

Determinants of Timely Complication-Referral Practices among Traditional Birth Attendants in Selected Communities of Oyo State, Nigeria

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Abstract

Background Prevalence of poor pregnancy outcomes with complications and maternal mortality account for 75% of maternal mortality resulting from the practice of traditional birth attendants (TBAs) who are not skilled sufficiently to detect high-risk pregnancies and birth complications early for referrals. This study was undertaken to understand the dynamics involved with timely complication-referral practices among TBAs in selected communities in Oyo State, Nigeria.

Methodology This cross-sectional survey utilized interviewer-administered 58-item validated questionnaire for data collection from 210 consenting TBAs recruited by multistage sampling technique across three senatorial districts of the State. Knowledge, perception of seriousness, susceptibility of pregnancy complications, perceived benefits of referral, Self-efficacy, attitudinal dispositions, reinforcing and enabling factors, and referral-practices were measured on 16-, 15-, 12-, 15-, 9-, 12- 12-, 15- and 18-point reference scales respectively. Data analysis reported means and standard deviations and test of associations to determine predictors of the outcome variable. All statistical tests were at 5% level of significance.

Results Study showed that 80% of respondents acquired their skills through apprenticeship training while mean scores for knowledge (4.1 ± 0.25), perceived seriousness (4.34 ± 0.30), perceived susceptibility (6.92 ± 0.22), perceived benefits (9.42 ± 0.25), self-efficacy (5.68 ± 0.26), attitudinal dispositions (4.85 ± 0.29), reinforcing (3.16 ± 0.40) and enabling factors (3.86 ± 0.18) and timely complication-referral practices (7.75 ± 0.27) were all not satisfactory. Enabling factors most significantly predicted referral practices ($R= 0.882$; $r^2=0.778$; $p<0.001$).

Conclusion All variables scores were poor. Enabling factors defining infrastructural resources and training most significantly predicted referral practices. The study recommends constant capacity-building to improve skills of TBAs to recognize high-risk pregnancy and initiate early referrals.

Keywords: High-risk pregnancy, TBAs, Birth complication-referral practices, Maternal mortality.

Introduction

Maternal mortality rates have been a source of consistent global burden of public health concern with about 99% of the maternal death occurring in developing countries such as Asia and Sub-Saharan Africa while 1% is from developed countries (CIA, 2015; CIT, 2019; UNICEF, 2015; WHO, 2015). It is estimated that pregnancy complications have claimed the lives of 1,600 women on a daily basis and over 500,000 lives annually mainly attributable to lack of skilled care during and after pregnancy (Biswas, 2016; Kawakatsu, 2014; WHO, 2018). Three quarter (75%) of maternal mortality is said

to be caused by pregnancy complications such as hemorrhage, postpartum sepsis, eclampsia, obstructed labor and complications of unsafe abortion (WHO, 2004). Maternal mortality rates translate to about 18 times higher in the developing countries compared to developed country (Alkenna, 2016, CIA, 2015). Nigeria is the second largest nation contributing to high maternal mortality rates with 814 per 100,000 lives birth which makes 14% of the global maternal deaths (WHO, 2019; Sageer, 2019; Jane, 2012).

A contributing factor to maternal mortality rates is the susceptibility of pregnant women to unpredictable pregnancy complications which

can only be managed by skilled birth attendants if complications are detected early. However due to shortage of health care services especially at the rural areas and the poor health care seeking behavior of pregnant women, over 60% of deliveries are assisted by traditional birth attendants (Adeniyi, 2015; Aschenaki, 2018; Bolanle, 2014; Crowe, 2012; Adanna, 2019; Osain, 2011; Yarney, 2019). According to World Health Organization, traditional birth attendant is a person who assists pregnant women during childbirth and has acquired obstetric care skills by delivering babies or through apprenticeship under the supervision of older more experienced traditional birth attendants (WHO, 1992; Carlaugh, 2005). Traditional birth attendants are also known as natural helpers (Bergstrom, 2001). They do not receive financial rewards for the services they render in the rural areas and are easily accessible to clients hence make them most preferred health care providers in the community settings. Their services in the communities include assisting deliveries for women, giving culturally-based health education regarding what is considered essential nutrients to women during pregnancy and lactation, and arrange means of transportation and accompany women in labor to health facilities in cases of complication, and provide psychological support and counseling to women during pregnancy and child birth (Adetara, 2018; Imogie, 2002; Joseph, 2018; Olufunke, 2008).

However, these TBAs are not formally trained and lack skills to manage emerging pregnancy complications adequately but are required to refer observed high-risk pregnancies to skilled birth attendants, who are trained in the formal recognized professional institutions and registered, if birth complications are detected early for timely intervention (Pyone, 2014; Sipe, 2012). Unfortunately, these TBAs are not able to detect birth complication early enough for timely intervention on high risk pregnancy. The value of early detection of pregnancy and birth complications is highly significant in saving lives of the women during pregnancy and after delivery (Koyombo, 2013; Miller, 2017).

Various studies carried out in Nigeria have consistently demonstrated that TBAs are reluctant to refer pregnant women in the event of emerging birth complication to better skilled attendants for monitored and safe delivery

(Abodunrin, 2010; Ebuchi and Akintujoye, 2012).

Despite the significant roles of traditional birth attendants in maternal health services, most especially in the rural areas and deprived communities in Nigeria, there is scanty literature regarding factors that are associated with referral practices among the TBAs where they have high patronage of pregnant women. Findings from this study will be useful as baseline in designing intervention to strengthen functional benefits provided by this category of care providers working in the community and further facilitating more integrated services delineating responsibilities between TBAs and obstetric services offered by the State Healthcare system.

Materials and methods

Study design, subjects and settings

The study was cross-sectional in design conducted between October and November 2019. A validated 58-item structured questionnaire with reliability coefficient of 0.7 was used to collect information by interviewer-administered technique from 210 consenting TBAs recruited by multistage sampling technique across three senatorial districts of the State. Sample size was derived from Lesley Kish (1965) sample size computation. Research assistants that speak local dialects were recruited and trained to assist in conducting the surveys for data collection.

Study Area The study was conducted in Oyo State, Ibadan as the capital of the state covering an area of 28,454km² with a total of 33 local government areas in the three (3) senatorial districts of Oyo State. For this study, a total of six (6) LGAs at the remote areas were purposively selected across the 33 LGAs for the study. The local government areas used for the study are Egbeda, Iseyin, Lagelu, Irepo, Ogo-oluwa and Itesiwaju and 35 respondents recruited from each LGA through simple random sampling.

Ethical consideration

Approval for the study was sought and received Babcock University Health research Ethics (BUHREC) and also obtained from the various local government areas selected for the study with collaboration with the head of Primary Health Care centers in all the LGAs. The purpose of the study was fully communicated to the participants and their consent to participate was secured prior to conducting the study.

Data analysis

Data collected were coded and entered into the computer with statistical package for social sciences (SPSS) version 23.0. Descriptive statistics such as frequency distributions for demographic characteristics of respondents, means and standard deviations were synthesized by transforming responses into weighted aggregate scores to measure levels of the moderating and outcome variables in the study. Knowledge, perception of seriousness and susceptibility of pregnancy complications, perceived benefits of referral, Self-efficacy, attitudinal disposition, reinforcing and enabling factors, and referral practices were all measured on 16-, 15-, 12-, 15-, 9-, 12- 12-, 15- and 18-point reference scales respectively. used to evaluate levels of information need, health literacy, and preventive health behaviour. Regression analysis was conducted to test the hypothesis characterizing the associations between moderating variables and outcome dependent variables. The level of significance was set at 5% for all statistical procedures.

Results

Demographic characteristics

The result showed that the mean age for all respondents in the study was 54 ± 6.6 . There were more female traditional birth attendants (88%) than male (12%) which validates the result of other studies that 90% of traditional birth attendants are women most especially in Sub-Saharan Africa. Half of the participants (50%) had only primary educational attainment, only (35%) had secondary school attainment while others (15%) had no formal education and none of the participants had tertiary education. A little above average of the participants (60%) acquired their skills through apprenticeships from other TBAs, 15% from skilled birth attendants while 25% acquired from both the skilled birth attendants and TBAs. The mean year of experience of all participants was computed to be 17.6 ± 5.8 while mean number of births assisted to by the participants yearly was 11.9 ± 3.2 . Majority of the participants (70%) engage in another job asides

assisting pregnant women to deliver while 30% had no other jobs. (See Table 1).

Moderating variables

There were eight moderating variables measured in this study. The results showed that mean scores for knowledge (4.1 ± 0.25) of respondents regarding recognition of high-risk pregnancy and necessary action to take was poor at a prevalence of 25.6%, while perception of seriousness (4.34 ± 0.30), and perception of susceptibility (6.92 ± 0.22) of an emerging pregnancy complications was similarly poor at prevalence of 29% and 57.7% respectively. Perception of benefits (9.42 ± 0.25) and perceived self-efficacy (5.68 ± 0.26) to initiate timely referral in emerging birth complication were above average scores at 62.8% and 63.1% prevalence respectively. Attitudinal dispositions (4.85 ± 0.29) of respondents was below average score representing slightly negative attitude of not willing to refer pregnant woman in labor to a more skilled facility. Reinforcing (3.16 ± 0.40) and enabling factors (3.86 ± 0.18) were very poor at a prevalence of 26.3% and 25.7% respectively. Computed scores for timely complication-referral practices (7.75 ± 0.27) was similarly poor at 43.1%. (See Table 2) Regression analysis showed that enabling factors most significantly predicted referral practices ($R= 0.882$; $r^2=0.778$; $p<0.001$).

Discussion

The aim of the study was to assess the determinants of timely complication-referral practice among traditional birth attendants grounded in the predisposing, reinforcing, enabling construct of educational/environmental diagnosis and evaluation (PRECEDE) meta-model. Components of the model considered in this study was levels of personal-level dispositions enhancing timely referral of at-risk pregnancy such as Knowledge, Perceptions and Attitudes and environmental-level factors that could facilitate timely referral among the respondents, such as reinforcing factors and enabling factors and the outcome variable of current referral practice of the TBAs were measured.

Table 1. Demographic Characteristics of the participants in the study

VARIABLES	Respondents N=205	
	Frequency N (%)	
Gender:		
Males	24	(12.0)
Females	181	(88.0)
Marital Status:		
Married	144	(70.0)
Divorced	51	(25.0)
Widowed	10	(5.0)
Religion		
Christian	175	85.0
Muslim	31	15.0
Education:		
Non-Formal	31	15.0
Primary	103	50.0
Secondary	72	35.0
University	0	0.0
Form of training:		
Formal Training	0	0.0
Apprenticeship TBA	124	60.0
Skills from SBA	31	15.0
Both SBA and TBA	51	25.0.

Table 2 Measures of Factors involved in birth-complication referral practices among TBAs.

VARIABLES	Reference Scale of Measure	Control N=60		Prevalence %
		\bar{X}	\pm SD	
Knowledge	16	4.10	0.24	25.6
Perceive Seriousness	15	4.34	0.30	29.0
Perceived Susceptibility	12	6.92	0.22	57.7
Perceived Benefits	15	9.42	0.25	62.8
Perceived Self-Efficacy	9	5.68	0.26	63.1
Attitudinal Dispositions	12	4.85	0.29	40.4
Reinforcing Factors	12	3.16	0.40	26.3
Enabling Factors	15	3.86	0.18	25.7
Referral practices	18	7.75	0.27	43.1

The results showed that TBAs in the study are not well acquainted with knowledge regarding identification of high-risk pregnancy and considering their low attitudinal disposition towards making referral decisions of deliveries that are encountering some risk of poor outcomes is worrisome. The TBAs' Perceptions of high-risk pregnancy and outcomes clearly demonstrated lack of clear understanding of the far-reaching consequences involved in birthing process especially in the situation that threatens

and puts the woman at risk of poor pregnancy outcomes. It is likely that in the process of evaluating the emerging complications interplay between certain psycho-cognitive considerations such as knowledge and attitudinal dispositions of the TBAs interfere with behavioural responses that should be triggered to facilitate timely referral of the pregnant woman in danger of life-threatening birth-complications. As it has been demonstrated in literature, one of the critical threats to normal birth which TBAs are ill-

prepared to manage is severe bleeding that occur about the first 48 hours following delivery, hypertension and possible infections (Chukwuma, 2017). Despite being considered repository of a wealth of traditional knowledge in some countries, there is ongoing considerations to review their roles following observed potentially harmful and outdated practices (Bucher, et al. 2016).

Referral is the coordinated transfer of patients to high-level care facility within the shortest time during an emerging health emergency such as birth-complication (Biswas, 2018). One of the critical periods in maternal health care services is timely referral protocol, especially in obstetric emergencies when the need to have skilled care providers manage emerging birth complications. As could be observed in the results obtained in this study where knowledge and perceived seriousness were poor, expected to awaken cognitive and emotional responses necessary to stimulate behavioural response of initiating referral to health facility that can better manage the case before it becomes an emergency.

It was established statistically that an association between perceived seriousness of high-risk pregnancy and timely referral practices of the respondents was reported ($r=0.650$, $p=0.042$). Perceived susceptibility of pregnant women to childbirth complication as a result of high-risk pregnancy was measured on 12points rating scale and mean score was 6.92. This score means just above 50% had good score for this perception. This is also not appropriate as they are supposed to have very high perception of the subject matter so as to always initiate timely referral of at-risk cases. Perceived benefits of timely referral had a very good from with a mean score of 9.42 from a total rating score of 15points. This translates that respondents believe in the good outcomes of timely referral of birth complication cases. The respondents also had good self-efficacy with a mean score of 5.7 from a total rating score of 9points. The implication for this is that they have good and favorable intention to refer, provided there is an enabling environment to initiate smooth referral to a skilled birth attendant. Furthermore, it was established statistically that there was an association between self-efficacy of the respondents and their referral practices, $r=0.736$, $p=0.015$.

However, attitudinal disposition of timely referral to skilled birth attendant was highly poor. Majority of the respondents (80%) complained that their clients were never attended to promptly and appropriately each time they refer their client to the skilled birth attendant. The attitudinal dispositions reported in this study based on 12-point rating scale was a mean of 4.8 ± 0.29 translated to a negative attitude reflecting reluctance to refer clients and believing they can resolve the emergency. In most cases the emergence progresses to a critical stage even when the woman is eventually referred to skilled health facility, the level of deterioration in the health of mother and unborn child is seriously compromised by the delay in transfer.

One of the central basis of maternal health care services is to initiate early referral intervention, especially in the care of obstetric and newborn emergencies when the need arises like birth complications. The goal of timely referral is to reduce or prevent the delay for taking the pregnant woman in the developing emergency to the next level of care, one of the three delays that contribute to maternal deaths (Raj, 2015). Similarly, environmental level factor such as reinforcing factors was measured on 12points rating scale and mean score was 3.7. While enabling factors was measured on 15points rating scale and mean score was 3.6. The implication for these is that respondents are not being provided with an enabling environment to refer adequately.

The study showed that prevalence of referral practice in this study was below average at 43.1% prevalence and unacceptably poor. Bucher, et al. (2016) in their study observed, within the backdrop of ongoing consideration for reformation and redefining roles plaid by TBAs in the health care continuum in Kenya and the reported harmful traditional practices, felt that a policy brief recommending re-educating and re-defining the roles and responsibilities of traditional birth attendants would appropriately reposition these categories of healthcare workers who serve as safety net in the community.

Conclusion

In conclusion, the studies have shown that respondents had low level of predisposing factors that could enhance referral practices among them. Environmental level factors that could support and promote timely referral among the

respondents are also not in place fully. However, more than 80% of the respondents have good intention of timely referral if other factors that promote referral are adequately implemented. It is envisaged that strategic training in addressing identified weaknesses in TBAs' referral practices such as of adequate knowledge about maternal health and danger signs, a favorable perception of the implications of emerging dangers in birth-complication and altitude would reinforce and enable them to refer at appropriate times in the course preparing for birthing.

Recommendation

The study recommends regular training and re-training of TBAs with constant monitoring and supervision to promote timely referral of high risk and complicated pregnancy and deliveries while training of the skilled birth attendants is not compromised. The training of TBAs should be carried out in collaboration with the skilled birth attendants to foster good relationship between the duos. More intervention research is needed to determine and compare referral practices among the respondents.

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