Original Article

Attitude Towards Birth Preparedness and Complication Readiness among Urban Antenatal Attendees in Southern Nigeria

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ABSTRACT

Purpose: To determine the attitude of antenatal attendees towards birth preparedness and complication readiness (BPACR) in Southern Nigeria and factors associated with a positive attitude.

Materials and Methods: This cross-sectional study was carried out among 405 pregnant women in their third trimester attending antenatal care (ANC) in Benin City. The attitude of the respondents was measured using the composite variable of the 8 items in a Likert scale. Analysis was with SPSS v21. The binary logistic regression model was fitted, and statistically significant association of variables was determined based on the adjusted odds ratio (OR) at 95% confidence interval (CI) and level of statistical significance at $P < 0.05$.

Results: Overall, 368 (90.9%) of the attendees displayed a positive attitude to BPACR. They displayed a more positive attitude towards planning for place to give birth 402 (99.3%) and poorest towards partner's participation in accompanying them to ANC visits 189 (46.7%). The age groups 25–29 (OR = 4.535; 95% CI = 1.581–13.006) and 30–34 (OR = 3.506; 95% CI = 1.257–9.778) and multiparity (OR = 2.564; 95% CI = 1.022–6.433) were predictive of positive attitude towards BPACR.

Conclusion: This study found a positive attitude towards BPACR among the majority of the attendees which was poorest in domains relating to partner's participation. Their age and parity were found to be predictive of their positive attitude. ANC services should be made available to provide the appropriate health information. Women should be counselled on the major roles of men in reproductive health to improve their attitude towards male involvement in maternity care.

Key words: Antenatal care, attitude, birth preparedness and complication readiness, pregnant women

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INTRODUCTION

Maternal mortality is a major public health problem globally, especially in developing countries. The maternal mortality ratio (MMR) is one of the major indices of the health of any nation. Every day in 2017, about 800 women died due to complications of pregnancy and childbirth.[1] Almost all of these deaths occurred in low-resource settings with sub-Saharan Africa accounting for about 66% of global maternal mortalities, and most could have been prevented.[1] The risk of a woman in sub-Saharan Africa dying from a pregnancy-related cause during her lifetime has been estimated at 1 in 37 compared to a global estimate of 1 in 190.[1] Maternal mortality is a health indicator that shows very wide gaps between the rich and poor, urban and rural areas, between countries and within them and is thought to occur due to three main delays; delays in resolving to seek care, delays in arriving a health facility and delays in obtaining care at the facility. These delays have many causes, including logistics and financial concerns, unsupportive policies and gaps in services, as well as inadequate community and family knowledge about maternal and newborn health issues.[2,3] Omo-Aghoja *et al*.[4] in a retrospective study, reviewed maternal mortality records in University

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of Benin Teaching Hospital (UBTH) for the period of 1 January 2005–31 December 2007. They found an MMR of 2356/100,000 with 93% of them being cases referred to the hospital as complicated having begun labour from outside the hospital. One of the targets of the third UN Sustainable Development Goal is to reduce the number of women who die in pregnancy and childbirth to <70/100,000 live births by 2030.[5] Birth preparedness and complication readiness (BPACR) has been identified as a strategy in achieving this as it helps to reduce the delays that occur while ensuring effective utilisation of health services.[6,7]

Interest in attitudinal factors has been documented as it affects the extent of health services utilisation.[8] It is predicated on the seemingly benefit of such intervention probably due to underlying belief systems and developed impressions towards that health intervention. Shiferaw and Tadesse[9] in their hospital-based cross-sectional study among 418 pregnant women attending ANC in Chiro Zone, Oromia Regional State, Eastern Ethiopia found that only 61.2% of the women had a favourable attitude towards BPACR. Studies in Nigeria have reported varied results. A community-based analytical cross-sectional study conducted among pregnant women in Benin City, Nigeria, involving pregnant women in their third trimester reported that 238 (94.4%) of the pregnant women had a positive attitude towards BPACR.[10] In a similar community-based cross-sectional study among women of reproductive age group in Kaduna, Nigeria, Sufiyan *et al*.[11] found that 87.0% of the respondents had a poor attitude towards seeking care at a health facility on danger signs of pregnancy, 9.2% had a fair attitude while only 3.8% of the respondents had a good attitude.

In transitioning from the MDGs to the SDGs era, it is imperative to comprehensively assess the progress towards ensuring safe maternal care and thus reduce maternal mortality. This will help to identify areas of success, remaining challenges and frame policy discussions. This study sought to avail information on the determinants of BPACR. It is hoped that the results of this study will provide valuable information for the design of programmes and interventions to improve the number of deliveries attended by a skilled birth attendant and thus improve maternal and neonatal health. This study was therefore carried out to determine the attitude of urban antenatal attendees towards BPACR in Southern Nigeria.

MATERIALS AND METHODS

This study was carried out between February and April 2018 among pregnant women receiving antenatal care (ANC) services at Mission hospitals in Benin City, Edo State. Edo State is one of the six states in the South-South geopolitical zone of Nigeria. It was created from former Bendel state on 27th August 1991 and is in 6°30'N 6°00'E. It occupies an area of 17,802 km^2 (6873 sq mi) ranking 22nd of the 36 states of the country. According to the 2006 census, Edo state has a total population of 3,218,332 and with a density of 180/km^2 (470/sq mi). It consists of eighteen local government areas (LGA). Benin City is the capital city and the administrative headquarters of Edo State. It is in the Southern part of the state and comprises mainly of three LGA, namely Oredo, Ikpoba Okha and Egor LGA. The city has a high presence of residents from across the country and the world because of its cosmopolitan tendencies. There are three major mission hospitals in Benin City offering full coverage of care to women during antenatal, intrapartum and postpartum periods among other services. The two facilities sampled for this study had an average of 550 antenatal attendees every month and thus contribute significantly to the care of pregnant women in Benin City.

This cross-sectional study was carried out among pregnant women in their third trimester who have attended at least three antenatal clinic visits. Excluded from this research were women who were severely ill, mentally and physically not capable of being interviewed. The sample size was calculated using the Cochrane formula and using the proportion of women with a positive attitude of 94.4% from the previous study.[10] The minimum sample size of 89 was gotten after considering a 10% non-response rate, however, 405 women participated in this study. A cluster sampling was employed in selecting participants. Two out of the three main mission hospitals in Benin City were selected using simple random sampling. On each antenatal clinic day, all women in their third trimester who met the inclusion criteria and gave consent were selected for the study.

Data collection was done using a pretested structured interviewer-administered questionnaire adapted from the safe motherhood questionnaire developed by the maternal and neonatal health programme of JHPIEGO.[6] Trained research assistants were recruited for data collection. They were medical personnel and were trained for 3 days. Data were checked for completeness and consistency at the end of each day. They were then cleaned, coded and analysed using statistical IBM SPSS Statistics version 21.0 (Armonk, NY: IBM Corp). Descriptive statistics were computed for the socio-demographic variables and to determine the level of attitude. Bivariate analysis was performed using Chi-square and Fischer's exact test to identify those factors associated with attitude towards BPACR. To control for the effect of possible confounders, binary logistic regression was done to identify the different factors independently predicting the attitude towards BPACR and Odds ratio (OR) calculated at 95% confidence interval (CI). In all statistical tests, a value of $P < 0.05$ was considered statistically significant.

The attitude of the respondents was measured using the composite variable of the 8 items [Table I] in a 5-point Likert scale (strongly agree, agree, do not know, disagree and strongly disagree). A score of one point was given for every 'strongly agreed' or 'agreed' response to a positive attitudinal question or a 'strongly disagreed' or 'disagreed

response' to a negative attitudinal question while a score of zero was given for every 'strongly disagreed' or 'disagreed response' to a positive attitudinal question or "strongly agreed" or "agreed" response to a negative attitudinal question or a do not know response, thus making a maximum total point of 8. This score was converted to percentage with those who scored 50% and above labelled as having "positive attitude" while those who scored below 50% were labelled as having "negative attitude."[12]

Ethical approval for the research was gotten from the Ethics and Research Committee of the UBTH and institutional approval was also sought from the authorities of each of the two hospitals. Verbal informed consent was obtained from the respondents after explaining the study objectives and procedures. Confidentiality and privacy of the respondents were guaranteed during the interview. Respondents were informed that they had the right to decline participation or withdraw from the study anytime and that there will be no penalties or loss of benefits for refusal or withdrawal from the study.

RESULTS

Socio-demographic characteristics of the respondents

The mean age of the respondents was 29.9 ± 4.4 years, but the age group 30–34 years (38.3%) accounted for the majority of the respondents. The respondents were highly educated with 275 (67.9%) of them having a higher level of education, that is a minimum of the first-degree certificate. Over 98% (398) of them were married with the majority of them 375 (92.6%) living with their partners. They were predominantly multiparae 146 (36.0%). The mean gestational age of the respondents was 32.5 ± 3.6 years with the majority of them 338 (83.5%) less than term [Table II].

Respondents' attitude towards birth preparedness and complication readiness

Four hundred and two (99.3%) and 387 (95.6%) of the respondents had a positive attitude towards planning ahead for place to give birth and how to get to the place, respectively. On the other hand, 215 (53.1%) and 189 (46.7%) of the respondents had a positive attitude towards their partner's participation in accompanying them while giving birth and to ANC visits, respectively. Three hundred and sixty-eight (90.0%) respondents had positive attitudes towards BPACR [Table I].

Factors associated with a positive attitude towards birth preparedness and complication readiness

Statistically significant differences were only found among the age categories ($P = 0.020$). One hundred and forty-two (93.4%) and 32 (78.0%) of the respondents had a positive attitude towards BPACR in the age category 25–29 and 20–24 years, respectively [Table III].

Compared to age category 20–24 years, participants in the age group 25–29 and 30–34 were more likely to have a positive attitude towards BPACR (OR = 4.535; 95% CI = 1.581–13.006 and OR = 3.506; 95% CI = 1.257–9.778, respectively). Furthermore, multiparous women were more likely to demonstrate a positive attitude compared to nullipara (OR = 2.564; 95% CI = 1.022–6.433) [Table IV].

Table I: Positive attitude of respondents towards birth preparedness and complication readiness

Variables	Frequency (n=405), n (%)
Attitude domains*	
A woman should plan ahead of time where she will give birth to her baby	402 (99.3)
A woman should plan ahead of time how she will get to the place where she will give birth	387 (95.6)
When women do not go to a health facility to give birth, it is mainly because it is too difficult to get there	332 (82.0)
When women do not go to a health facility to give birth, it is mainly because the staff there do not treat women respectfully	315 (77.8)
Giving birth is mostly a woman's matter. Husbands/partners have little to contribute	230 (56.8)
When women do not go to a health facility to give birth, it is mainly because it is too expensive	226 (55.8)
It is not necessary for a husband/partner to accompany his wife when she is giving birth	215 (53.1)
It is not necessary for a husband/partner to accompany his wife to antenatal care visits	189 (46.7)
Composite attitude score	
Positive attitude	368 (90.9)
Negative attitude	37 (9.1)

*Multiple responses

Table II: Socio-demographic and obstetric characteristics of the respondents

Variables	Frequency (n=405), n (%)
Age (years)*	
20–24	41 (10.1)
25–29	152 (37.5)
30–34	155 (38.3)
>35	57 (14.1)
Education level	
Without higher education	130 (32.1)
With higher education	275 (67.9)
Marital status	
Married	398 (98.3)
Unmarried	7 (1.7)
Religion	
Christian	396 (97.8)
Islam	9 (2.2)
Living with partner	
Yes	375 (92.6)
No	30 (7.4)
Parity	
0	117 (28.9)
1	142 (35.1)
>2	146 (36.0)
Gestational age (weeks)†	
<37	338 (83.5)
>37	67 (16.5)

*Mean±SD=29.9±4.4, †mean±SD=32.5±3.6. SD: Standard deviation

Table III: Association between respondent's socio-demographic characteristics and attitude towards birth preparedness and complication readiness

Variables	Attitude towards BPACR		Test statistic	*P*
	Positive attitude (*n*=368), *n* (%)	Negative attitude (*n*=37), *n* (%)		
Age				
20-24	32 (78.0)	9 (22.0)	χ^2=9.804	0.020
25-29	142 (93.4)	10 (6.6)		
30-34	143 (92.3)	12 (7.7)		
>35	51 (89.5)	6 (10.5)		
Level of education				
Without higher education	118 (90.8)	12 (9.2)	χ^2=0.00	1.000
With higher education	250 (90.9)	25 (9.1)		
Marital status				
Married	362 (91.0)	36 (9.0)	Fisher's exact	0.491
Unmarried	6 (85.7)	1 (14.3)		
Religion				
Christian	360 (90.9)	36 (9.1)	Fisher's exact	0.582
Islam	8 (88.9)	1 (11.1)		
Living with partner				
Yes	342 (91.2)	33 (8.8)	Fisher's exact	0.339
No	26 (86.7)	4 (13.3)		
Parity				
0	100 (85.5)	17 (14.5)	χ^2=5.770	0.056
1	132 (93.0)	10 (7.0)		
>2	136 (93.2)	10 (6.8)		
Gestational age				
<37	303 (89.6)	35 (10.4)	χ^2=2.825	0.093
>37	65 (97.0)	2 (3.0)		

BPACR: Birth preparedness and complication readiness

DISCUSSION

This study found that majority of the studied attendees had a positive attitude towards BPACR. The positive attitude reported in this study is similar to that observed from a previous study in Lagos.[12] A possible explanation for the positive attitude is that the studied pregnant women were antenatal clinic attendees which have offered the opportunity for attitudinal changes among participants through mutual experience sharing by other pregnant women and repeated health education. This is however greater than that reported in Kaduna by Sufiyan *et al*.[11] The disparity may also be attributed to the differences in the ANC utilisation by the states. According to the Nigeria Demographic and Health Survey (NDHS), 69.0% of women in Kaduna receive ANC from skilled providers compared to 89.2% in Edo State.[3] Also important is the disparity in their education. Only 7.8% of women in Kaduna State attained more than the secondary level of education unlike 13.3% in Edo State.[3] This finding further stresses the role of antenatal information in achieving behavioural changes and thus improving the uptake of BPACR interventions and practices. It was reported in a previous study in Benin City that ANC exerts influence positively on pregnant women's attitude towards pregnancy, labour and utilisation of emergency services.[13] The positive attitude expressed by these women could also be interpreted that they will be willing to learn if well informed of the various elements of BPACR.

Despite the positive attitude seen among majority of the women in this study, it was poorest in the domains relating to their attitude towards partner's participation. There has been increasing clamor for men's participation in reproductive health. This is because they are usually the decision-makers and the gatekeepers to women's access to reproductive health services. In emergencies, husbands are often called upon for decision-making. A study in India among married men reported that they were more concerned with making plans for naming ceremonies rather than making preparations for birth and complications.[14] It is therefore important that male partner participation is encouraged as this will enhance more access to reproductive health information, better communication between a couple and appropriate decisions in emergencies. It has been observed that this effective communication between couples enhances family planning, BPACR.[15] If maternal mortality is going to be properly addressed, the involvement of men must be given priority attention. The use of and focus on young men and opinion leaders have been suggested to re-orient men towards more proactive involvement in maternal health.[8]

It was also found in this study that the age of the respondents exerts a marked influence on their attitude towards BPACR. Being of age category 25–29 and 30–34 years was predictive of a positive attitude towards BPACR. This may be because of the poor knowledge that may be commoner at a younger age partly due to the tendency for poorer or lower levels of education and lower parity with associated poor pregnancy experience. This was also evident in the fact that multiparous women in this study were over twice more likely to have a positive attitude towards BPACR than nulliparous women. They are, therefore, better positioned to make an appropriate decision. The NDHS also reported that women within the age 20–34 were more likely to seek care with skilled care providers than any other age.[3]

The strength of this study was its large sample size and the fact that it involved pregnant women in their 3rd trimester who are likely to have made preparation for birth. The study also offered the opportunity to enlighten and educate the respondents on BPACR elements. Another area of strength of the study was the use of validated questionnaires which were formatted to suit the research area and pretested.

The limitation of this study lies in the fact that there are no universally agreed on benchmarks by which attitudes towards BPACR can be adjudged. Thus, the application of such benchmarks on this study was discretionary based on the normative judgement of the researchers and from some previous studies. Furthermore, the study targeted women who were attending ANC clinics at health facilities, hence could have missed views of those who never attend ANC clinics.

Table IV: Predictors of attitude towards birth preparedness and complication readiness among respondents

Predictors	COR (95% CI)	*P*	AOR (95% CI)	*P*
Age				
20-24	1		1	
25-29	3.994 (1.501-10.629)	0.006	4.535 (1.581-13.006)	0.005
30-34	3.352 (1.302-8.627)	0.012	3.506 (1.257-9.778)	0.016
>35	2.391 (0.777-7.353)	0.128	2.006 (0.580-6.937)	0.272
Level of education				
Without higher education	1		1	
With higher education	1.017 (0.494-2.094)	0.964	0.752 (0.342-1.653)	0.478
Marital status				
Not married	1		1	
Married	1.676 (0.196-14.309)	0.637	1.400 (0.126-15.525)	0.784
Religion				
Christian	1		1	
Islam	0.800 (0.097-6.578)	0.836	0.536 (0.062-4.643)	0.571
Living with partner				
Yes	1		1	
No	0.627 (0.206-1.906)	0.411	0.400 (0.111-1.438)	0.161
Parity				
0	1		1	
1	2.244 (0.985-5.111)	0.054	1.936 (0.818-4.581)	0.133
>2	2.312 (1.016-5.263)	0.046	2.564 (1.022-6.433)	0.045
Gestational age (weeks)				
<37	1		1	
>37	3.754 (0.881-16.003)	0.074	4.363 (0.991-19.209)	0.051

CI: Confidence interval, OR: Odds ratio, COR: Crude OR, AOR: Adjusted OR

CONCLUSION

This study found a positive attitude towards BPACR among the majority of the antenatal attendees. The age and parity of the women were found to be determinants of their positive attitude. The role of ANC in reinforcing healthy behavior as well as effecting behavioural change and promoting the utilisation of skilled birth attendants is again stressed. There is, therefore, the need to make ANC available, accessible and affordable to all women while structuring it to provide the appropriate health information. Despite the major role of men in reproductive health, the women's positive attitude was poorest in the domains relating to partner's participation. It is therefore imperative that women are counselled on the need for male involvement in maternity care and also health facilities should have written policy to involve husbands at maternity care and welcome them to share responsibility for routine care and treatment of maternal problems.

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Conflicts of interest

There are no conflicts of interest.

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