EDUCATIONAL AWARENESS OF FACTORS REDUCING MATERNAL MORTALITY IN RURAL COMMUNITIES IN OGUN STATE NIGERIA

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Abstract

The study aimed at educational awareness of non–medical factors associated with maternal mortality reduction and to proffer policy guidelines for informed policy intervention. We analyzed secondary data from the 2010 Covenant University project on non-medical determinants of maternal mortality in Ado-Odo/Ota Local Government Area, Ogun State. The study employed an informant approach questionnaire design, and information on maternal mortality was recorded from 360 eligible respondents which constituted the sample size and descriptive statistics and regression analysis were further applied. The study shows among others that majority of the respondents married between the ages of 25 and 44 with a proportion of 64.2 percent. As for the deceased spouse, an overwhelming proportion of the deceased spouses got married below 30 years (64.2%). Employment status of respondents showed that those not working registered 22.5 percent and their deceased counter parts in the same working status accounts for higher proportion (39.9). The highest level of education attained by majority of the respondents interviewed was secondary education (48.1%), followed by primary education (28.6%). For the education of their deceased spouses, it was observed that 50% of them had only primary education followed by those who attained secondary school (26.7%) and those who never went to school (19.7%). The educational attainment of the deceased was very poor when compared to their husbands in all categories. Distance is a very important factor in the utilization of health facility. Slightly above three-fourths of respondents (75.2%) have to travel 6 km and beyond to access or avail themselves this facility. Treatment costs was mainly born by the respondents (49.7%) and spouse's relatives and friends (36.7%) Regression analysis results showed that 'person who pays the treatment costs' (p=0.003) and 'place of consultation' (p=0.000) were non-medical significant factors influencing maternal mortality reduction. The study recommends empowering and improving the status of women through better education and paid out of home employment in order to reduce maternal mortality and prompt better Safe Motherhood Initiative, Also providing educational awareness of non–medical factors associated with maternal mortality to men is likely to

herald positive decision and better treatment to women from men especially during the journey of pregnancy and child birth.

Keywords: Maternal mortality, health care, non-medical factors, informant approach, rural-communities

1. INTRODUCTION

Awareness of factors reducing maternal mortality is key to effective reduction of mothers in any society. Maternal mortality is a sensitive index of the prevailing health conditions and general socio-economic development of a nation. Despite all the global and national safe motherhood initiatives/conferences geared towards improving maternal health such as the International Safe Motherhood Initiative (SMI), 1987 in Nairobi Kenya, International Conference on Population and Development (ICPD), 1994 in Cairo Egypt, Fourth world Conference on Women, 1995 in Beijing China, UN Global Strategy for women's and Children's Health in 2000, UN World Summit for Children in 1990, United Nations MDGs 2000 and SDGs 2015, and its local national equivalent in Nigeria such as National Safe Motherhood Conference, Abuja 1990, Integrated Maternal Newborn and Child Health Strategy 2007(FMOH, 2007), Abuja Declaration in which African Union governments pledged to allocate at least 15% of their annual budgets towards improving the health sector (OAU, 2001), maternal mortality is still unacceptably high in several developing countries.

Globally, 289,000 maternal deaths were estimated in 2013 and sub-Saharan African (SSA) accounted for 62% (179,000) of the world maternal deaths. Also, the estimated lifetime risk for maternal mortality in developing regions is 1 in 3700 in comparison to developed regions where the lifetime risk is 1 in 160. African countries have been particularly worst hit, with Nigeria rated second globally at 560 maternal deaths per 100000 populations in 2013. Nigeria accounted for 14% (40000) taking a global second position after India on maternal mortality (WHO et al., 2013). Maternal morbidities and mortalities directly affect the survival and well-being of children (UNFPA, 2005).On a macro-level, maternal death and subsequent child death is associated with a loss of productivity leading to an estimated global economic loss of about US$ 15 billion (USAID, 2001). Studies have shown that the majority of maternal deaths and disabilities can be prevented through early and timely access to and utilization of quality maternal and child health care services (Babalola & Fatusi, 2009) which include the ability to seek for modern consultation at the health facility and to pay for the cost of services.

Maternal mortality remains a serious public health issue especially in sub-Saharan countries and contributes to the low life expectancy among these countries. Efforts aimed at reducing the scourge of maternal deaths achieved modest gains (Shah and Say, 2007) and not only were the targets not met but also the situation in Nigeria is now much worse than previous years (Ujah *et al,* 2005) No doubt, maternal mortality situation is indispensable for planning and intervention measures, there are still uncertainties as to the extent of this burden owing to current challenges with information and data collation on maternal studies in Nigeria, especially in rural and hard-to-reach areas. The current paper aimed at identifying some of the non–medical factors associated with maternal mortality in the study area for policy intervention and hence, the hypothesis that non-medical factors do not influence maternal mortality**.**

The objectives of the study are to examine the non-medical factors associated with maternal mortality in Ogun State, South-West Nigeria, and suggest public health and policy options toward improving maternal health in the region.

2. REVIEW OF LITERATURE

The study was based on the analytical framework for analyzing the determinants of maternal mortality and morbidity by McCarthy and Maine (1992) with modification. In a retrospective study on the number and pattern of obstetric deaths at the Central Hospital, Benin City Nigeria over a ten year period, Abe et.al (2008) found that apart from direct causes other indirect causes such as institutional difficulties, low literacy, high poverty levels, and extremes of parity and non-utilization of maternity services were associated with maternal mortality. According to Babalola and Fatusi (2009) Africa has the highest burden of maternal mortality in the world and sub-Saharan Africa is largely responsible for the dismal maternal death figure for the region, contributing approximately 98% of the maternal deaths for the region. According to Jamison et al (2006) about 60 percent of the maternal deaths occur during childbirth and the immediate postpartum period, with 50 percent of these deaths occurring within the first 24 hours of delivery. In a similar study in Eritrea, 16 percent of maternal deaths occurred during pregnancy, 48 percent during childbirth, and 36 percent

postpartum (Ghbrehiwot, 2004). Many women in developing countries do not have access to maternal and child care services. It was reported that the use of such services remain low in sub-Saharan Africa including Nigeria (Babalola & Fatusi, 2009).

Evidence show that increased income positively affects utilization of healthcare services (Elo, 1992). The costs of seeking healthcare may include costs for transportation, user fees (official and/or unofficial), medications and other supplies. Women from poor families or those with limited financial resources may have difficulty paying for such costs and are likely to be deterred from using health care services (Gabrysh & Campbell, 2009), and women are more likely to use health services as their economic status and autonomy level increase (Fotso, Ezeh & Essendi, 2009). The level of risk depends on a woman's health before she was pregnant, her living conditions, and the care she receives during pregnancy and delivery (Singh et al., 2009).In a hospital based study at University of Nigeria Teaching Hospital Enugu, Ozumba and colleague employed case records of maternal deaths between January 2003 and December 2005 and identified avoidable factors in maternal mortality in Enugu, Nigeria (Ozumba and Nwogu-Ikojo, 2008). According to Ujah et al (2005); study of factors contributing to maternal mortality in North-Central Nigeria found a bimodal pattern of maternal deaths occurring at both extremes of the reproductive age range and that the greatest risk of maternal death was among early teenagers and older women.

In a related study on factors that brought about poor maternal health in Nigeria, Akokuwebe and Okafor (2015) found that wide spread poverty, low level of education, inaccessibility of health care services, un-booked emergencies were among non-medical factors retarding maternal health in Nigeria apart from medical factors. Hogan et al (2010) also observed that maternal mortality ratio to have increased in 2008 from the 1990 figure. According to UNICEF (2011); Nigeria has the highest number of neonatal and maternal deaths than any country in Africa due to its large population and high rates of mortality. Another recent study using data from a household survey conducted in 2011 among four Northern states, namely, Jigawa, Katsina, Yobe, and Zamfara reported the grim situation experienced by rural women of northern Nigeria who are challenged with poor health infrastructure, poorly equipped health facilities, and attitudes that are not conducive to attaining good maternal and child health (Doctor, et al, 2012**).** From related review of literature, maternal mortality was very high at the time of study and even now; as gaps exist on full comprehension of factors influencing maternal mortality especially the non-medical ones. In addition, various factors such as education, income, cost of services, poor health infrastructure and services among others were the non-medical factors that retard maternal health leading to high mortality among mothers, most of which are avoidable factors

3. METHODOLOGY

We analyzed secondary data from the 2010 Covenant University sponsored project on non-medical determinants of maternal mortality in Ado-Odo/Ota Local Government Area, Ogun State. A key-informant approach was employed to aid identification of respondents whose wives died due to pregnancy and child birth. Thus, 360 eligible respondents constituted the sample size. Descriptive statistics and regression analysis were further applied in analyzing the data.

4. RESULTS AND DISCUSSION

The study (Table 1) shows that majority of the respondents married between the ages of 25 and 44 with a proportion of 64.2 percent. However, those between the ages of 45-54 and 55 and above account for 17.5 and 12.5 percent respectively. Nevertheless, insignificant proportion of respondents married below 24 years. As for the deceased spouse, those in the age bracket of 20-29 account for the highest proportion (37.8%) and this is followed by deceased spouses who got married below 19 years (26.4%). This showed that early marriage is common among women in the study area, the consequences of this practice cannot be over emphasized. In other words, an overwhelming proportion of the deceased spouses got married below 30 years (64.2%).Among the deceased spouse who married between the age bracket of 30-39 and 40 and above years account for least proportion (23%) and (12.8%) respectively. This implies that in the study area husband's age at first marriage was higher than his deceased wife, which must have influenced the behavior of the wife in terms of gap in husband and wife communication.

Employment status of respondents revealed a fascinating trend as those not working, that is unemployed and those who are unskilled registered 22.5 percent and their deceased counter parts in the same working status accounts for a higher proportion of approximately two-fifths (39.9%). Among the respondents, skilled category account for 32.2 percent followed by trading (23.3%), peasant farming (11.4%) and civil service (10.6%). Among the deceased counter parts trading account for 25.3 percent, peasant farming 21.7 percent and artisans 13.1 percent respectively. These figures show that socio-economically males are better off than

their female counter part. This means that the respondents spouse engaged in less or non income paying jobs making their income to be lower than their husbands which led to high dependency on their husbands. The highest level of education attained by majority of the respondents interviewed was secondary education (48.1%), followed by primary education (28.6%). However, respondents with no school and post secondary education account for16.1% and 7.2% respectively. When reference was made to the education of their deceased spouses, it was observed that 50% of them had only primary education followed by those who attained secondary school (26.7%) and those who never went to school (19.7%). Nevertheless, those who attained post secondary education were the least (3.6%).The educational attainment of the deceased was very poor when compared to their husbands in all categories. This is a very serious situation in view of the importance of education as a vital force in shaping the whole gamut of an individual's life particularly mother's empowerment. In fact, accelerating women's low status is possible only with a transforming education beyond secondary level.

Table 1 Socio-Demographic and Health characteristics of Respondents and Deceased Spouses

Variable	**No N=360**	**Percent**		**Variable**	**No N=360**	**Percent**
Age At First Marriage (Years)				Age At first Marriage of Deceased (Years).		
15-24	21	5.8		15-19	95	26.4
25-34	120	33.4		20-29	136	37.8
35-44	111	30.8		30-39	83	23.0
45-54	63	17.5		40 and above	46	12.8
55 and above	45	12.5				
Occupational Status				Deceased Occupation		
Civil Service	38	10.6		Fulltime Housewife	92	25.5
Labour/Unskilled	54	15.0		Laborer/Unskilled	52	14.4
Skilled/Artisan	116	32.2		Artisan	47	13,1
Trading	84	23.3		Trading	91	25.3
Peasant Farming	41	11.4		Peasant Farming	78	21.7
Unemployed	27	7.5				
Educational Attainment				Deceased Education		
No Schooling	58	16.1		No Schooling	17	19.7
Primary level	173	48.1		Primary level	180	50.0
Secondary level	103	28.6		Secondary level	96	26.7
Post-secondary level	26	7.2		Post-secondary level	13	3.6

Source: Authors' Computation 2017.

Distance is a very important factor in the utilization of health facility. Respondents who have health facility close to their homes (< 2 km) account for the least (2.5%) and those that avail the health facility at a distance of 2-3 km and 4-5 km account for 7.8 percent and 14.5 percent respectively. However, slightly above three-fourths of respondents (75.2%) have to travel 6 km and beyond to access this facility. This distance is at variance with the maximum distance of 4 km recommended by World Health Organization. The implication, among others, is that pregnant women become lethargic to access the facility for ANC, delivery and treatment. Considering the poor status of wives in sub-Saharan African countries in general and the absolute dependence on household heads, it becomes practically difficult to travel such distance without assistance, coupled with the poor road networks in most rural areas. Seeking diagnosis or place of consultation from medical institution leads to better health care delivery system as it reduces the risks for the mother and child during this critical period. The study observed that assistance on diagnosis of illness during pregnancy and child delivery showed that medical personnel account for slightly above half of the respondents (51.4%) and non medical persons account for 48.6 percent respectively. This is a worrisome situation as it increases the probability of adverse pregnancy outcomes particularly as 63 percent of births take place at home in Nigeria (NPC 2014).

The study revealed that an overwhelming proportion of the respondents (93.3%) attested to their knowledge of antenatal care. Ability to pay for health services predisposes ANC mothers on where to seek consultation and even delivery. Women who have the ability to pay or whose husbands have the willingness to pay (as women depend on their husbands mostly in a patriarchal society like Nigeria) are more disposed towards the use of healthcare services. The Payment of treatment cost and decision on where to go for treatment are exclusively under the domain of the respondents (husbands), especially in African countries where culturally male dominance and women subjugation are normal ways of life. In the study area, 49.7 percent of the respondents admitted being responsible for the treatment costs. This is followed by spouse's relatives and friends (36.7%) and lastly came both the couple (8.9%) and wife alone (4.7%). As for the decision on where to obtain treatment, the respondents account for 73.9 percent. The low status of women also reflected on who participate in paying of bills and decision making process. And this is one of the reasons why Nigeria and sub-Saharan African countries are having very high maternal mortality ratio.

Provider of antenatal care services from a trained or skilled provider is vital at reducing the risks for both mother and child. According to NDHS (2013) only 38 percent of deliveries are attended to by skilled medical personnel. Similarly, the study revealed that 67 percent of the respondents received the attention of medical personnel whereas a reasonable proportion did not (33%) (NPC 2014). According to NPC (2004) proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that can cause serious illness or death of the mother, child or both. While majority claimed their wives delivered at hospital (25.2%), majority of these deliveries were concentrated in the private hospital/clinics (27.2%) and PHC (6.4%).However, a worrisome figure of about 18.4% respondents' wives delivered at home and 22.8% delivered at traditional medicine homes. Therefore, institutional and non-institutional delivery accounts for 58.8 percent and 41.2 percent respectively, which is a cause for concern and a big clog in the wheel of maternal reduction.

Table 2 Health and related characteristics of Respondents and Deceased Spouses

N = 360 N360

Variable	Number	Percent		Variable	Number	Percent
Distance to H/Facility				Place of Consultation		
< 2 km	9	2.5		Medical institutions	185	51.4
2-3 km	28	7.8		Non medical institutions	175	48.6
4-5 km	52	14.5				
6 km and above	271	75.2				

				Antenatal Awareness		
				Yes	236	93.3
				No	24	6.7
Payment of Treatment Cost				Family Size		
Husband	179	49.7		1-2 Children	30	8.3
Spouse	17	4.7		3-4 Children	101	28.1
Both	32	8.9		5 Children and above	229	63.6
Others (relation/friends)	132	36.7				
Provider of Antenatal Care						
Medical personnel	241	67.0				
Non-medical personnel	119	33.0				
Decision on Treatment Place				Place of Last Delivery		
Husband	266	73.9		At Home	66	18.4
Spouse	24	6.7		Traditional medicine home	82	22.8
Both	65	18		Government Hospital	91	25.2
Relation/Friends	5	1.4		PHC	23	6.4
				Private Clinic	98	27.2

Source: Authors' Computation 2017.

To bolster the above findings, regression analysis was carried out (Table 2) using place of delivery of last birth as a proxy dependent variable to maternal mortality along with other independent variables such as place of consultation and antenatal care payment of treatment costs. The findings showed that there is significant relationship between these variables and the dependent variable. Both place of consultation and payment of treatment costs showed very strong relationship with the dependent variable (P= 0.003 and P= 0.000). The place of consultation and payment of treatment costs are seen as significant determinant of choice of hospital and health centre that pregnant women visit for child delivering. The findings were in consonance with some of the earlier studies such as Elo (1992) and Abe et al (2008). This implies that wrong place of consultation will adversely influence the choice of birth place which invariably exacerbate maternal mortality. From the ANOVA, the F- test (17.384) confirmed the hypothesis that non-medical factors influence maternal mortality.

Table 3: ANOVA showing the relationship of non-medical factors and maternal mortality

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.358	.123		27.259	.000
	Place of consultation	.162	.032	.266	5.020	.000
	Who pays the treatment costs	-.007	.002	-.156	-2.950	.003

R Square = .097; Adjusted R Square = .092; F = 17.384.

a. Dependent Variable: Place of Delivery of last birth.

5. CONCLUSION

Maternal mortality in developing countries continues to be a serious public health problem and contributes to the low life expectancy in Nigeria. The study identified some non-medical factors that have important implication or influence on maternal mortality in the study area. Among these include the place of consultation and payment of treatment costs. In rural communities where health care facilities are poor, adequate knowledge of non-medical factors affecting maternal mortality may boost positive practices and confidence among masses on patronizing modern health care services. Also appropriate health education for men who are culturally and conventionally the head as well as decision-makers of their homes is likely to usher in informed knowledge and better behavioral practices towards women during the journey of pregnancy and child birth.

RECOMMENDATIONS

In line with the findings, the following recommendations have been made to improve the survival chances of mothers during pregnancy and child birth. These include: i) empowering and improving the status of women through better education and paid employment outside their homes may reduce maternal mortality and prompt better Safe Motherhood Initiative, ii) Specially designed maternal health education be provided to men to further their understanding of women's health issues. This is because men are the one that pays the bills and decide on place of consultation and or treatment. Thus, providing educational awareness of non–medical factors associated with maternal mortality to men may herald better decision on women during pregnancy and child birth.

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