male participation in maternal health on improving women's access to antenatal and postnatal care (Tokhi et al., 2018). Recognizing this, the World Health Organization (WHO) recommends the active involvement of men during pregnancy, childbirth, and the postpartum period as a key

intervention to enhance maternal and newborn health outcomes (World Health Organization, 2019). This approach aligns with efforts to achieve the Sustainable Development Goals (SDGs), particularly SDG 3, which focuses on reducing global maternal mortality to less than 70 per 100,000 live births. Addressing gender-based inequalities and promoting male involvement in maternal healthcare systems are pivotal steps toward achieving these targets (Couples, 1996).

In the context of Nigeria, where cultural norms often dictate male dominance in household decision-making, male involvement in maternal healthcare becomes even more critical. Men's understanding of birth preparedness and complications readiness is vital to ensuring timely access to maternal health services and reducing delays that could lead to adverse outcomes. Educating men about maternal health risks and equipping them with knowledge to support their spouses can improve maternal health outcomes, foster shared responsibility, and bridge gaps in care. This study aimed to assess married men's knowledge of and participation in birth preparedness and complications readiness to improve maternal health outcomes. By identifying barriers and facilitators of male involvement, the findings provide valuable insights for designing targeted interventions to promote men's active engagement in maternal healthcare and contribute to reducing maternal mortality and morbidity.

Methods

Study Design and Setting

The study was a cross-sectional community-based study on married men's knowledge and participation in birth preparedness and complication readiness in the Federal Capital Territory, Abuja, Nigeria.

Study Population

The study population consisted of married men between the ages of 18 and above living in the community, and has been married with at least a child in the last six months in the Federal Capital Territory, Abuja.

Sampling Technique

The minimum sample size (n) was calculated using the formula

$$n = \frac{z^2 pq}{d^2}$$

Where n = the minimum sample size, Z = the percentage point of the standard normal distribution curve, which the curve defines 95% confidence interval as 1.96, P = the prevalence rate from previous study, q = complimentary probability i.e 1- p, d = maximum sampling error allowed (precision) at 95% confidence level i.e. 0.05. Prevalence rate of 63.4% obtained from a previous study conducted on male involvement in maternal health care was used (Mfuh, 2016). A sample size of 400 was used for the study after accounting for non-response. Multi-stage sampling technique was use to select respondents.

Study Instrument

In this study, a structured pretested interviewer administered questionnaire was used. The questionnaire was adapted from previous studies and it provided answers to the research questions and hypotheses therein; titled “married men’s knowledge and participation in birth preparedness and complication readiness in the FCT, Abuja”. The questionnaire has four sections, section A: collected information on socio-demographic characteristics of respondents. Section B: Knowledge

of birth preparedness and complication readiness. Section C: Involvement in birth preparedness and complication readiness in partner's last confinement. Section D: Motivations for participation, barriers and reasons for non-participation. Community entry was made to the "Mai angwa" of each settlement used for the study informing them and seeking their permission and cooperation in carrying out the study. During data collection, the purpose and nature of the study was explained to the respondents and confidentiality was guaranteed and consent was sought before administering data to respondents.

Data Analysis

The questionnaires were crosschecked for errors and cleaned. The data collected was entered into IBM SPSS Statistics version 26 and analyzed. Quantitative variables were summarized using range and median as the data obtained was skewed and did not conform into a normal distribution curve. Categorical variables were tabulated using frequencies and percentages. The Chi-square test was used for test of significance and level of significance was set at <0.05. Knowledge of birth preparedness and complication readiness has 16 questions; each correct response score is one while wrong response is zero. The knowledge was then summed and graded as 1-5 as poor knowledge, 6-10 as fair and >10 as good knowledge. Participant's participation in birth preparedness and complication readiness was scored also as one for correct answer and zero for incorrect answer. The level of participation was then summed up and graded as poor and good participation in birth preparedness and complication readiness of the respondents. Logistic regression was used to analyze factors responsible for male participation in birth preparedness and complication readiness. These factors were variable which were statistically significant (<0.05) during bivariate analysis. Adjusted ORs and their respective 95% confidence Interval (CI) were obtained.

Ethical Approval

Ethical approval was obtained from the Federal Capital Territory Health Research Committee. A letter of introduction was also obtained from the Department of Community Medicine, College of Health Sciences, Nile University of Nigeria and taken to each area council and district head. Oral consent was also sought and obtained from the respondents before administering the questionnaire and confidentiality of all information obtained was assured.

Results

Socio-demographic characteristics among Study Respondents

A total of 400 men were involved in the study and 90.3% response rate was achieved. The age range of respondents was 18-69 years with mean age of 39±1 years. Most of the respondents (65.1%) had tertiary education and 30.5% of them were civil servants (Table 1).

Table 1a: Socio-demographic Profile of the Married Men Studied (N= 361)

Profile	Frequency	Percentage (%)
Age (years)		
18 – 28	35	9.7
29 – 38	139	38.5
39 – 48	119	33.0
49 – 58	53	14.7
≥59	15	4.2
Total	361	100
Religion		
Islam	200	55.4
Christianity	155	42.9
Others	6	1.7
Total	361	100
Level of education		
Non – formal	15	4.2
Primary	20	5.5

Secondary	91	25.2
Tertiary	235	65.1
Total	361	100
Occupation		
Farmer	33	9.1
Trader	97	26.9
Artisan	35	9.7
Civil servants	110	30.5
Drivers	19	5.3
Teachers	14	3.9
Others	53	14.7
Total	361	100

Table 1b: Socio-demographic Profile of the Married Men Studied (N= 361)

Profile	**Frequency**	**Percentage (%)**
Ethnicity		
Hausa	94	26.0
Fulani	20	5.5
Igbo	64	17.7
Yoruba	71	19.7
Igala	17	4.7
Ebira	17	4.7
Edo	16	4.5
Others	62	17.2
Total	361	100
Number of wives		
1	313	86.7
2	38	10.5
3	4	1.1
4	4	1.1
Others	2	0.6
Total	361	100
Number of children		
≤ 1	64	17.7
2- 4	215	59.6
> 4	82	22.7

Total	361	100
Monthly income		
Below minimum wage	40	11.1
Minimum wage	29	8.0
Above minimum wage	292	80.9
Total	361	100

Association between Socio-demographic characteristics and participants Participation in Birth preparedness and complication Readiness

There is a statistically significant association between participants participation in birth preparedness and number of wives (χ^2=5.585, P<0.039), number of children (χ^2=10.273, P<0.006), communication with spouse (χ^2=13.837, P<0.003) and knowledge of birth preparedness and complication readiness (χ^2=11.981, P<0.003). The more the wives and children of the man the less the likelihood of participation in birth preparedness and complication readiness of respondents (Table 2)

Table 2: Factors Associated with Married Respondents Participation in Birth Preparedness and Complication Readiness (N=361)

Characteristics	Participation in Birth Preparedness and Complication Readiness				
	Ever participated	**Never participated**	**Total**	χ^2	***p*-value**
	n(%)	**n(%)**	**n(%)**		
Age(years)					
<30years	33 (89.2)	4 (10.8)	37 (100.0)	0.430	0.520*
≥30years	299 (92.3)	25 (7.7)	324 (100.0)		
Education					
Non-formal	12 (80.0)	3 (20.0)	15 (100.0)	3.034	0.110*
Formal	320 (92.5)	26 (7.5)	346 (100.0)		
Number of wives					
1	292 (93.3)	21 (6.7)	313 (100.0)	5.585	0.039*
>1	40 (83.3)	8 (16.7)	48 (100.0)		
Ethnicity					
Hausa	85 (90.4)	9 (9.6)	94 (100.0)		
Fulani	19 (95.0)	1 (5.0)	20 (100.0)	5.305	0.257
Igbo	63 (98.4)	1 (1.6)	64 (100.0)		
Yoruba	63 (88.7)	8 (11.3)	71 (100.0)		
Others	102 (91.1)	10 (8.9)	112 (100.0)		

Religion					
Islam	183 (91.5)	17 (8.5)	200 (100.0)		
Christianity	143 (92.3)	12 (7.7)	155 (100.0)	0.601	0.740
Others	6 (100.0)	0 (0.0)	6 (100.0)		
Number of children					
0 – 1	58 (90.6)	6 (9.4)	64 (100.0)	10.273	0.006
2 – 4	205 (95.3)	10 (4.7)	215 (100.0)		
>4	69 (84.1)	13 (15.9)	82 (100.0)		
Occupation					
Farmers	31 (93.9)	2 (6.1)	33 (100.0)		
Traders	85 87.6)	12 (12.4)	97 (100.0)	6.881	0.140*
Artisans	30 (85.7)	5 (14.3)	35 (100.0)		
Civil servants	105 (95.5)	5 (4.5)	110 (100.0)		
Others	81 (94.2)	5 (5.8)	86 (100.0)		
Monthly household income					
Below ₦30,000	33 (82.5)	7 (17.5)	40 (100.0)	7.535	0.018*
₦30,000	25 (86.2)	4 (13.8)	29 (100.0)		
Above ₦30,000	274 (93.8)	18 (6.2)	292 (100.0)		
Communication with spouse					
Poor	5 (100.0)	0 (0.0)	5 (100.0)	13.837	0.003*
Fair	63 (81.8)	14 (18.2)	77 (100.0)		
Good	264 (94.6)	15 (5.4)	279 (100.0)		
Knowledge of birth preparedness					
Poor Knowledge	74 (92.5)	6 (7.5)	80 (100.0)	11.981	0.003
Fair knowledge	117 (86.0)	19 (14.0)	136 (100.0)		
Good knowledge	141 (97.2)	4 (2.8)	145 (100.0)		

Factors affecting Knowledge and Participation of respondents in birth preparedness and complication readiness

The number of wives of respondents was statistically associated with men's participation in birth preparedness and complication readiness. Similarly, the number of children was statistically association with participation in birth preparedness and complication readiness. The higher the number of wife and children the less likely the respondents participates in birth preparedness and complication readiness. Also, income of participants was statistically associated with participation in birth preparedness and complication readiness among respondents Multivariate logistics regression showed that number of children (aOR 2.97, CI 1.02-8.66, P Value= 0.04), good

communication (aOR 3.1, CI 4.0-228, p Value= 0.01) knowledge of birth preparedness and communication readiness (aOR 5.6, CI 10-100, p Value= 0.003) are predictors of participation in birth preparedness and complication readiness among respondents (Table 3).

Table 3: Predictors of Married Men's Participation in Birth Preparedness and Complication Readiness (N=361)

Variables	95% C.I. for EXP(B)		Adjusted Odds ratio	p-value
	Upper	**Lower**		
Marriage type				
Monogamous	Referent			
Polygamous	3.274	0.315	1.015	0.980
Total number of children				
≤1	Referent			
2- 4	4.452	0.369	1.281	
>4	8.659	1.024	2.978	0.045
Total household income				
Below minimum wage	Referent			
Minimum wage (₦30,000)	1.428	0.166	0.487	
Above minimum wage	1.545	0.122	0.434	0.197
Communication with spouse				
Poor communication	Referent			
Fair communication		0.000	169193419.0	
Good communication	22.794	3.985	3.1	0.012
Knowledge of birth preparedness				
Poor Knowledge of birth preparedness	Referent			

Fair Knowledge of birth preparedness	35.294	2.360	3.0	
Good knowledge of birth preparedness	100	10	5.6	0.003

Discussion

Men's knowledge of birth preparedness and complication readiness among the respondents in the study was relatively good, as the majority demonstrated good knowledge, while others exhibited fair knowledge of these concepts. This aligns with findings from similar studies conducted in Benin City and Ibadan, Nigeria, where most respondents had good knowledge of birth preparedness and complication readiness (Ai et al., 2013; Odimegwu et al., 2022; Olayemi, 2009). However, this contrasts with findings from studies conducted in Northern Nigeria and Ethiopia, which reported overall poor knowledge among respondents (Olugbenga-Bello, 2013; Tamiso, 2015). The relatively good knowledge level among respondents in this study could be attributed to the higher proportion of tertiary-educated participants, their exposure to antenatal services, and their involvement in their partners' pregnancies, especially those with fewer children.

Bleeding, swollen legs and face, and prolonged labor were the danger signs most commonly identified by respondents. This is likely because these signs are directly associated with pregnancy and labor. However, fewer respondents correctly identified convulsions as obstetric complications and danger signs. This may be due to the multifactorial nature of convulsions, which are not always directly linked to obstetric issues. Similar findings were reported in a study conducted in Ogun State, where vaginal bleeding and swollen legs and face were the most frequently known danger signs in pregnancy (Sodeinde, 2020). Correctly identifying danger signs is crucial for ensuring timely interventions. Failure by husbands, often the primary decision-makers in families, to recognize these signs can result in adverse outcomes for both the mother and child (Iliyasu, 2010).

The study highlights poor knowledge as a significant factor contributing to men's low participation in maternal and child healthcare. Men with better knowledge of birth preparedness and complication readiness were significantly more likely to accompany their wives to antenatal, delivery, and postnatal clinics. This finding aligns with Tweheyo's (2010) study, which emphasized the positive impact of male knowledge on participation. The study also found that men with good knowledge of birth preparedness were 5.6 times more likely to participate in birth preparedness and complication readiness than men with poor knowledge.

The number of children emerged as a significant predictor of participation. Men with more children were about three times less likely to participate in birth preparedness and complication readiness than men with fewer children. This finding is consistent with studies conducted in Ghana and Kenya (Craymah, 2017; Nyamai, 2019) but contrasts with findings from Tanzania and Ethiopia, where increased numbers of children were linked to higher male participation in maternal health, attributed to fertility preferences and familiarity with the health system (Gibore, 2019; Worku, 2020). The decline in participation observed in this study may stem from the excitement of first-time fathers, which diminishes over time with subsequent children and, in some cases, the addition of more wives. Men often cited their partners' previous pregnancies as influencing their reduced involvement in subsequent pregnancies.

Blood donation during antenatal visits was notably low among respondents, with more than half reporting that they had not donated blood during this period. Blood donation is highly recommended during antenatal care to mitigate delays in emergencies by providing a readily available blood supply during delivery or postpartum complications. However, more respondents

reported donating blood during delivery and the postnatal period, findings consistent with previous studies (WHO, 2015; Okunola, 2021).

Conclusion

This study examined the knowledge and participation of married men in birth preparedness and complication readiness. While most men demonstrated good knowledge, only a few actively participated in maternal healthcare practices. Factors significantly influencing participation included good communication with spouses, knowledge of birth preparedness, fewer children, and fewer wives. The study underscores the importance of targeted awareness and education programs for men, family members, and healthcare workers to highlight the critical role of male involvement in maternal and child healthcare. Encouraging men to take active roles as decision-makers in their families can improve participation in birth preparedness and complication readiness, ultimately enhancing maternal and child health outcomes.

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