

Knowledge of obstetric danger signs among pregnant women attending antenatal clinic in Murtala Muhammad Specialist Hospital, Kano, Nigeria

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Abstract

Knowledge of obstetric danger sign promotes active preparation and decision making for delivery by pregnant women and their families. It assists in decision making for seeking health care in case of complications. This study was aimed at determining the knowledge of obstetric danger signs among pregnant women attending antenatal clinic in Murtala Muhammad specialist hospital Kano. It was a cross sectional survey among 394 pregnant women attending antenatal clinic. Information on knowledge of obstetric danger signs were recorded on a questionnaire. The data were analyzed using SPSS version 19 Computer Software (IBM SPSS Statistics Inc., IL, Chicago USA). Quantitative variables were summarized using measures of central tendency and measures of variability. Qualitative variables were summarized using frequencies and percentages. A P value of ≤ 0.05 was considered statistically significant. The mean age \pm SD was 26.9 \pm 6.21 years. The mean gestational age at booking was 29.7 \pm 7.22 weeks. Two hundred and eighty-six (77.1%) Pregnant women were aware that unforeseen problems related to pregnancy can occur during any pregnancy that can endanger the life of the woman. These problems include bleeding 176 (61.6%) and convulsion 96 (33.6%). Should any of those problems occur, a woman should preferably visit government hospital 366 (92.9%). Concerning danger signs of pregnancy, the respondents mentioned that a health worker advised them at least once, about danger signs of serious health problems during pregnancy, child birth or soon after 228 (63.3%). The study findings generally revealed that there was awareness of obstetrics danger signs. Vaginal bleeding was the commonest obstetric danger sign known. Knowledge of obstetric danger signs was

statistically associated with parity and age group.

Introduction

Obstetric danger signs are symptoms of obstetric complication(s) reported by a woman during pregnancy, delivery, or within 6 weeks after delivery.¹ The commonest danger signs during pregnancy include severe vaginal bleeding, swollen hands/face, and blurred vision. Danger signs during labor and child birth include severe vaginal bleeding, prolonged labor, convulsions, and retained placenta. Danger signs during the post-partum period include severe bleeding following child birth, loss of consciousness after child birth, and fever.²

Inadequacy or lack of knowledge of obstetric danger signs is one of the several factors contributing to maternal death. Knowledge of obstetric danger signs is an integral component of focused antenatal care which involves planning with the health care provider, pregnant women, relatives, and the community.³ Knowledge of obstetric danger is an approach that aims at raising awareness at community level and creating a stronger demand for quality health services. Since pregnancy is perceived as an ordinary event by many, most families do not plan for birth, nor do they expect any complication to arise. Reports have shown that in most instances, women and their families do not recognize danger signs of pregnancy and when they occur, the unprepared family wastes a great deal of time in recognizing the problem, obtaining funds, locating transport and reaching the appropriate health facility.⁴ Thus, it is important that all pregnant women and their families are well informed about the obstetric danger signs and what action should be taken. Knowledge of obstetric danger signs is a safe motherhood strategy which addresses delays that could lead to death of a mother during pregnancy, child birth or immediate post-partum period. The strategy has not been effective in Nigeria, hence, maternal mortality remains unacceptably high, and thus, the challenge of improving maternal survival is still enormous.

The purpose of the study was to determine the knowledge of obstetric danger signs, among pregnant women attending antenatal clinic in Murtala Muhammad specialist hospital (MMSH), Kano.

Operational definition

Danger signs: In this study refers to manifestations of obstetric complications that are easily identified by non-clinical per-

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sonnel and necessitate skilled care during pregnancy, labor, delivery and post-partum.

Materials and Methods

The study was a descriptive cross sectional, carried out from 12th December 2017 to 31st March 2018 among 394 pregnant women of child bearing age (15-49 years) in the antenatal clinic of Murtala Muhammad Specialist Hospital. Ethical approval was sought and obtained from the Ethics Committee of Kano State Ministry of Health. Data were collected using an interviewer administered questionnaire modified, validated and adopted from a study titled "Monitoring birth preparedness and complication readiness".⁵ An informed consent was sought and obtained from all the eligible pregnant women. A systematic sampling method was used to select the pregnant women until the desired sample size was obtained. Information such as socio demographic characteristics, knowledge of obstetric danger signs was recorded on the questionnaire. The data collected were analyzed using SPSS version 19 Computer Software (IBM SPSS Statistics Inc., IL, Chicago USA). Quantitative variables were summarized using measures of central tendency and measures of variability. Qualitative variables were summarized using frequencies and percentages. A P value of ≤ 0.05 was considered statistically

significant.

Results

Three hundred and ninety-four pregnant women were recruited during the study period (from 12th December 2017 to 31st March 2018). The mean age \pm SD was 26.9 \pm 6.21 years. The mean parity was 3.4 \pm 2.94. The mean number of living children was 2.8 \pm 2.6. The mean gestational age at booking was 29.7 \pm 7.22 weeks.

Eighty pregnant women (20.4%) had at least one stillbirth while 60 pregnant women (15.6%) had at least one neonatal

death.

Two hundred and eighty-six (77.1%) were knowledgeable of the unforeseen problems related to pregnancy that can occur and endanger the life of the woman. These problems, include bleeding 176 (61.6%), severe headache 93 (32.5%), convulsion 96 (33.6%) and fever 56 (19.6%). Significant number of the respondents 217 (76.0%) also believed a woman could die from these problems (Table 1).

According to the respondents, serious health problems that can endanger the life of the pregnant woman in labor and child birth include convulsion 171 (49.0%), severe bleeding 144 (41.3%), severe headache 80 (23.0%) and prolonged labor

62 (17.8%). Also, 297 (82.5%) believed a woman could die from any of these problems.

The respondents made mention that serious health problems that could occur and endanger the health of a woman within the first two days after delivery include severe headache 232 (64.4%), swollen hands/face 184 (51.1%), severe bleeding 75 (20.8%) and blurred vision 24 (6.7%). Should any of the above occur, a woman should preferably visit government hospital 366 (92.9%) and government health center 20 (5.1%).

Majority of the respondents were in the second trimester of pregnancy 265 (68.3%) when they first booked for antenatal care,

Table 1. Knowledge of obstetrics danger sign.

Feature	Frequency	Percent
Can unforeseen problems related to pregnancy occur during any pregnancy or child birth that can endanger the life of the woman?		
Yes	286	77.1
No	59	16.0
I don't know	26	6.9
Total	371	100.0
What are those serious health problems that can occur during pregnancy and endanger the life of the woman? (n=286)		
Bleeding	176	61.6
Severe headache	93	32.5
Convulsion	96	33.6
High fever	56	19.6
Swollen hands/feet	22	7.7
Others (blurred vision, loss of consciousness, difficulty in breathing, severe weakness, severe abdominal pain, accelerated/reduced fetal movements, water break without labour)	89	31.1
*Total	532	100.0
In your opinion, could a woman die from these problems? (n=286)		
Yes	217	76.0
No	33	11.5
I don't know	36	12.5
Total	286	100.0
What are some serious health problems that can occur in labor and childbirth that could endanger the life of the woman?		
Convulsion	171	49.0
Severe bleeding	144	41.3
Severe headache	80	23.0
Labour lasting more than 12 hours	62	17.8
Retained placenta	32	9.2
High fever	45	12.9
Convulsion	65	18.6
I don't know	24	6.9
*Total	623	100.0
Could a woman die from any of these problems?		
Yes	297	82.5
No	31	8.6
I don't know	32	8.9
Total	360	100.0
What are the serious health problems that can occur during the first 2 days after birth that could endanger the life of the woman?		
Severe headache	232	64.4
Swollen hands/face	184	51.1
Severe bleeding	75	20.8
Blurred vision	24	6.7
Convulsion	12	3.3
*Total	527	100.0
Where should a woman visit when she experiences any of the above danger signs in pregnancy, labour and delivery?		
Government hospital	366	92.9
Government health centre	20	5.1
Others (traditional birth attendant, traditional healers, government dispensary, private hospital)	8	2.0
Total	394	100.0

*Response not mutually exclusive.

followed by third trimester 80 (20.6%) and first trimester 41 (10.6%) respectively (Figure 1). They were first seen in the antenatal clinic by health professionals 329 (89.4%) and community health workers 27 (7.4%) (Table 2).

More than half of the respondents 203 (59.5%) were aware of their last menstrual period and 25% of them planned to have less than 4 antenatal visits (Table 2)

Concerning danger signs of pregnancy,

the respondents mentioned that a health worker advised them at least once about danger signs of serious health problems during pregnancy, child birth or soon after 228 (63.3%); where to go if they have danger signs of serious health problems 236 (64.1%); where they should give birth 245 (63.5%); arrangements for transportation 170 (44.3%), Funds 186 (48.3%), blood donor 166 (43.3%) and for the skilled birth attendant that would deliver their babies

217 (57.4%) (Table 2).

At least half of the respondent 196 (50.5%) spoke with someone outside the health facility about the danger signs of serious health problems during pregnancy, childbirth or soon after; they spoke mainly with husband 156 (80.0%), other family members 25 (12.8%) and friends/neighbors 21 (10.7%). Also, more than half of the respondents 213 (55.5%) spoke with someone outside the health facility about where

Table 2. Personal experiences on current pregnancy.

Feature	Frequency	Percent
Who did you see first for checkup in this pregnancy?		
Health professional	329	89.4
Community health worker	27	7.4
Traditional birth attendant	6	1.6
Relatives	3	0.8
I can't remember	3	0.8
Total	368	100.0
Are you aware of your expected date of delivery?		
Yes	203	59.5
No	138	40.5
Total	341	100.0
How many antenatal visits do you plan to have during this pregnancy		
<4 visits	95	25.5
≥ 4 visits	231	62.1
I don't know	46	12.4
Total	372	100.0
During this pregnancy, did a health worker advise you about any of the followings, at least once?		
Danger signs of serious health problems during pregnancy, child birth, or soon after?		
Yes	228	63.3
No	120	33.3
I can't remember	12	3.4
Total	360	100.0
Where to go if you have danger signs of serious health problems?		
Yes	236	64.1
No	120	32.6
I can't remember	12	3.3
Total	368	100.0
Where you should give birth to your baby?		
Yes	245	63.5
No	135	35.0
I can't remember	6	1.5
Total	386	100.0
Arrangement for transportation?		
Yes	170	44.3
No	206	53.6
I can't remember	8	2.1
Total	384	100.0
Arrangements for funds or finance?		
Yes	186	48.3
No	193	50.1
I can't remember	6	1.6
Total	385	100.0
Arrangements for a blood donor?		
Yes	166	43.3
No	211	55.1
I can't remember	6	1.6
Total	383	100.0
Arrangements for health care professional to deliver your baby?		
Yes	217	57.4
No	152	40.2
I can't remember	9	2.4
Total	378	100.0

to go when there was a danger sign of serious health problems; they spoke with husband 195 (91.5%), other family members 21 (9.9%), community health worker 11 (5.2%) and friend/neighbor 7 (3.3%) (Table 3). The study showed that knowledge of obstetric danger signs was statistically associated with parity and age group [$\chi^2 = 19.778$, $P=0.000$; P (Fischer's) = 0.017 respectively] (Table 4).

Discussion

This study was carried out among 394 pregnant women attending ante-natal clinic in Murtala Muhammad Specialist Hospital, Kano from 12th December 2017 to 31st March 2018. More than 20% of the respondents (20.4%) had at least one stillbirth and 15.6% also experienced a neonatal death.

This shows that a significant proportion of the respondents have experienced a bad obstetric history within their child bearing age. Low patronage of maternal care services,⁶ high rate of home delivery and inadequate number of skilled birth attendants could be attributable to this high rate of perinatal death. Majority of the respondents (68.3%) booked for ante-natal clinic in the second trimester; 10.7% booked in the 1st trimester, while 20.6% booked for ante-natal in the 3rd trimester. A study conducted among pregnant women in Abakaliki, Southeastern Nigeria on pattern and Determinants of Antenatal Booking shows that 16.9% (58/344) booked early (within the first trimester) while 83.1% (296/344) booked late (after the first trimester).⁷ The mean gestational age at booking was 29.7 ± 7.22 weeks, which is lower than the gestational age at booking reported in

Sokoto (23.3 weeks)⁸ and Lagos (23.5 weeks),⁹ This shows that women in our country usually book for ante-natal late in pregnancy. Lack of knowledge of benefit of early antenatal booking and some degree of

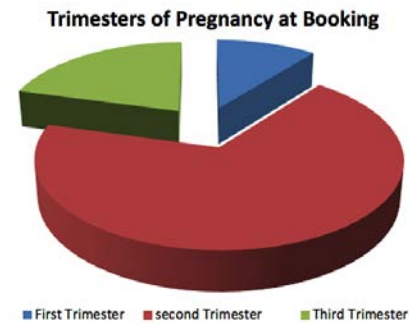


Figure 1. Distribution of the respondents based on trimester of pregnancy.

Table 3. Knowledge based communication about danger signs of pregnancy.

Feature	Frequency	Percent
Did you speak with anyone outside health facility about the danger signs of serious health problems during pregnancy, childbirth, or soon after?		
Yes	196	50.5
No	191	49.2
I can't remember	1	0.3
Total	388	100.0
If yes, Whom did you speak with? (n=196)		
Husband	156	80.0
Other family member	25	12.8
Friend/neighbor	21	10.7
Others (Mother in-law, community health worker)	2	1.0
Total	204	100.0
Did you speak with anyone outside health facility about where to go if you have danger signs of serious health problems?		
Yes	213	55.4
No	170	44.3
I can't remember	1	0.3
Total	384	100.0
If yes, Whom did you speak with? (n=213)		
Husband	195	91.5
Other family member	21	9.9
Community health worker	11	5.2
Friend/neighbor	7	3.3
Total	234	100.0

Table 4. Cross tabulation between parity, age group and knowledge of obstetric danger signs.

Variable	Knowledge of obstetric danger signs			Test of association
	Present (%)	Absent (%)	Total (%)	
Parity				
0-1	80 (20.3)	56 (14.2)	136 (34.5)	χ^2 P=0.000
≥2	206 (52.3)	52 (13.2)	258 (65.5)	
Total	286 (72.7)	108 (27.4)	394 (100.0)	
Age group (years)				
16-24	107 (27.2)	51 (13.0)	158 (40.2)	P(Fischer's)=0.017
25-29	56 (14.2)	26 (6.6)	82 (20.9)	
30-34	78 (19.8)	15 (3.8)	93 (23.7)	
35-39	31 (7.9)	12 (3.1)	43 (10.9)	
40-44	14 (3.6)	2 (0.5)	16 (4.1)	
45-49	0 (0.0)	1 (0.3)	1 (0.3)	
Total	286 (72.8)	107 (27.2)	393 (100.0)	

poverty might be associated with this late antenatal booking.

Knowledge of obstetric danger signs during pregnancy, labor and post-partum is the first essential step for appropriate and timely referral. In this study, 77.1% of the respondents demonstrated knowledge of obstetric danger signs. This is similar to the findings of a study conducted in India (79.2%)¹⁰ and Kenya (67%).¹¹ These findings are in contrast to the findings in South western Uganda,¹² and South Africa¹³ where only 52% of the participants knew at least one danger sign. A few number of the respondents mentioned reduced fetal movement as a danger sign which was low, and similar to a study in Karachi¹⁴ where only 5% mentioned reduced fetal movement as a danger sign in pregnancy.

In this study, more than half of the respondents (61.6%) reported bleeding as the most known danger sign during pregnancy. Other danger signs mentioned were severe headache (32.5%), and convulsion (33.6%). A similar pattern of danger signs awareness during pregnancy (bleeding (83.5%); headache (24.5%) and convulsion (5.7%)) was reported by Bililign and in Ethiopia.¹⁵

Key danger signs during labor and childbirth are severe vaginal bleeding, convulsions, prolonged labor, and retained placenta. In this study, convulsion (49.0%), severe bleeding (41.3%), and severe headache (23.0%) were mentioned. Amenu *et al.*¹⁶ reported a similar pattern in Egypt. Key danger signs during post-partum period are severe bleeding following child birth, convulsions, loss of consciousness, and fever. In this study, 20.8% of the respondents knew severe bleeding as a danger sign post-partum. This is similar to the figure of 23.2% reported in Tanzania.¹⁷

Severe bleeding was the most frequently mentioned danger sign in pregnancy, labor and post-partum as seen above. The reason is most likely because it is the most visible obstetric danger sign, and the highest cause of maternal death immediately after delivery.¹⁸

This study revealed that more than half of respondents were advised by a health professional on danger signs during pregnancy, child birth and post-partum (63.3%), where to deliver their baby (63.5%) and where to go when danger signs occur (64.1%). However, a few were advised on finance (48.3%), transportation (44.3%), and blood donor (43.3%). This shows there is still need for the health workers to put more emphasis in addressing the issues of funds, transportation and blood donation during health talk at antenatal clinics. In a survey conducted in 19 sub Saharan Africa

countries, it was concluded that there was high level of unmet needs for information on pregnancy complication in sub Saharan Africa particularly among those who face significant barrier to accessing care if complication occurs.¹⁹ In this study, half of the respondents were advised outside the health facility on danger signs (50.5%); where to go when danger signs occur (55.5%); where to give birth (63.5%); arrangements for funds (48.3%); and arrangement for blood donor (43.3%).

The study showed that knowledge of obstetric danger signs was statistically associated with parity and age group ($\chi^2=19.778$, $P=0.000$; P (Fischer's) = 0.017 respectively). This was similar to the findings in Tanzania where knowledge of obstetric danger signs was statistically associated with multiparity,²⁰ and in Egypt where awareness of obstetric danger signs was related to younger age and parity.²¹

Conclusions

The study findings generally revealed that there was awareness of obstetric danger signs. Vaginal bleeding was the commonest obstetric danger sign known.

The study also revealed that knowledge of obstetric danger signs was statistically associated with parity and age group.

Recommendations

The government should employ more health workers, most importantly, skilled birth attendants so that appropriate time should be allocated for proper health talk and counseling on the importance of early antenatal booking and awareness of other danger signs in pregnancy, labor and early puerperium.

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