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RESEARCH PAPER

**ASSESSMENT OF THE BIRTH AND EMERGENCY PREPAREDNESS LEVEL OF
PREGNANT WOMEN ATTENDING ANTENATAL CARE IN A PRIMARY HEALTH
CARE CENTRE IN JOS, PLATEAU STATE, NIGERIA**

***¹Envuladu E.A and ¹Zoakah A.I.**

Department of Community Medicine, Faculty of Medical Sciences, University of Jos.

Corresponding author: esvula@yahoo.com

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ABSTRACT

Birth preparedness helps ensure that women can access professional delivery care when labor begins and reduces the delay that occurs when women experience obstetric complications. This cross sectional study was aimed at assessing the birth and emergency preparedness level of 250 pregnant women attending Antenatal Care (ANC) in a Primary Health Care (PHC) in Jos North Local Government Area of Plateau State, Nigeria. The subjects were selected through a systematic sampling technique and the data was analyzed using SPSS version 17 statistical software, and the results were presented in tables. The results showed that 161(64.4%) identified a place of delivery, 210(84%) said they wanted to deliver in the hospital, while 40(16%) choose home as their preferred place. 135 (54%) made arrangement for transportation, while 115(46%) did not. Only 58(23.2%) of the pregnant women made arrangements for blood donation, while majority (83.6%) of the women saved money for the purchase of delivery items. The findings of this study suggests therefore, that a large proportion of the pregnant women did not prepare for childbirth and emergencies especially the prior arrangement for transportation and blood donation.

Key words: *Birth, emergency, preparedness, danger signs, pregnant women*

INTRODUCTION

While there is no universal definition for birth-preparedness, many packages that address birth-preparedness promote the following: preparation for normal birth by selecting a place of delivery with a skilled birth attendant; preparation of essential items for delivery such as a clean delivery kit; knowledge of danger signs for mother and newborn and when to seek help; knowledge of where and to whom to go to for help; arranging access to funds and means for emergency transportation and medical care; and prior identification of blood donor (Baltimore, 2004; Moor, 2006). Generally, birth preparedness is a strategy to promote the timely use of skilled maternal care, especially during childbirth, by relying on the theory that preparing for childbirth reduces delays in obtaining quality care.

One of the major reasons for the high maternal death recorded in the developing countries especially in sub Saharan Africa is the inadequacy or lack of birth and emergency preparedness, which is a key component of globally accepted safe motherhood programs. Birth preparedness helps ensure that women can reach professional delivery care when labor begins and reduces the delays that occur when women experience obstetric complications (WHO, 2005; Hogan et al., 2010; Stanton, 2004).

The current shift from the “at risk” or “high risk pregnant” women to seeing that every pregnant woman is “at risk” because of unpredictable complications like hemorrhage, which is highly fatal if timely treatment is not obtained.

This makes the package of birth and emergency preparedness a very important strategy in developing countries like Nigeria, where obstetric services are poor and obstetric referrals are usually women of low status, contributing significantly to maternal and neonatal morbidity and mortality (Kaye et al., 2003). Maternal deaths are thought to occur due to three delays: delay in deciding to seek appropriate care; delay in reaching an appropriate health facility and delay in receiving adequate emergency care once at a facility. The first two delays may be reduced if pregnant women are prepared for birth and complications (WHO, 1996).

The study therefore, is designed to assess the birth and emergency preparedness level of pregnant women attending antenatal care (ANC) in Jos north Local Government Area of Plateau State, Nigeria.

MATERIALS AND METHODS

Study Area: The study was carried out in a Primary Health Care centre in Jos, Plateau State Nigeria. **Study Population:** The study population was pregnant women attending a primary health care centre (PHC) in Jos, plateau State, Nigeria. All pregnant women attending the ANC were eligible for the study except those who did not consent for the study.

Sample size determination: The calculated sample size was 227 but made up to 250 using the formula of Z^2pq/d^2 obtained from the hypothesis method and based on the following assumption: 95% confidence level, prevalence from previous study and a 5% margin of error.

Study design: It was a cross sectional study conducted among pregnant women attending ANC in a PHC centre in Jos.

Sampling technique and sample collection: The women were selected through a systematic sampling technique using an interval of three which was gotten by dividing the average number of pregnant women attending ANC in the PHC on monthly bases by the calculated sample size. The total number of pregnant women attending ANC on monthly bases was 680 and dividing it by 227 gave an approximate interval of 3. Data was collected using an interviewer administered questionnaire, the questionnaire was divided into three sections; socio-demographic characteristic, level of birth and emergency preparedness and outcome of delivery in the previous pregnancy.

Ethical consideration: Permission was sought and obtained from the Health facility authority after obtaining clearance from the Jos University Teaching Hospital. An informed written consent was also obtained from the pregnant women before embarking on the study.

Data analysis: Data was analyzed using SPSS version 17 statistical software. The result was presented in tables using proportions.

RESULTS

Socio-demographic characteristics: Majority of the women were within the age range of 25-34 years (56.8%) followed by the age range 15-24 years (32.8%). The married women among them were 246(96.8%) with 6(2.4%) singles and 2(0.8%) widows. one hundred and twenty eight had secondary school education (51.2%), 86(34.4%) primary school education, 30(12%) tertiary education and only 6(2.4%) had no form of education. While most were Christians (77.2%), 105(42%) were housewives and 26(10.4%) were civil servants. Majority (66.4%) had a monthly income of less than 10,000 naira and only 1(0.4%) had a monthly income of greater than 50,000 naira.

Knowledge of danger signs in pregnancy: Not too many of the pregnant women knew the danger signs in pregnancy. 145(71.8%) considered vaginal bleeding as a danger sign; 69(34.2%) convulsion; 50(24.8%) preterm rupture of membrane; and 21(10.4%) severe headache. Only 11(5.4%), 8(4%) and 7(3.5%) considered fever, absent of foetal movement and swollen legs and face as danger signs in pregnancy.

Identification of a place of delivery: Among the pregnant women that were seen, 161(64.4%) had identified a particular place they will want to go and deliver. 210 (84%) said they will want to deliver in the hospital even though not all identified the particular hospital they will want to go for delivery, while 40(16%) chose home as their preferred place of delivery.

Assessing the level of birth and emergency preparedness: 135(54%) said they have made arrangements for transportation, while 115(46%) said they have not made any arrangement for transportation. Only 58(23.2%) of the pregnant women said they have made arrangements for blood donors, while 192(76.8%) did not make any arrangement for blood prior to delivery. Majority (83.6%) of the women said they saved money for the purchase of delivery items, while 41(16.4%) did not save money for delivery items.

Outcome of delivery in the previous pregnancy: Eighty eight (42.1%) of the women had experienced unexpected labour in the previous pregnancy. 21(10.1%) said they had problems transporting to the hospital in the previous pregnancy, while 37(17.7%) had complications during delivery in the previous pregnancy and 25(12%) were transfused with blood in the previous pregnancy.

Table 1: Socio-demographic characteristics of the pregnant women

Age	Frequency	Percentage
15-24	84	32.8
25-34	142	56.8
35-44	25	10
>45	1	0.4
Religion	Frequency	Percentage
Christianity	193	77.2
Islam	57	22.8
Marital status	Frequency	Percentage
Single	6	2.4
Married	246	96.8
Widowed	2	0.8
Education	Frequency	Percentage
None	6	2.4
Primary	86	34.4
Secondary	128	51.2
Tertiary	30	12
Occupation	Frequency	Percentage
Housewife	105	42
Civil servant	26	10.4
Students	21	8.4
Traders	64	25.6
Others	34	13.6
Monthly income	Frequency	Percentage
<10,000	166	66.4
11,000-30,000	62	24.8
31,000-50,000	21	8.4
>50,000	1	0.4

Table 2: recognized danger signs in pregnancy

Danger signs	Frequency	Percentage
Vaginal bleeding	145	71.8
Convulsion	69	34.2
Breaking of water before labour	50	24.8
Severe headache	21	10.4
Fever	11	5.4
Abdominal pain	69	34.2
Absent foetal movement	8	4
Swollen legs/face	7	3.5

Table 3: Level of birth and emergency preparedness among the pregnant women N=250

Preparedness	Frequency	Percentage
Identification of a place of delivery		
Yes	161	64.4
No	89	35.6
Choice of a place of delivery		
Hospital	210	84
Home	40	16
Transportation arrangement		
Yes	135	54
No	115	46
Arrangement for blood donors		
Yes	58	23.2
No	192	76.8
Saved money for delivery items		
Yes	209	83.6
No	41	16.4

Table 4. Outcome of delivery in the previous pregnancy

Pregnancy outcome	frequency	Percentage
Unexpected labour		
Yes	88	42.1
No	121	57.9
Problems transporting to the hospital		
Yes	21	10.1
No	188	89.9
Complication during child birth		
Yes	37	17.7
No	172	82.3
Previous blood transfusion during delivery		
Yes	25	12
No	184	88

DISCUSSION

The level of birth and emergency preparedness among pregnant women was assessed based on the following: knowledge of danger signs, preparation and money saved for transportation and delivery items, identification of a place of delivery with a skilled birth attendant and arrangement for a blood donor. When the pregnant women were asked to identify situations they would consider as danger signs in pregnancy, most knew that vaginal bleeding in pregnancy was a danger sign, about one third knew that convulsion was a danger sign and only a few knew that severe headache, fever, absent foetal movement and swollen leg/face were danger signs in pregnancy. This poor knowledge of danger signs in pregnancy was also recorded among antenatal clients in Kenya and Ethiopia (Mutiso et al., 2008; Hiluf and Fantahun, 2008). While maternal death is thought to occur due to three delays: delay in taking decision at home, delay in reaching the health facility and delay in receiving adequate emergency care, the knowledge of danger sign in pregnancy is a tool in overcoming the first delay and birth and emergency preparation takes care of the other delay by ensuring that the woman receives timely care by skilled attendant which reduces the rate of maternal mortality (Mutiso et al., 2008).

Evidence from studies have shown that promoting birth and emergency preparedness improves preventive behaviors, knowledge of mothers about danger signs, and the improvement in care-seeking during obstetric emergency; though there are no evidence which clearly indicate that it reduces maternal mortality. The role it plays in increasing skilled attendant at birth should invariably reduce the rate of maternal mortality (Baltimore, 2004; Agarwal et al., 2010; The White Ribbon Alliance, 2002). Never the less, most studies just like ours have revealed that not many women make birth and emergency plan before delivery.

Most pregnant women had identified a place of delivery and identification of hospital as a preferred place of delivery and saving money for the purchase of delivery items were found to be the most preparation made. This is followed by the preparation for transportation, but the least preparation made by the pregnant women was the prior arrangement for blood donation. Comparatively, the findings of this study showed higher values than those obtained from similar studies, with many pregnant women making preparations for other things (if any preparations at all) but very few remembering or even considering a plan for transportation and blood donation in the event of an emergency. Studies in Burkina Faso and India did show that 35% and 29.5% of pregnant women made plans for transportation in case of an emergency but these values are less than the values obtained from the present study (Moran et al., 2006; The White Ribbon Alliance, 2002). One other study carried out in Ethiopia did show that of birth and emergency preparedness made by the pregnant women, arrangement for blood donors was the least with only 2.3% making such arrangements. This is far less than the value obtained from the present study; although the cultural and economic differences between the two countries could be an explanation for the difference (Hailu et al., 2011).

CONCLUSION

As important as birth and emergency preparedness is in increasing access to skilled attendant at birth and reducing maternal mortality, the findings of this study suggests that a large proportion of the pregnant women did not know the danger signs in pregnancy and were not prepared for birth and emergencies, especially the prior arrangement for transportation and blood donation. Emphasis should be placed on birth and emergency preparedness during ANC in order to reduce morbidity and mortality in pregnancy.

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AUTHORS CONTRIBUTION

Envuladu, E. A. brought the concept of the research, took part in the design, literature search, data and statistical analysis, manuscript preparation and manuscript editing. Zoakah A. I. took part in the design, manuscript review and editing.