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Gynaecology

Elixir Gynaecology 93 (2016) 39310-39314



Knowledge of Birth Preparedness and Complication Readiness: Male Perspective in Benin City, Edo State

Obi Andrew Ifeanyichukwu¹ and Okojie Hilda Obehi¹,²

¹Department of Community Health, University of Benin, Benin City, PMB 1154, Edo State.

² Department of Community Health, University of Benin Teaching Hospital, Benin City, PMB 1111, Edo State.

ARTICLE INFO

Article history:

Received: 6 February 2016; Received in revised form: 26 March 2016; Accepted: 31 March 2016;

Keywords

Benin City, Birth preparedness and complication readiness, Knowledge, Male Respondents.

ABSTRACT

Nigeria contributes 14% to the global estimate of maternal deaths. The role of men in maternal and child health interventions is understudied despite the crucial and indispensable role they play. This study was carried out to assess knowledge of birth preparedness and complication readiness (BPACR) and associated factors among male respondents in Benin City, with a view to improving their participation and support in maternal and child health interventions. A community based analytical cross sectional study was conducted in Benin City. Interviewer administered pretested structured questionnaires were used to interview 237 consenting male partners/family members of pregnant women in selected communities in Benin City. Data collected was sorted for completeness, coded, entered and analysed using SPSS version 20.0 statistical software. Results were presented as pros, tables and figures; bivariate and multivariate analysis was carried out in line with study objective, statistical significance was set at p<0.050 and 95% confidence interval. The mean age of male respondents studied was 37.8 ± 9.9 years, 191(75.8%) of them were in the Upper Socio-economic class (SEC) while 61(24.2%) in Lower SEC. In relation to knowledge of BPACR, 219(92.4%) of them had good knowledge while 18(7.6%) had fair knowledge of BPACR. Awareness of BP (OR=0.131; 95% (CI) 0.051 - 0.334; p <0.001) was the only significant predictor identified that influenced knowledge of BPACR. Respondents who never heard of Birth Preparedness (BP) were 7.7 times less likely of having good knowledge of BPACR than those who had heard of BP. Majority of respondents had good knowledge of BPACR. There is need to sustain this level of knowledge on BPACR, through regular awareness and sensitization programmes involving men as relevant stakeholders needed for the success of maternal and child health interventions.

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Introduction

Nigeria contributes 14% to the global burden of maternal mortality; which is an important indicator for assessing reproductive health programs and services in any country¹. In developing countries, pregnancy, childbirth and other reproductive health interventions continue to be viewed as a predominantly a woman's issue with low male involvement and participation². The role of men in reproductive health is also not encouraging especially in relation to antenatal care; this observation in Africa remains understudied, despite the economic dominance and decision making power accorded men in deciding the timing and conditions of sexual relations, family size, and spousal utilization of available health care services among others³. The rising maternal deaths profile reported in Nigeria between the 2008 and 2013 Demographic Health surveys¹ is very worrisome as Nigeria failed to achieve the Millennium Development Goals (MDG) 4 and 5.

Appropriate male engagement and involvement is a very crucial resource that could help address some of the challenges associated with the high maternal morbidity and mortality reported in developing countries especially Nigeria. The need for better level of male engagement in maternal and child health intervention has been continuously re-echoed and this was further buttressed in a recent study in Benin City⁴.

Research⁵ have shown that pregnant women face the risk of sudden, unpredictable complications that could endanger not

only her life but that of her child; this is unreliably predicted in 15% of pregnant women, it is therefore pertinent to employ strategies such as Birth Preparedness and Complication Readiness (BPACR) to overcome such problems as they arise⁵. Inadequate or lack of advance planning for use of skilled birth attendants for normal and the deliveries or in event of obstetric complications/emergencies, are well documented factors contributing to delays in deciding to and receiving skilled obstetric care, such delays have contributed significantly to maternal morbidity and mortality globally especially in developing countries⁵. Knowledge of BPACR among male partners/spouses have been shown to positively influence their level of participation and spousal utilization of skilled care services during antenatal care and delivery^{2,6}. Similarly, findings from a study¹⁴ in Osun state (South West Nigeria) conducted to assess the role of men in emergency obstetric care, identified a high level of awareness of emergency obstetric condition by men particularly in relation to danger signs in pregnancy and labor pains (53.2%); these men also played useful roles during their partner's obstetric conditions (89.2%) as their spouses were able to make informed

Tele: +2348023447122.

E-mail address: andrew.obi@uniben.edu

decisions during emergency in the absence of their male partners. This study showed that education was a key determinant for this change in male knowledge and behavior. It is evident that knowledge of danger signs in pregnancy, labor, delivery and in the new born are key factors that could contribute to delays in deciding to seek care during such situations⁴⁻⁶. This study was therefore carried out to assess knowledge of birth preparedness and complication readiness (BPACR) and associated factors among male respondents in Benin City, with a view to improving their knowledge and participation in maternal and child health interventions.

Materials and Method

A community based analytical cross sectional study was conducted in Benin City. Interviewer administered pretested structured questionnaires were used to interview 237 consenting male partners/family members of pregnant women in selected communities in Benin City. Data collected was sorted for completeness, coded, entered and analysed using SPSS version 20.0 statistical software. Results were presented as pros, tables and figures; bivariate and multivariate analysis was carried out in line with study objective, statistical significance was set at p<0.050 and 95% confidence interval. Benin City is the capital of Edo State and comprises three Local Government Areas:-Egor, Oredo and Ikpoba-Okha Local Government Areas respectively. Benin City has an estimated population of 1,086,882 people comprising 542,545 and 544,337 males and females respectively⁸. The study populations are predominantly Benin speaking, other ethnic groups include Esan, Etsako with other indigenous and nonindigenous tribes⁹. There is a high literacy rate¹⁰ (75.6%) in Edo State with a large distribution of public and private health institutions 11 .

A community based analytical cross sectional study design was utilized for this study between February 2012 and June 2012. Two hundred and thirty seven intervieweradministered pretested structured questionnaires administered to male partners/family members of pregnant women in Benin City. The sample size was calculated using the Cochran formulae for simple proportion in a descriptive cross sectional study¹² based on 72.5% prevalence of male participation from a previous study ¹³. The questionnaire was adapted from the safe mother hood questionnaire 14 developed by maternal and neonatal health program of JHPIEGO; it was divided into sections with questions addressing sociodemographic characteristics and knowledge of birth preparedness and complication readiness of respondents. A multistage sampling technique was used to select male participant for the study.

Knowledge on BPACR among male respondents was assessed based a points score system developed by researcher, this involved 45 questions relating to knowledge of danger signs in pregnancy, labour, deliver, new born care and components of BPACR strategy in the questionnaire. Every correct response was given a maximum point score of one while a point score of zero for all incorrect responses thus giving a maximum point score of 45, this scoring system had a reliability (Cronbach's alpha) score of 0.777. Final categorization of level of knowledge on BPACR was based on percentage point score by respondents; having percentage score of \leq 49.9% was graded as poor knowledge, 50-69.9% fair knowledge and \geq 70% good knowledge.

Data collected was sorted for completeness, coded, entered and analyzed using SPSS 20.0 statistical software with

results presented as statements, frequency tables and figures. Bivariate analyses was conducted using Chi square and fishers' exact test to identify independent variables that influenced knowledge of preparedness towards birth preparedness and complication readiness, subsequently logistic regression analysis was carried out to identify significant predictors and eliminate possible confounders. Statistical significance was set at p<0.050 and 95% confidence interval.

Ethical clearance was sought and obtained from the Ethics and Research Committee of the University of Benin Teaching Hospital, Benin City, Edo State before the commencement of the study. Institutional approval was also obtained from the Department of Hospital Services Edo State Ministry of Health, the three Local Government Areas respectively. Informed consent was willfully obtained from the respondents before the commencement of the study; respondents were also informed of the voluntary nature of participation in the study as they could withdraw participation at any stage of the interview. There was no inducement (financial or otherwise) for respondents who agreed to participate in the study.

Limitation of Study

Self-reporting may have introduced reporter bias as it may be difficult verifying claims provided by respondents studied.

Results

The mean age of male respondents studied was 37.8 ± 9.9 years, 191(75.8%) of them were in the Upper Socioeconomic class (SEC) while 61(24.2%) in Lower SEC. In relation to knowledge of BPACR, 219(92.4%) of them had good knowledge while 18(7.6%) had fair knowledge of BPACR. Awareness of BP (OR=0.131; 95% (CI) 0.051 - 0.334; p <0.001) was the only significant predictor identified that influenced knowledge of BPACR. Respondents who never heard of Birth Preparedness (BP) were 7.7 times less likely of having good knowledge of BPACR than those who had heard of BP.

The mean age of respondents studied was 37.8 ± 9.9 years; 221(42.1%) of them were married, 22(8.7%) cohabiting and 2(0.8%) single.

In relation to the educational status, 123(48.8%) had completed secondary education while 6(2.4%) had no formal education. In terms of religion, 246(87.7%) were Christians while 2(0.8%) practiced African Traditional Religion (ATR). Based on ethnicity, 115(45.6) were Benin, 45(17.9%) Esan and least being 2(0.8%) Igala. In relation to the socioeconomic classification of respondents, 191(75.8%) were in the Upper SEC while 61 (24.2%) in Lower SEC (See Table 1)

Table 2 shows that 205(86.5%) of respondents were aware of BP while 32 (13.5%) were not aware. One hundred and forty four (70.2%) of respondents identified family, 132 (64.3%) identified health providers and 119(58.1%) friends, as their source(s) of information with the least being school 6(2.9%). In relation to knowledge on components of BPACR, 236(99.6%) and 235(99.2%) mentioned identifying mode of transport and saving money respectively as the predominant component of birth preparedness while 103(43.5%) mentioned identifying blood donor. In relation to responses on danger signs in pregnancy and labour Table 3 shows that vaginal bleeding 237(100%), blurred vision 227(95.6%), convulsion 228(96.2%), severe weakness 225(95.2%) and severe abdominal pain 228 (96.2%) were the most commonly reported danger signs in pregnancy with the least being nausea and vomiting 64(27.0%). Also, the most commonly mentioned danger signs during labour were severe vaginal bleeding 237 (100.0%) and convulsion 236(99.6%) with the least being constipation 74(31.2%). Furthermore, in relation to responses on danger signs in the new born, difficulty in breathing 229(96.8%), jaundice 231(97.6%), poor sucking and pus 227(96.0%), bleeding or discharge from the umbilicus 237(100.0%) and pinkish skin 42 (17.7%) were mentioned. In relation to components of new born care the following responses were obtained (See Table 3); eye care 250(99.0%), Cord care 244 (96.8%), exclusively breast feeding 237 (94.0%) and appropriate clothing 208 (82.5%). In relation to level of knowledge on BPACR, 219(92.4%) respondents had good knowledge while 18(7.6%) had fair knowledge none had poor knowledge of BPACR (Figure 1)

Table 4 relates to factors associated with level of knowledge on BPACR among male respondents, there was a relative decrease in knowledge of BPACR with increasing educational status of respondents and this association was statistically significant (p=0.03). Also in relation to awareness on BP, 195(95.1%) respondents who had heard of birth preparedness, were more knowledgeable of BPACR compared to 24 (75.0%) who had not heard of BP, and this association was statistically significant (p<0.01). In contrast to the above, marital status (p=0.16), Socio-economic status (p=0.101), frequency of ANC attendance (p=0.96) by male respondents studied were not significant factors associated with level of knowledge on BPACR. Furthermore, multivariate logistic regression analysis on predictors for knowledge of BPACR identified awareness of BP (OR=0.131; 95%(CI) 0.051-0.334; p<0.001) as the only significant predictor of good knowledge of BPACR among male respondents studied; those respondents who had never heard of BP were 7.7 times less likely of having good knowledge of BPACR compared to those who have heard of Birth preparedness. Age groups, socioeconomic class, number of children, ANC attendance, marital and educational status were not identified as significant predictors for good knowledge on BPACR.

Discussion

This study identified that majority of male respondents studied had good knowledge of BPACR, with awareness identified as a significant predictor for this knowledge. The high level of knowledge among respondents studied is very encouraging as this observation if well harnessed could promote better and improved male involvement and participation in reproductive health interventions. This high level of knowledge of BPACR could in part be attributed to the observation that a good proportion of respondents studied were in the upper socio-economic class and as such could be enlightened individuals; in addition, majority of them had at least two children and as such could have gained knowledge and exposure over time on the subject matter. Similarly, findings from studies in Osun State⁷ and Ibadan¹³ South Western identified high level of awareness on obstetric emergencies and male involvement in ANC and delivery respectively. In relation to pregnancy signs and labor pains, these men played useful roles during their partner's obstetric conditions and their spouses were able to make key decisions during emergency obstetric conditions in the absence of their male partner⁷. The study showed that education was a key determinant of male knowledge and behavior. There is no doubt that knowledge of danger signs in pregnancy, labor, and

after delivery is a key factor in reducing delays in prompt decision making to seek help during emergency situation⁵.

This study equally identified that over a third of respondents studied accompanied their wife to ANC and as such could have leveraged on that opportunity to enhance their knowledge on pregnancy and other relevant maternal health issues, in addition, obtaining clarification were necessary. This finding is very encouraging considering the fact that in sub-Saharan Africa, pregnancy and childbirth continues to be viewed as solely a woman's affair with male participation at ANC and delivery considered as rare findings^{3,15}. Male involvement in maternal health is critical to ensuring considerable reduction in maternal morbidities and mortality and aid the actualization of successful implementation of maternal and child health interventions.

Similarly, low levels of male attendance in antenatal have also been reported in other studies ¹⁶⁻¹⁷ in El Salvador, Central America, Greece and Northern Nigeria ³.

In contrast to the above, Ugandan Studies ^{2,6} identified association between knowledge of obstetric emergencies and antenatal care with ANC attendance, as men who accompanied their wives for ANC were more knowledgeable about antenatal services and obtained health information directly from health workers than those who did not accompany their wife for ANC. These studies also showed that respondents who utilized skilled attendants in previous pregnancy were more likely to utilize same in index pregnancy. The importance of men's role in reproductive health cannot be over emphasized; not just as change agents but also through their reinforcing role in care and support can improve maternal and child health outcome.

Conclusion

Majority of male respondents studied had good knowledge of BPACR. There is need to sustain this level of knowledge on BPACR, through regular awareness and sensitization programmes involving men who are relevant stakeholders needed for the success of maternal and child health interventions.

Acknowledgement

We wish to specially appreciate all respondents who participated in this study, Research assistants, Edo State Ministry of Health, Egor, Ikpoba-Okha and Oredo Local Government councils for permission to carry out this study.

Competing Interest

We wish to state that this study is free of any competing interest and was fully sponsored by the Authors.

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Appendix

Table 1. Socio-Demographic Characteristics of spouse/male partners of pregnant women in Benin City.

Variable	Frequency (n=237)	Percent	
Age Group(Years)			
15-24	2	0.8	
25-34	99	41.8	
35-44	104	43.9	
≥45	32	13.5	
Marital Status			
Never Married	22	9.3	
Ever Married	215	90.7	
No of Children			
≤ 1	68	28.7	
2- 4	141	59.5	
>4	28	11.8	
Religion			

Christianity	231	97.5
-		
Islam	4	1.7
ATR	2	0.8
Educational Status		
None	1	0.4
1 ⁰ Completed	46	19.4
2 ⁰ Completed	119	50.2
3 ⁰ Completed	71	29.9
Socio-Economic Class (SEC)		
Upper SEC	179	75.5
Lower SEC	58	24.5
ANC Attendance		
Yes	91	38.4
No	146	61.6

Table 2. Knowledge of birth preparedness and complication readiness (BPACR) among spouse/male partners of pregnant women in Benin City.

Variable	Frequency (n=237)	Percent	
Awareness of BP			
Have Heard	205	86.5	
Never Heard	32	13.5	
Source* of information (n= 205)			
Family	144	70.2	
Health Provider	132	64.3	
Friend	119	58.1	
Media	67	32.7	
School	6	2.9	
Knowledge of Components* of BPACR			
Identify a mode of transport	236	99.6	
Save money(emergency fund)	235	99.2	
Identify blood donor	103	43.5	
Identify skilled provider	221	93.2	
Identify health facility	229	96.6	

*Multiple responses

Table 3. Knowledge of Danger Signs* in Pregnancy,
Labour, New born and New born Care by Spouse/Male
Partners of pregnant women in Benin City

Partners of pregnant women in Benin City			
Danger Signs*	Frequency(n=237)	Percent	
Danger Signs* in			
Pregnancy			
Vaginal bleeding	237	100.0	
Severe headache	218	92.0	
Blurred vision	227	95.8	
General body weakness	111	46.8	
Convulsion	228	96.2	
Swollen leg and face	116	48.9	
High fever	206	86.9	
Loss of consciousness	218	92.0	
Nausea and vomiting	64	27.0	
Difficulty breathing	192	o81.0	
Severe weakness	225	94.9	
Severe abdominal pain	228	96.2	
Accelerated and reduced	215	90.7	
fetal movement			
Water breaks without	187	78.9	
labour			
Danger Signs* in			
Labour			
Severe vaginal bleeding	237	100.0	
Severe headache	217	91.6	
Frequent urination	116	48.9	
Convulsion	236	99.6	
High fever	219	92.4	
Loss of consciousness	212	89.5	
Painful uterine	119	50.2	

201	84.8
202	85.2
74	31.2
237	100
229	96.6
231	97.5
227	95.8
237	100.0
194	81.9
202	85.2
42	17.7
216	91.1
222	93.7
225	94.9
197	83.1
236	99.6
230	97.0
	202 74 237 229 231 227 237 194 202 42 216 222 225 197 236



Figure 1. Level of Knowledge on BPACR among spouse/male partners of pregnant women in Benin City

*Multiple Responses

Table 4. Factors Associated with level of knowledge of BPACR among spouse/male partners of pregnant women in Benin City (n=237).

Variable	Level of	knowledge	Total	Test Statistic	P
	Fair Knowledge	Good Knowledge	Freq.(%)		
	(Freq.%)	(Freq.%)			
Age Group(years)					
15-24	1(50.0)	1(50.0)	2(100.0)	fishers exact=7.33	0.020
25-34	4(4.0)	95(96.0)	99(100.0)		
35-44	9(8.7)	95(91.3)	104(100.0)		
≥45	4(12.5)	28(87.5)	32(100.0)		
Marital Status					
Never Married	0(0.0)	22(100.0)	22(100.0)	$\chi^2 = 2.432$	0.119
Ever Married	18(8.4)	197(91.6)	215(100.0)	70	
Educational Status	, ,	, ,	, ,		
None	0(0.0)	1(100.0)	1(100.0)	fishers exact=6.25	0.130
1 ⁰ Completed	2(4.3)	44(95.7)	46(100.0)		
2 ⁰ Completed	6(5.0)	113(95.0)	119(100.0)		
3 ⁰ Completed	10(14.1)	61(85.9)	71(100.0)		
Socio-Economic Class					
Upper SEC	16(8.9)	163(91.1)	179(100.0)	$\chi^2 = 1.881$	0.170
Lower SEC	2(3.4)	56(96.6)	58(100.0)		
Awareness of BP					
Yes	8(25.0)	24(75.0)	32(100.0)	$\chi^2 = 15.969$	< 0.001
No	10(4.90	195(95.1)	205(100.0)	,,,	
	OR=0.131	95%CI=0.051 - 0.334	, ,		
Follow Spouse for ANC					
Yes	7(7.7)	84(92.3)	91(100.0)	$\chi^2 = 0.002$	0.964
No	11(7.5)	135(92.5)	146(100.0)	70	