

Birth Preparedness and Complication Readiness among Pregnant Women Attending Antenatal Classes at Primary Health Center in Ibadan, Nigeria

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Abstract

Maternal mortality has been reported to be a challenge globally, with the highest maternal mortality in Africa. However, the first target for the third Sustainable Development Goal (SDG) is to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030. To achieve this goal, pregnant women's knowledge of birth preparedness and complication readiness (BPCR) is a key. Therefore, this study set out to assess knowledge of birth preparedness and complication readiness among pregnant women attending antenatal classes. This pilot study adopted a descriptive cross-sectional study design using quantitative approach. Structured questionnaire was used to generate data from 46 respondents after obtaining ethical approval for the study. All data collected were adequate for data analysis. The mean age is 27.71 years with a standard deviation of 5.85, the average booking time was 4.69 months. Among the respondents who had given birth before, the average number of children was two children (1.8571). After categorizing the knowledge scores, 52.2% of the women have good knowledge of obstetric danger signs, 20 (43.5%) of the women have poor knowledge of BPCR and 32 (69.6%) of the respondents have good knowledge of skilled birth attendants. In conclusion, there is a need to formulate policies and strategies that will help to improve pregnant women's knowledge of BPCR if the first target of the third SDG will be achieved.

Keywords

Birth Preparedness, Complication Readiness, Skilled Birth Attendance, Pregnancy, Childbirth

1. Introduction

The World Health Organization (WHO) has a vision of universal coverage of health care [1] which corroborates the third Sustainable Development Goal (SDG)—to ensure healthy lives and promote wellbeing for all at all ages [2]. However, due to disparity in the health systems, pregnant women in developing countries like Nigeria have a high risk of mortality [3]. The risk of maternal mortality in the sub-Saharan region is estimated to be 1 in 38 [4], while is estimated to be 1 in 3700 in the developed nations of the world. Additionally, the maternal mortality ratio (MMR) in Nigeria is at 814 per 100,000 live births, this contributes 62% of maternal deaths in the world [4]. In spite of this high MMR, there are proven interventions that are known to prevent maternal deaths. These include birth preparedness and complication readiness (BPCR) resulting in skilled attendance for pregnancy and childbirth as well as access to emergency obstetric care. It is obvious that women should be knowledgeable about birth preparedness and complication readiness [5]. The knowledge will empower them and their families to make prompt decisions to seek skilled care from health facilities during pregnancy, childbirth and immediately after delivery [6]. A previous study [7] conducted among pregnant women in Nigeria documented high awareness of the concept of BPCR, however, knowledge of obstetric danger signs which is a sub-set of BPCR was reported to be poor in the same study. Although, it is expected that pregnant women who receive antenatal care are supposed to be educated on BPCR, yet there is limited information on knowledge of BPCR among pregnant who received antenatal care. It is, therefore, important to have information on the knowledge of BPCR among pregnant women which is paramount to improved skilled birth attendance and subsequently to the reduction of maternal and neonatal mortality. We, therefore, assessed the knowledge of pregnant women on birth preparedness and complication readiness as well as their knowledge of skilled birth attendants.

2. Methodology

A pilot study which adopted a descriptive cross-sectional design and utilized quantitative approach was conducted among pregnant women attending antenatal clinic in a health facility in Iddo local government area of Ibadan, Nigeria. Random sampling technique was used to select a primary healthcare center and a total of 46 respondents (which is 10% of the calculated sample size for a planned intervention study in another setting) were purposively selected for the study using the inclusion criteria of pregnant women who have registered and were attending antenatal clinic in the selected health facility. The instrument for the study was a validated instrument (semi-structured/structured questionnaire) adapted from the “Monitoring birth preparedness and complication readiness tools and indicators for maternal and new-born health” developed by Johns Hopkins Program for International Education in Gynaecology and Obstetrics [5]. It was modified in consultation with experts in the field of reproductive as

well as maternal and child health researcher, clinician (practitioner) and statistician. It contained 59 items which were sub-divided into sections A - F. Section A: socio-demographic characteristics; section B: past and present obstetric history; section C: knowledge of obstetric danger signs; section D: knowledge of birth preparedness and complication readiness; section E: attitude towards birth preparedness and complication readiness and section F: knowledge of skilled birth attendants. The knowledge score was classified as good knowledge at 50% and above. The study has 100% response rate from data collection and all the data collected were adequate for data analysis. Ethical approval was obtained prior to the commencement of data collection. Preliminary checking of the questionnaires for error was done. The data was entered into SPSS version 21, double-entry was done to reduce error. Percentages were used to summarize categorical variables, while the mean and standard deviation was used to summarize continuous variables. Chi-square was used for hypothesis testing, the statistical significance of independent variables' effect was set at $p < 0.05$.

3. Results and Comments

Few 2 (4.3%) of the participant are single while the rest of them are married, only 1 (2.2%) of the women has no formal education. Also, 34 (73.9%) of the participants are Muslims while there was none practicing traditional religion (**Table 1**).

The minimum age of the respondents is 18 years and the average age is 27.71 years with a standard deviation of 5.85, some of the participants delay their booking as late as the 7 months, though the average booking time was 4.69 months. Among the participants who had given birth before, the average number of children was 2 children *i.e.* (1.8571) (**Table 2**).

After categorizing the classes of the scores; 24 (52.2%) of the women has good knowledge of obstetric danger signs, 20 (43.5%) of the women has poor knowledge of birth preparedness and complication readiness while 32 (69.6%) of the participants have good knowledge of skilled birth attendants (**Table 3**).

Despite high awareness of birth preparedness and complication readiness reported among nursing mothers in a previous study [7] in Nigeria, yet a poor knowledge of birth preparedness and complication readiness was reported by another study [8] among pregnant women.

The hypotheses testing reveals that there is no significant association between the clients' educational level and knowledge at all levels (**Table 4**).

4. Discussion

The booking visit for pregnant women serves as their entry point for antenatal care. Hence, the World Health Organization (WHO) recommended booking to be done at/or before three months (12 weeks) of pregnancy in focused antenatal care model and to be done before four months (14 weeks) in traditional antenatal model [9]. However, this study revealed that some of the respondents delayed

Table 1. Socio-demographic characteristics of the respondents.

Variables	Frequency	Percent
Marital Status		
<i>Single</i>	2	4.3
<i>Married</i>	44	95.7
Highest educational level		
<i>No formal education</i>	1	2.2
<i>Incomplete secondary school</i>	5	10.9
<i>Complete secondary school</i>	24	52.2
<i>Tertiary education</i>	16	34.8
Religion		
<i>Christianity</i>	12	26.1
<i>Islam</i>	34	73.9
Ethnicity		
<i>Yoruba</i>	44	95.7
<i>Others</i>	2	4.3
Husband's Highest educational level		
<i>Incomplete Secondary School</i>	1	2.3
<i>Complete secondary school</i>	19	44.2
<i>Tertiary education</i>	23	53.5
Is this your first pregnancy		
<i>No</i>	28	60.9
<i>Yes</i>	18	39.1
How many delivery(ies) have you had		
<i>One</i>	11	39.3
<i>Two</i>	12	42.9
<i>Three</i>	3	10.7
Have you had any delivery in any other place apart from the hospital		
<i>No</i>	21	75.0
<i>Yes</i>	7	25.0

Table 2. Descriptive statistics.

Variables	N	Min.	Max	Mean	Std. Dev
Age of respondent	45	18.00	42.00	27.7111	5.8489
How many months pregnant are you now	44	3.00	9.00	6.1818	1.5778
How many months pregnant were you when you came for antenatal booking	44	1.00	7.00	4.6932	1.4715
How many times have you attended antenatal clinic since you got pregnant	45	0.00	10.00	3.0667	2.3002
How many delivery(ies) have you had	28	1.00	4.00	1.8571	0.8909

Table 3. Frequency of knowledge score class.

Variable	Frequency	Percent
Knowledge of obstetric danger signs		
<i>Good</i>	24	52.2
<i>Poor</i>	22	47.8
Knowledge of birth preparedness and complication readiness		
<i>Good</i>	26	56.5
<i>Poor</i>	20	43.5
Knowledge of skilled birth attendants		
<i>Good</i>	32	69.6
<i>Poor</i>	14	30.4

Table 4. Hypotheses testing.

Variables	Knowledge of obstetric danger signs			X ²	P-value
	Good Knowledge	Poor Knowledge	Total		
Educational Level					
<i>Primary school and below</i>	1 (100.0)	0 (0.0)	1	0.949	0.622
<i>Secondary school</i>	15 (51.7)	14 (48.3)	29		
<i>Tertiary</i>	8 (50.0)	8 (50.0)	16		
<i>Total</i>	24 (52.2)	22 (47.8)	46		
Knowledge of birth preparedness and complication readiness					
Educational Level					
<i>Primary school and below</i>	0 (0.0)	1 (100.0)	1	1.352	0.509
<i>Secondary school</i>	17 (58.6)	12 (41.4)	29		
<i>Tertiary</i>	9 (56.3)	7 (43.8)	16		
<i>Total</i>	26 (56.5)	20 (43.5)	46		
Knowledge of skilled birth attendants					
Educational Level					
<i>Primary school and below</i>	1 (100.0)	0 (0.0)	1	4.509	0.105
<i>Secondary school</i>	17 (58.6)	12 (41.4)	29		
<i>Tertiary</i>	14 (87.5)	2 (12.5)	16		
<i>Total</i>	32 (69.6)	14 (30.4)	46		

their booking until seven months and the average booking time for all the respondents is five months. This is a big concern for midwives and other stakeholders in obstetrics. Delay in antenatal booking reduces the chances of exposing pregnant women to enough antenatal education, which could eventually be responsible for poor knowledge of BPCR [10] [11] [12]. Furthermore, this has also been corroborated by other studies in Africa [13] [14] which reported that not all pregnant women who attend antenatal clinic are educated on BPCR. This has been further proven by the findings of this study which showed that almost half

of the respondents demonstrated poor knowledge of BPCR despite their antenatal clinic attendance.

In addition, another perspective of this poor knowledge of BPCR despite antenatal clinic attendance could be that BPCR education is not inclusive in the antenatal education offered to pregnant women. Hence, there is need to review content of antenatal education.

Moreover, the hypothesis testing revealed that the knowledge of BPCR is not influenced by the educational level or qualification of the respondents. This could be as a result of small sample size and could also be a limitation for this study. Further studies may look at having large number of respondents to increase the power of the study.

5. Conclusion

Maternal mortality remains a public health problem in developing countries including Nigeria. Adequate knowledge of birth preparedness and complication readiness by pregnant women, families, communities and healthcare workers will help in reducing the menace. Educating pregnant women on birth preparedness and complication readiness is a key.

Conflicts of interest

The authors declare no conflict of interest regarding the publication of this paper.

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