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RESEARCH ARTICLE

ASSESSING KNOWLEDGE, PRACTICE AND FACTORS INFLUENCING BIRTH PREPAREDNESSAND COMPLICATION READINESS AMONG COUPLES IN RURAL COMMUNITIES IN ENUGU STATE NIGERIA

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ABSTRACT

Background: Maternal mortality is a global health problem with a ratio of 525/100,000 live births annually, which is still unacceptably high. A disproportionately high burden of these maternal deaths is borne in developing countries including Nigeria. Among the many strategies initiated for the reduction of maternal mortality such as making pregnancy safer and lifesaving skills; this study focuses on birth preparedness and complication readiness. Birth preparedness and complication readiness involves planning with key stakeholders, the health care providers, pregnant women, relations and the community for positive pregnancy outcome. It helps women to reach skilled birth attendants when labour begins thereby reducing delays that occur when mothers in labourexperience obstetric complications. This strategy contributes to the reduction of maternal and newborn mortality through making appropriate birth plan.

Objectives: The aims of the study were to determine knowledge of birth preparedness and complication readiness in the study population, determine the couple's practice, identify factors that hinder couples practice and establish relationship between couple's socio-economic status and their practice of birth preparedness and complication readiness.

Methods and Materials: A cross-sectional descriptive survey design was used for the study. Snowball non- probability sampling technique was used to select subjects for the study. Descriptive and inferential statistics were used to analyse data at 0.05 level of significance.

Results: Major findings of the study revealed that 307(78.7%) couples had good knowledge while 25(6.4%) showed poor knowledge. The danger signs during pregnancy were well understood by more than 60% of the study population which includes prolonged labour (63%) and heavy vaginal bleeding (70.3%). Only 76 respondents (19.4%) of the study population engaged in good birth preparedness and complication readiness practices. Antenatal care attendance was poor with only 104 (26.7%) attending. Twenty three percent (88) of the couples made plans to deliver at a specific health facility while 274(70%) arranged for a birth companion. Major factors that hindered practice were financial constraint, lack of transport at night and premature delivery.

Conclusion: Although most of the couples had good knowledge but this did not translate into practice. There is need to address these limiting factors, especially transportation for better pregnancy outcome in emergencies. The study recommends a slight shift of focus by government from hospital based to community based in maternal and child health projects for better rural coverage.

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INTRODUCTION

Maternal mortalityis a global health problem with a ratio of 525/100,000 live annually, which is unacceptably high. Many strategies have been put in place to reduce maternal mortality worldwide, such as making pregnancy safer, lifesaving skill and birth preparedness and complication readiness which is the focus of this study.

High mortalityarises from pregnancy, childbirth or postpartum complications. According to World Health Organization in 2009, maternal deaths are thought to occur in developing countries mainlydue to delay in deciding to seek appropriate care, delay in reaching an appropriate health facility, and delay in receiving adequate emergency care even at the health facility. Birth preparedness and complication readiness is an integral component of focused antenatal care adopted by WHO

in 2002. It involves planning with key stakeholders: the health care provider, pregnant women, family members, relatives and the community. It is also a major component of the safe motherhood programs. These delays may be reduced if pregnant women and their families are prepared for birth and its complications. It helps women to reach skilled delivery care attendants when labour begins and reduces delays that occur when mothers in labour experience obstetric complication (Hailu and Gebremariam, 2011). Birth-preparedness and complication-readiness involves active, definite and specific preparations and decisions made by a pregnant woman for birthing including arrangements made for emergencies that may arise at any time in pregnancy, during delivery and after delivery (Maternal and Neonatal Health Program, 2001).This will reduce maternal mortality by ensuring faster access to care. Birth preparedness involves identifying a place of delivery, saving money, purchasing materials and other supplies needed for pregnancy and delivery. Complication readiness involves making plan for transportation, identifying a compatible blood donor, having knowledge of danger signs of possible complications and having a decision maker in case of emergency (Markos and Bogale 2014). Knowledge of danger signs of obstetric emergencies and appreciation of appropriate responses when they occur may reduce delay in decision making and in reaching health facilities.Birth plan in this strategy is discussed on the first clinic visit, reviewed in subsequent visits and finalized by 32 weeks of antenatal visit (Barbara & Gomez, 2004). Rural dwellers in developing countries including Nigeria have little or no information on maternal and child health strategies aimed at reducing unacceptably high maternal and newborn deaths. This study therefore, aims to assess knowledge, practice and factors influencing practice of birth preparedness among couples in rural communities in Enugu State.

Area of Study: This study was carried out in six communities in Oji River Local Government Area. of Enugu State, namely:Inyi, Achi-Uno, Achi-Agu, Akpougoeze, Ugwoba and Awlor.

METHODS AND MATERIALS

A cross-sectional descriptive survey design was used. The sample was 390. Snowball sampling technique was used by the researchers as couples do not have a particular place where they meet and each couple met, provided link to two or more other couples, thereby ensuring that a wide distribution of couples were covered in the study. Data collection instrument was researchers developed structuredand interviewer administered questionnaire. The questionnaire consists of four sections A, B C and D"A" elicited responses on the demographic characteristics of the study participants. Section "B" assessed couples knowledge of birth preparedness and complication readiness. Section "C" provided dichotomous responses (Yes or No) for ten questions aimed at assessing complex practices of birth preparedness and complication readiness. The last section "D" obtained responses on factors that influence their practice of birth preparedness and complication readiness. The 4-point likert-type scale was used to enable respondents rank the factors. The questions were pilottested on fifty couples from Enugu South Local Government Area who were not in the main study but share similar characteristics of the study population. Test-retest method was used at two (2) weeks interval to collect data used to compute the reliability coefficient. Cronbach's Alpha was used to calculate the reliability of the instrument with anAlpha of 0.819 and a standardized item (inter item) coefficient of 0.804 was obtained, which was deemed adequate.

RESULTS

The study revealed that 307(78.7%) couples had good knowledge while 25(6.4%) showed poor knowledge. The danger signs during pregnancy were well understood by more than 60% of the study population; the findings show that 63% understood that prolonged labour was dangerous as well as heavy vaginal bleeding (70.3%). Only 76 respondents (19.4%) of the study population engaged in good birth preparedness and complication readiness practices. Antenatal care attendance was poor with only 104 (26.7%) attending. Twenty three percent (88) of the couples made plans to deliver at a specific health facility while 274(70%) arranged for a birth companion. Major factors that hindered practice were financial constraint, lack of transport at night and premature delivery. The reason for the good knowledge level amongst respondents may be attributable to the fact that these were very obvious danger signs that are also traditionally recognizable in the study area. Cord presentation was not considered a major danger sign by approximately 60% of the couples. Factors that hindered their ability to put to practice what they knew were investigated and findings revealed that financial constraints was the most critical factor that hindered couples' practice, as shown on the Relative Importance Index scale(RII scale), the RΠ= .857 which is the highest.. The respondents were quite knowledgeable, which did not translate to practice. The age and occupation of the couples (husband and wife) were positive, though, not significantly associated with their practice of birth preparedness and complication readiness (BP/CR). Couples' number of children was negatively associated with their practice. Couples with larger number of children, had lower levels of good practice. The association was however not significant also. Couples' educational exposure, average monthly income and number of years they had spent together as husband and wife were all significant and positively associated with their practice of birth preparedness and complication readiness

Research question one

What is the knowledge of couples about birth preparedness and complication readiness?

DISCUSSION

The study revealed that 307 (78.7%) couples had good knowledge of birth preparedness and complication readiness, while 70% of them scored below 70% and as such were classified as having fair to very poor knowledge of the subject matter. The danger signs during pregnancy were well understood by more than 60% of the study participants. The reason for the good knowledge level amongst respondents may be attributable to the fact that these were very obvious danger signs that are also traditionally recognizable in the study area. Bleeding was also widely known as danger signs that could lead to complications if left unattended. The danger signs during or after child birth were also examined. The findings show that 63% understood that prolonged labour was dangerous as well as heavy vaginal bleeding. Cord presentation was not considered a major danger sign by approximately 60% of the couples.

Table 1. Demographic characteristics of the respondents n=390

Knoweldge variables	Strongly Agree (4)		Agree (3)		Disagree (2)		Strongly disagree(1)		N=390
	F	%	F	%	F	%	F	%	
During pregnancy									390
Vaginal bleeding	24	6.15	250	64.1	89	22.8	27	6.92	390
Antenatal (paleness of lips, nailbed and conjunctiva)	24	22.3	258	66.2	41	10.5	4	`.03	
Reduced/loss of fetal movement	87	31	170	43.6	56	14.4	43	11	390
Water breaks before labour pains	121	22.1	189	48.5	55	14.1	60	15.4	390
Continuing drainage of liquor	86	19	247	63.3	52	13.3	17	4.36	390
Swelling of hands, face, entire body	74	10.5	197	50.5	92	23.6	60	15.4	390
Severe headache	41	3.08	255	65.4	98	25.1	25	6.41	390
Dizziness/blurred vision	12	10	230	59	53	13.6	68	17.4	390
Loss of consciousness	39	19.7	198	50.3	58	14.9	57	17.2	390
Convulsions	77	50.8	147	65.4	28	7.18	17	7.18	390
During after childbirth	198	13.3	16	65.4	68	17.4	74	12.3	
Prolonged labour (more than 1 night to sunrise or vice versa	52	13.3	255	62.6	54	13.8	42	16.2	390
Delayed placenta delivery	34	8.72	244	54.6	54	7.44	47	17.2	
Part of baby showing other than the head	89	22.8	213	38.7	29	17.4	28		390
Cord presentation	61	15.6	151	53.8	68	36.9	48	7.18	390
Offensive odour from the vagina	32	8.21	210	65.1	144	26.2	63		390
Birth preparedness	11	2.82	254	54.1	102	10.5	67	14.9	390
awareness of expected date of delivery	67	17.2	211	18.2	41	22.8	28		
Awareness that labour may start before the due date	32	8.21	71	54.1	89	37.7	58	16.2	390
Identification of transport to be used to hospital at night	109	27.9	187	18.2	147	37.7	63	3.08	390
Keeping funds aside for transport and other accidentals when labour starts	168	43.1	187	47.9	23	5.9	12	6.67	390
Identifying a birth companion	74	19	195	50	95	24.4	26	10	390
Identifying a blood donor	142	36.4	158	40.5	51	13.1	39		390
Identifying decision-making process inc case of obstetric emergency	89	22.8	111	28.5	102	26.2	88	22.6	390
Arranging for skilled assistance	100	25.6	89	22.8	130	33.3	71	18.2	390
Making decision on place of delivery	100	25.6	206	52.8	68	17.4	16	4.1	390

Table 2. Distribution of Couples' responses on their knowledge of birth preparedness and complication readiness in Oji River LGA, Enugu State

Knowledge level	Frequency	Percent	Valid Percent
Very-Good (>80%)	42	10.8	10.8
Good (70-79%)	265	67.9	67.9
Fair (65%-69%)	41	10.5	10.5
Poor (55%-64%)	25	6.4	6.4
Very poor (<55%)	17	4.4	4.4
Total	390	100.0	100.0

Table 3. Summary of respondents' knowledge level of birth preparedness and complication readiness in Oji River LGA, Enugu State

(n=390)

Practice variables	Yes		NO	
	F	%	F	%
Attended antenatal care at least 4 times	104	26.7	286	73.3
Put in use health education on pregnancy and childbirth complications	168	43.1	222	56.0
Made a plan of the facility to deliver	88	22.6	302	77.4
Saved money in case of pregnancy/birth complications	83	21.3	307	78.7
Arranged to have a birth companion or attendant during delivery	274	70.3	116	29.7
Provide transport or keep money aside for transport	102	26.2	288	73.8
Make provision for blood donation	76	19.5	314	80.5
Buys baby's clothing and other requirements	100	25.6	290	74.4
Make arrangement for care of the home during mother's absence	191	49	199	51

Table 4. Distribution of Couples' responses on their practice of birth preparedness and complication readiness in Oji River LGA.Enugu State

Couples' practice	Frequency	Percent	Valid Percent	Cumulative percent
Valid Good (>50%)	76	19.5	19.5	19.5
Fair (40% - 49%)	168	43.1	43.1	62.6
Poor (<40%)	146	37.4	37.4	100.0
Total	390	100.0	100.00	

Table 5. Summary of respondents' practice of birth preparedness and complication readiness in Oji River LGA, Enugu State

	RΠ	RΠ	RΠ	RΠ		
	Strongly agree	Agree	Disagree	Strongly disagree	Relative Importance Index	Rank
Factors						
Financial constraint	214	130	0	46	0.857692	1
Premature delivery	96	178	44	72	0.708974	2
Lack of transportation particularly at night	77	169	51	93	0.674359	3
Lack of support/assistance	69	123	45	153	0.638462	4
Lack of blood donors	57	136	36	161	0.637179	5
Location of health facility	67	129	67	127	0.625641	6
Insecurity mitigating access to health facility	45	138	53	154	0.612179	7

Table 6. Factors that hinder couples practice of birth preparedness and complication readiness in Oji River LGA, Enugu State

Demographic variable	Correlation coefficient	SIG/ (p<0.05)	REMARKS
Age			
Husband	.112	.080	Weak positive correlation; not significant
Wife	.288	.061	Not significant
Occupation			
Husband	.704	.174	Strong positive correlation; and not significant.
Wife	.502	.068	Strong positive correlation; and not significant.
Highest educational qualification			
Husband	.572	.002**	Strong positive correlation and significant
Wife	.106	.050**	Strong positive correlation and significant
Average monthly income			
Husband	,732	.017**	Strong positive correlation and significant
Wife	.649	.003**	Strong positive correlation and significant
Number of children	-521	.133	Negative correlation, not significant
Number of years together	.644	.005**	Positive correlation and significant

RΠ– Relative Importance Index

Their awareness levels on birth preparedness assessment showed that arranging for skilled attendance at birth was not known to be a priority for the respondents. The couples – though predominantly rural dwellers showed they were quite knowledgeable on issues bordering on birth preparedness and complication readiness. This finding is in consonance with that of Mutiso *et al.* (2008) who found an appreciably high knowledge of birth preparedness and complication readiness amongst respondents in Nairobi. It is however, at variance with a similar research by Kuteyi *et al.* (2011) who found out that a lower number of respondents (39.3%) were aware of danger signs during pregnancy and child birth as well as the postpartum period.

Knowledge did not translate to practice, since only 20% approximately of the entire sample actually engaged in what could be termed good birth preparedness and complication readiness practices. This finding appears to be prevalent in Sub Saharan Africa as a similar research in central Tanzania by Bintabara *et al*. (2015), & Debelew *et al.* (2014) in Southwest Ethiopia also revealed that the practice of Birth Preparedness and Complication readiness was found to be low among young mothers and pregnant women respectively. Thirty seven percent (37.4%) and forty three percent (43.1%) of the respondents showed poor practice and fair practice respectively. The attendance to antenatal clinic was poor, for more than 70% of the respondents did not attend. Only 24% of the couples actually made a plan to deliver at a specific health facility. It was only in the arrangement to have a birth companion that majority (70%) of the respondents exhibited good practice of birth preparedness and complication readiness. This finding of good social support structure in rural communities in this part of the world actually explains this particular practice. However, when compared to their knowledge levelshowed that it did not always translate to practice. This suggests that other factors besides knowledge adequacy may have been responsible for the poor practice of the study participants.

Factors that hindered their ability to put to practice what they knew were investigated. Findings revealed that financial constraints was the most critical factor that hindered couples' practice, as shown on the Relative Importance Index scale(RII scale), the RΠ= .857 which is the highest.. The respondents were quite knowledgeable, which did not translate to practice. Majority of the couples earned less than N30, 000 per month and this explains the dearth of funds to attend to issues during pregnancy. This finding agrees with that of August *et al.* (2015) & Debelew *et al.* (2014) who highlighted poverty as a major challenge militating against the practice of birth preparedness and complication readiness among community members in rural Tanzania. Lack of appropriate transportation at night, which was also reported by August *et al.* (2015), was found to be another constraint limiting couples practice of Birth Preparedness and Complication Readiness. Lack of support/assistance from relations, availability of blood donors and location of health facility were also other contributory factors. This findings also corroborates the observations of IIiyasu *et al.* (2010) who found out *inter alia* that savings for emergences were significantly low and affected preparedness for childbirth among men in Ungogo LGA, Kano State.

The findings also revealed that the age and occupation of the couples (husband and wife) were positive, though, not significantly associated with their practice of birth preparedness and complication readiness (BP/CR). Couples' number of children was negatively associated with their practice. Couples with larger number of children, had lower levels of good practice. The association was however not significant also. Couples' educational exposure, average monthly income and number of years they had spent together as husband and wife were all significant and positively associated with their practice of birth preparedness and complication readiness. This finding is similar to that of Bintabara *et al.* (2015) in Chamwino district in Central Tanzania on BP/CR among recently delivered women. They found that spouse employment was associated with BP/CR

status. Similarly, Debelew *et al.* (2015) found that educational status, husband's occupation and income were associated with Birth Preparedness and Complication Readiness practice. The findings suggest that higher educational attainment and income levels enhance the chances of couples' practice of birth preparedness and complication readiness.

Conclusion

Most of the couples 307 (78.7%) had good knowledge of birth preparedness and complication readiness. Knowledge did not translate to practice as less than 20% of the couples actually practiced the acceptable level of birth preparedness and complication readiness. Financial constraints were the most critical factor that hindered couples' practice of birth preparedness and complication readiness, followed by premature delivery and lack of transport at night. All the socio-economic variables examined were associated with couples' practice of birth preparedness and complication readiness. Educational exposure, income and number of years together had significant positive associations with the subject matter while age and occupation were not significant.

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