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Factors Influencing Delivery Practices among Pregnant Women in Kenya: A Case of Wareng' District in Uasin Gishu County, Kenya

Juley-Anne Bochaberi Mokua

MPH, School of Public Health, College of Health Sciences, Moi University, Eldoret, Kenya and Senior Public Health Officer, Uasin Gishu County, Kenya

ABSTRACT: Maternal mortality remains to be a major public health concern globally. In Kenya, pregnancy and childbirth is still an important cause of mortality among women of reproductive age. Due to the various awareness campaigns in Kenya on antenatal clinic attendance in health facilities, high numbers of women are now attending antenatal clinic (ANC). Despite the high rates of ANC attendance, utilization of skilled birth attendants during delivery remains very low. Most women still deliver away from health facilities without the assistance of skilled birth attendants. This study was conducted in Wareng' district and it is based on the premise that, despite awareness campaigns on skilled birth attendance in the country and in particular Wareng' district, there are other factors that determine delivery practices among pregnant women, which include the women's level of education, income levels, marital status and physical access of health facilities. Findings of the study showed that educated women have a better understanding of issues and are able to make their own decisions on matters concerning their health. Those women who make more visits to health facilities are constantly reminded during visits on the importance of delivering in the health facility and being assisted by a skilled birth attendant hence, increasing their chances of utilizing the same. This study recommends that the health practitioners in the reproductive health departments not only in the study area, but also throughout the country, should work with relevant stakeholders and embrace health education programs to provide more information on ANC through the appropriate communication channels so as to ensure that all women are prepared for safe deliveries.

KEYWORDS: Delivery, Maternal Health, Mortality, Wareng' District, Kenya.

1 INTRODUCTION

Maternal mortality remains a major global public health concern more than twenty years after the international Safe Motherhood Initiative was launched (Gwamaka, 2012). Each year, 358,000 women die worldwide from pregnancy-related causes, nearly all in Sub-Saharan Africa and Asia, and many women die from obstetric complications (WHO, 2010). Similarly, the World Health Organization (WHO) has reported that the proportion of deliveries attended by skilled health providers rose from 58% in 1990 to 68% in 2008 worldwide, but remained at only about 50% in Africa (WHO, 2011). The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without the distinction of race, religion and political belief, economic or social condition as stated by the WHO constitution (WHO, 2006). In this regard, every woman has a right to the best possible care during pregnancy, delivery and postpartum periods to ensure her survival and that of her newborn.

Despite this knowledge, approximately eight million women suffer pregnancy-related complications and over half a million die every year although these deaths can be prevented. Maternal mortality is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO, 2012). Over 500,000 women globally die every year due to maternal causes, and half of all global maternal deaths occur in

sub-Saharan Africa (CIDA 2011; Kirigia et al. 2011). Each death or long-term complication represents an individual tragedy for the woman, her partner, her children, her family and society at large.

An estimated 2.65 million stillbirths occurred in 2008 worldwide (Lawn et al. 2011), while annually 3 million newborns do not survive the first month of life worldwide (WHO, 2006). The main causes are known, and more than 80% of maternal deaths could be prevented or avoided through actions that are proven to be effective and affordable, even in the poorest countries of the world. Surveys conducted in Egypt and elsewhere have shown that the quality of care provided to the women is a key determinant of maternal outcome (WHO, 2004). The use of skilled birth attendants during childbirth, readily accessible appropriate care in case of complications, and effective postnatal care within the first 24 hours of delivery are some of the strategies that can improve prenatal outcomes for mothers and babies (Fillipi et al. 2006; Adegoke et al. 2009). According to the WHO (2007) report, the high level of maternal and newborn morbidity and mortality has not changed substantially over the last decade as many women in Africa are dying each year from complications of pregnancy and childbirth.

In Kenya, the 2010 maternal mortality rate per 100,000 births for Kenya was 530, however, it has been reported to be as high as 1000 in the North Eastern Province (Red Cross, 2011). This is compared with 413.4 in 2008 and 452.3 in 1990. The under 5 mortality rate, per 1,000 births is 86 and the neonatal mortality as a percentage of under 5 mortality is 33. Additionally, the number of midwives per 1,000 live births in the country is unavailable and the lifetime risk of death for pregnant women is 1 in 38 (UNPF, 2011). With the annual number of maternal deaths being 6222, the total annual economic loss due to maternal mortality in Kenya was estimated at $2240, again one of the highest losses compared to other African regions (Ochako et al. 2011). Maternal health services are provided by facilities at every level of Kenya's health system. The MOH and the National Coordinating Agency for Population and Development (NCAPD) have identified maternal health as a priority health issue and put in place a strategy to reduce maternal morbidity and mortality. Kenya has adopted the WHO goal oriented model of ANC, incorporated it to its national guidelines (ROK, 2004), piloted it in Lugari and Busia districts and eventually rolled it out to all health facilities in the country (ROK, 2004; Birungi and Ouma, 2006).

The KDHS 2008/9 showed that only about 43 percent of births in Kenya took place in a health facility, and that the decision on place of delivery was mainly influenced by factors related to ease of access to services- availability of transport to, and charges for services at the health facility. The same survey also reported that, overall, only 44 percent of births in Kenya were delivered under the supervision of a skilled health provider (nurse, midwife or doctor). This is below the target of 90% of deliveries by 2015. Traditional birth attendants continue to assist with 28% of births, relatives and friends with 21%, and in 7% of births, mothers receive no assistance at all (KNBS, 2008/2009). Although health sector infrastructure has grown over the past decade, many women still live at a considerable distance from health facilities, cannot afford to pay fees for maternal services, and/or face other barriers to accessing quality care. Access to skilled delivery is a particular challenge. Studies have shown that the presence of positive association between utilization of maternal health care and residence; those living in urban and closest to health facilities tend to utilize skilled delivery services more than rural dwellers (KNBS, 2010).

The Constitution of Kenya 2010 further provides that a person has the right to emergency treatment (Article 43(2)), the right to inherent dignity and the right to have that dignity respected and protected (Article 28), and the right to access information (Article 35). The Kenya National Patients' Rights Charter (2013) outlines the right to access health care, the right to receive emergency treatment in any health facility irrespective of ability to pay, the right to the highest attainable quality of health care products and services, the right to be treated with respect and dignity, the right to information, and the right to complain, among others (MoH, 2013).

Besides, Kenya has signed on to several regional mandates regarding health/reproductive health. Kenya participated in and committed to the 2001 Abuja Declaration, pledging to commit at least 15% of the national budget to health care, but this is yet to be implemented. Kenya signed (but did not ratify) the Maputo Protocol on the Rights of Women of 2003, which recognizes reproductive rights and commits state parties to establishing and strengthening existing pre-natal, delivery, and post-natal health and nutritional services for women. As a member of the African Union, Kenya launched the Campaign on Accelerated Reduction of Maternal Mortality in Africa (CARMMA) in November 2010, reiterating the Campaign's slogan that "no women should die while giving life" (UNFPA, 2011).

According to a study conducted in Burkina Faso, distances to health facility, education and asset ownership were major determinants of delivery care utilization (Hounton, 2008). Notably, user fees have almost always been shown to hurt poor people more and prevent them from gaining access to needed care and maternal health is no exception. Use of maternal health services is highly sensitive to the official and non-official fees charged with several reports showing that utilization fell after user fees were introduced. (Borghi, 2006) Consequently, a study by Filippi (2006) supports the argument that women are intensely vulnerable to the effects of costs incurred during childbirth especially costs of emergencies such as caesarean

section. The costs can sometimes reach catastrophic amounts which push families into poverty. For example, near-miss complications in Beninese women accounted for 26% of average yearly household expenditure, and many women often left the hospital before they were well enough for discharge because they could not pay for the care they received. User charges add to the costs of transport and companion time, which can be substantial for those living far from facilities.

Kenyan public health facilities have long suffered from insufficient infrastructure, equipment and staffing. Recent survey data found that only 36% of public health facilities offering delivery services had all the basic delivery room infrastructure and equipment needed, with rural areas and lower level facilities particularly unequipped (NCAPD et al, 2011). The Kenya Health Sector Strategic & Investment Plan (2012-2018) also estimates that current staff levels meet only 17% of minimum requirements needed for effective operation of the health system (KHSSIP, 2012).

One of the constraints to use of maternal health care in the presence of fees is household inability to access cash at the time of need, especially in rural areas where subsistence farming is characterized by temporal or seasonal inability to pay. This issue was reportedly a major constraint for between 40% and 50% of households in West Africa. Unfortunately, resource constraints are not limited to rural areas. In urban Bangladesh, 51% of families did not have enough cash for a normal delivery and 74% did not have enough for a caesarean section and so had to borrow money from a money lender or relative (Borghi, 2006). The time spent looking for money can delay the decision to seek care and reduce timely access with potentially serious implications for maternal health outcomes. Some women will choose other alternatives, including home birth with a skilled attendant, relative or traditional birth attendant, particularly where there are strong beliefs in the normality of childbirth or cultural preferences for certain practices or delivery environments. Given everybody's right to choose what's good for them it is imperative that women are provided with clear and adequate information so as to make informed choices about the most suitable place for them to deliver.

It is worth noting that, the normal delivery and preventive functions of basic care, including some emergency first aid, could be delivered by a skilled attendant in the home. Such strategies have been adopted successfully and have contributed to achievement of low maternal mortality ratios in countries such as Malaysia and the Netherlands (Campbell, 2006). Thus, home births can increase coverage of skilled birth attendants in remote areas and respond to women's demands for home-based care with a good referral system that is responsive. Women's access to and utilization of formal maternity services can be limited by distance to health facilities and the cost of transport, cultural factors including preferences for privacy, modesty and female attendants and women's lack of decision-making power. In addition, the actual or perceived affordability of health services is important as anticipated costs may play a role in deterring care-seeking, with implications for the health outcomes of the mother and child. Even when formal fees are low or non-existent, there may be hidden fees in terms of the cost of transportation, drugs purchased outside of the hospital, and food or lodging for the mother and her accompanying family members (Borghi, 2003).

Fikree *et al.* (2007) noted that women who remain outside of services even when they are accessible may do so for other reasons; costs of using services, difficulties in getting to services (such as finding transport, companions, and funds for associated costs), and absence of decision-making power (male head of household typically makes the final decision concerning type of care and provider especially if funds are required).

In many studies done in the African continent, most mothers express their wish to deliver in a health unit (Kyomuhendo, 2003; JHPIEGO, 2004). However, majority of them end up either not being attended or attended by non trained people during delivery (Maureen & Peter, 2008; Kowalewski et al. 2003). Although most pregnancy and delivery related complications cannot be predicted, high quality antenatal care (ANC) and receiving counseling on birth preparedness during antenatal care appeared to strongly influence women's use of skilled care during delivery (Maureen & Peter, 2008). In Kenya, Maternal health is recognized by the 2010 constitution as a fundamental right hence the goal to have a country where every pregnancy is wanted, every birth is safe, every newborn is healthy and no mother dies while giving life. The six pillars of maternal and newborn health in Kenya include: pre-conceptual care and family planning, focused antenatal care, essential obstetric care, essential newborn care, targeted post-partum care and post-abortion care. These services are underpinned by the foundation of skilled birth attendance and a supportive and functional health system (MOPHS, 2010).

Kenya's vision 2030 recognizes that maternal and child health plays an important role in achieving the MDGs and propelling Kenya to a middle income economy and rapidly industrializing state. It envisions a maternal mortality ratio (MMR) of 147/100,000 live births and 90% of the deliveries attended by skilled medical personnel by 2012 (GoK, 2007). It is estimated that 7,700 Kenyan women die each year because of pregnancy-related causes, which translates to approximately 21 women each day or almost one Kenyan woman every hour. Maternal mortality levels in Kenya have remained unacceptably high at 488 per 100,000 live births, with some regions reporting MMRs of over 1000 /100 000 live births (KDHS, 2009) indicating that MDG 5 (Reduce maternal death to 147 per 100,000 by 2015) is doing poorly.

Fortunately, most of these deaths can be prevented with cost-effective health care interventions including ensuring universal access to skilled attendance at childbirth, emergency obstetric care, and postpartum care, preventing unsafe abortion, and widening contraceptive choices. Since almost all maternal mortality is avoidable, the death of a woman during pregnancy or childbirth is a violation of her rights to life and health. A human rights-based approach to maternal mortality reduction calls on governments to provide universal access to skilled delivery care and emergency obstetric care. It also promotes dignity and equity for women within the health-care system (UNFPA, 2004). Previous studies have identified several factors hindering maternal delivery care service utilization especially in developing countries. In Kenya for instance, there has been free maternal services and physical access to institutional delivery services, however, many women do not use them because of inadequate knowledge, socio-cultural factors and demographic factors at individual, household, and community levels that shape their ability to seek health care. Additionally, very few studies have looked at specific issues influencing the choice of place of delivery among pregnant mothers. The information obtained will be useful for policy implementers in decision making at the sub-district, district, regional level and national level in planning, implementing and evaluating various reproductive health interventions to reduce maternal mortality rate and increase delivery at health facility and with the assistance of skilled birth attendants. It is against this backdrop that this study seeks to examine factors associated with place of delivery among recently delivered women in Kenya.

2 RESEARCH METHODOLOGY

The area of study was health facilities within Wareng District of Uasin Gishu County. Wareng District is one of the three districts in Uasin Gishu County. It borders Eldoret West to the North West, Eldoret East to the east, Koibatek to the south east; Kipkelion to the south, Nandi north to the south west and Nandi south to the west. It has a total area of 997.5 km^2 and is administratively divided into two divisions (Kesses and Kapseret), fourteen locations and 23 sub locations. It had a population of 261,073 persons (2009 census) projected to 280,209 by 2011 using a growth rate of 3.3%. The estimated number of children less than one (1) year is 11,629 (4.15% of the entire population). It has 47 health facilities i.e. 2 level four private hospitals, 7 health centres, 27 dispensaries and 11 private clinics. In 38 of the health facilities FANC has been rolled out and ANC services are offered to clients. Child welfare clinics (CWC) are conducted on all weekdays in all the 38 health facilities.

In this study ,the study population was women who had recently given birth (with recent birth defined as a birth within one (1) year as at the time of the study) and were attending child welfare clinics (CWC) (well baby clinics) in various health facilities within Wareng district during the study period. This was a descriptive cross-sectional study. The sampling frame was the master facility list of all health facilities in Wareng district. Using the district's master facility list 30% of the 38 functional health facilities (12 facilities) were picked from each of the two divisions in proportion to the estimated number of children less than one year in each of the divisions. In Kesses division the number of children less than one year was 5,314 while in Kapseret division it was 6,315. One hundred and sixty two (162) respondents were interviewed from Kesses division and 176 from Kapseret division. The number of respondents interviewed per facility was determined in proportion with the well baby clinic attendance of the selected health facilities. Respondents were then selected systematically by dividing the expected number of well baby clinic attendants by the determined sample size for the selected facilities until the predetermined sample size was reached. This paper is an outcome of a study that was conducted in Wareng' district and partly examined the factors that determine the place of delivery among recently delivered women.

3 FINDINGS AND DISCUSSIONS

3.1 MATERNAL HEALTH IN WARENG' DISTRICT

Wareng' district is one of the catchment areas for the Moi Teaching and Referral Hospital within Eldoret town. The district has 46 health facilities of which 41 are functional. In 38 of the functional health facilities FANC has been rolled out and ANC services are offered to clients. According to the Ministry of Health, by 2011, 84% of the pregnant women in the district had attended at least one ANC visit but only 9% delivered in a health facility as compared to 43% nationally. Some of the reasons given for not delivering in a health facility included; some were not aware of the existence of delivery services at the facility, the health facility was too far away, there was no transport to get to the facility and that it cost too much to deliver in a health facility.

3.2 Place of Delivery among Pregnant Mothers

The study found that more than half of the respondents 205(61%) reported to have delivered at the health facility, 28(8%) and 99(29%) at the TBA's home and the respondent's home respectively. Six (2%) delivered on the way to hospital as indicated in figure 1.

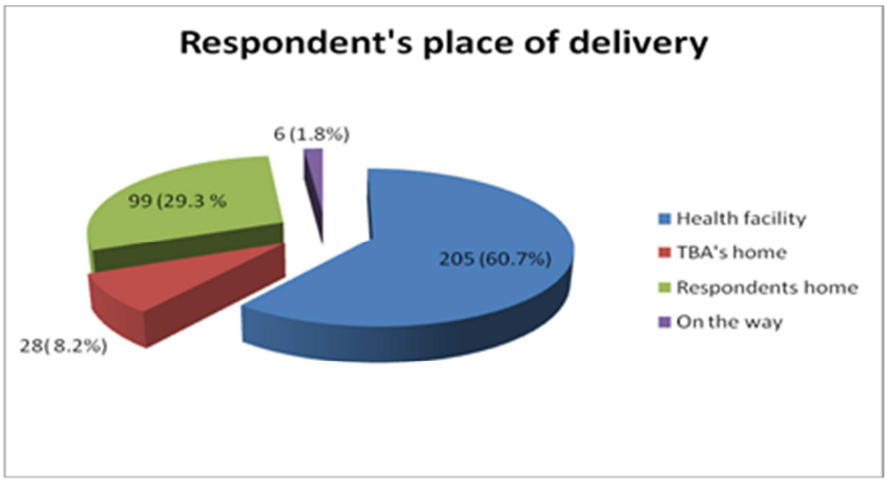

Figure 1: Respondents' place of delivery

One hundred and seventy six (53%) mothers reported that they had planned to deliver at the place where they delivered while one sixty (48%) delivered where they had not planned to deliver.

3.3 Birth Attendant by Place of Delivery

Most of the mothers who reported to have delivered in the health facility were assisted by a nurse/midwife 146 (71.2%) while those who delivered away from the health facility were mainly assisted by a traditional birth attendant (TBA) 71 (53.4%) as shown in figure 1. Overall 204 (60.4%) of the respondents reported that they were assisted by a skilled birth attendant during the delivery of their last child.

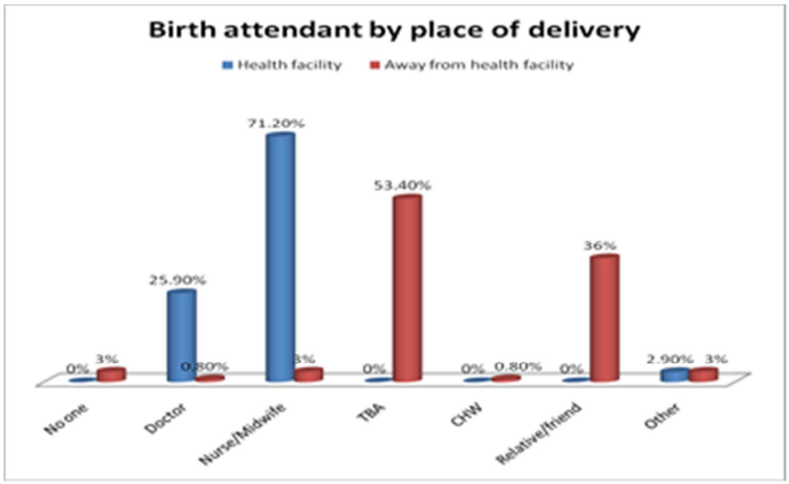

Figure 2: Birth attendant by place of delivery

3.4 Birth Preparedness, Complication Readiness and Utilization of Skilled Attendance

More than half of the respondents 210(62%) were prepared for birth and its complications while 128 (38%) were not prepared for birth and its complications. Amongst those who were prepared for birth and its complications 146 (70%) reported to have used a skilled attendant during their last delivery. The results showed that being prepared for birth and its

complications increases utilization of skilled birth attendants during delivery (p<0.001). Those who were prepared for birth and its complications were almost three times more likely to use a skilled attendant during birth as compared to those who were not prepared (OR; 95% CI: 2.753: 1.746– 4.342).

3.5 CHOICE OF PLACE OF DELIVERY

The study was interested to know the factors that influenced the choice of delivery among pregnant mother in the study. Table 1 below highlights the major factors that influence the choice of place of delivery among pregnant mothers.

Table 1: Factors associated with choice of place of delivery 1

Factor	Place of delivery		χ2 value	P-value
	Facility	Away		
Religion				
Christian	207(62.5)	124(37.5)	0.02	1.000*
Muslim	2(66.7)	1(33.3)		
Others	2(50)	2(50)		
Marital status				
Single	31(50)	31(50)		
Married	170(64.6)	93(35.4)	5.465	0.118*
Widowed	2(66.7)	1(33.3)		
Div/Separated	7(77.8)	2(22.2)		
Level of education				
None	0(0)	3(100)		
Primary	68(43.3)	89(86.7)	64.432	<0.001*
Secondary	91(74)	32(26)		
Tertiary	51(94.4)	3(5.6)		
Source of income				
Business	64 (78)	18 (22)	31.771	<0.001*
Salaried employment	28 (84.8)	5 (15.2)		
Casual employment	22 (51.2)	21 (48.8)		
Farming	42 (43.8)	54 (56.2)		

** Fishers exact chi-square*

Level of education was significantly associated with choice of place of delivery (p<0.001). The proportion of mothers utilizing health facility for delivery increased with increase in level of education. Source of income was also associated with the utilization of health facility for delivery (p<0.001) as indicated in table 1 above.

Table 2: Factors associated with choice of place of delivery 2

Factor	Place of delivery		t-value	p-value
	Facility	Away		
Mean age(yrs)	27.6 (sd 5.8)	26.5(sd 6.1)	1.499	0.135
Average monthly income(Kshs)	7886 (sd8943)	3249(sd 4093)	5.560	<0.001
Parity	3(sd 2)	3(sd 3)	1.686	0.093
No. of times attended ANC	4.76 (sd 2.8)	4.23 (sd 0.7)	2.579	0.010
Age at first ANC attendance	4.12 (sd 1.3)	4.36 (sd 1.4)	1.568	0.118

Average monthly income significantly influenced the choice of place of delivery (p<0.001) as shown in table 2. Those choosing to deliver at the health facility had on average higher income than those choosing to deliver away from the facility. The number of ANC visits made during the last pregnancy also influenced choice of place of delivery (p=0.010) with those making more visits more likely to deliver in the health facility.

Table 3: Predictors of choice of place of delivery

	B	S.E.	p-value	OR	95.0% C.I. for OR	
					Lower	Upper
Education(ref=tertiary)			.000			
Primary	3.440	.801	.000	31.185	6.495	149.743
Secondary	2.108	.808	.009	8.231	1.688	40.125
No. of ANC attended	-.531	.241	.028	.588	.366	.944
Source of income(ref=farming)			.001			
Business	-1.479	.377	.000	.228	.109	.477
Salaried employment	-.459	.651	.480	.632	.176	2.262
Casual employment	-.181	.433	.676	.834	.357	1.951

The multiple logistic regression indicated that, source of income, education level and number of times attended ANC were significant predictors of choice of place of delivery ($p<0.001$ and $p=0.001$ and $p=0.028$) respectively. Those with primary and secondary levels of education were more likely to deliver away from the health facility compared to those with tertiary level of education (OR; 95% CI: 31.185: 6.495–149.743 and 8.231: 1.688–40.125) respectively. Businesswomen, salaried employees and casual workers were less likely to deliver away from the facility compared to farmers as indicated in table1.

3.6 CHOICE OF A SKILLED BIRTH ATTENDANT

Marital status, level of education and source of income contributed to the utilization of a skilled birth attendant ($p=0.025$, $p<0.001$ and $p<0.001$) respectfully. Those who were married reported to have used a skilled birth attendant more than those who were single or separated. Increase in the level of education led to an increase in the use of skilled birth attendant. Having a steady source of income (salaried employment) increased the likelihood of using a skilled birth attendant.

In this study 60.7% of the mothers delivered in a health facility compared to 43% in the KDHS 08/09 and 65% in a study undertaken in Ethiopia and 67% in a study in Uganda. (Hiluf, 2007; Kabakyenga, 2012). This can be explained by the fact that mothers interviewed had all attended at least four ANC visits thus increasing their likelihood of delivering in a health facility (Mpembeni, 2007).All pregnant women should be encouraged to deliver in health facilities as this is an important factor in reducing the health risks to both the mother and the baby.

The results from this study indicate that more pregnant women in the study area deliver in health facilities as compared to the 9% that is recorded by the district health records office. This could be because the district has no district hospital and is part of the catchment of the Moi Teaching and Referral Hospital thus more mothers may prefer to deliver in MTRH. This can be because they feel that in case of any complications they will be attended better at MTRH thus will not require further referral to another facility hence saving on costs. It could also be due to inadequacy in the reporting tools thus making it difficult for the health records officer to capture information on mother's place of delivery.

3.7 ASSISTANCE DURING DELIVERY

In this study 60.4% of the births were assisted by a skilled birth attendant as compared to 44% of births in Kenya (KDHS 08/09) and 33% in Rift Valley Province (NCAPD et al. 2011).This can be explained by the fact that mothers interviewed had made at least four ANC visits and studies have shown that mothers who attend ANC 4 times or more are more likely to be assisted during delivery by a SBA as compared to those who make less visits (Mpembeni, 2007). Also the study was done in a hospital setting which could mean that mothers seeking further services for children are those who received advice during ANC and at delivery on the importance of attending child welfare clinic.

The proportion of women attended by a skilled birth attendant during delivery is one of the targets for measuring MDG 5. Skilled birth attendance is one of the known interventions to reduce maternal mortality hence the need to ensure that every delivery is conducted by a skilled birth attendant. In this study BP/CR was associated with the utilization of SBA at the time of delivery ($p<0.001$). The association was seen in other studies which showed that women who were well prepared for birth

were more likely to choose assistance by SBAs during birth than those who were not well prepared (Agarwal, 2010; Kabakyenga, 2012). BP/CR ensures that pregnant women, their families and the community at large prepares for the birth of the baby and are aware of danger signs in pregnancy hence can promptly identify them and ensure that the woman receives the required care promptly.

3.8 CHOICE OF PLACE OF DELIVERY AND SKILLED BIRTH ATTENDANT

In this study, the level of education was associated with increased likelihood of delivery in a health facility and under the care of a skilled birth attendant. The relationship has also been shown in other studies. (Hounton 2006; Kabakyenga, 2012) This could be because educated women have a better understanding of issues and are able to make their own decisions on matters concerning their health. In this study women who made more ANC visits also tended to deliver in health facilities under the care of a skilled birth attendant as compared to those who made less visits. Studies have shown that mothers who make more visits also deliver in health facilities (Mpembeni, 2007). This could be because of the constant reminder during visits on the importance of delivering in the health facility and being assisted by a skilled birth attendant.

This study also showed that women with a personal source of income were more likely to deliver in a health facility and be assisted during delivery by a skilled birth attendant as compared to those with no income. This might be related to the fact that women with a personal source of income have better power to make their own decision in matters related to their health and the expected expenses (Kunst, 2001; Mpembeni, 2007). Therefore women should be encouraged to make the required number of ANC visits as this increases their chances of delivering under the care of a skilled birth attendant. Also women need to be empowered in terms of education and financially as this will enable them make wise decisions concerning their health and that of their unborn baby. This way all births will be conducted by skilled birth attendants in an enabling environment leading to better maternal and neonatal outcomes.

4 CONCLUSION

From the foregoing discussion, it is evident that most pregnant mothers who attended ANC at least 4 times during their last pregnancy are likely to deliver in hospitals. It is also evident that education, levels of income and physical access to health facilities through walking or using other means of transport are major factors and/or determinants for pregnant women to deliver in a health facility in Wareng' district. This study concludes that for pregnant women to delivery in a health facility, there should be awareness raising on their levels of education on safe deliveries, socio-economic status, and more importantly change their socio-cultural perceptions towards delivering in a health facility as well as use of skilled birth attendants. This study recommends that the health practitioners in the reproductive health departments not only in the study area, but also throughout the country, should work with relevant stakeholders and embrace health education programs to provide more information on ANC through the appropriate communication channels so as to ensure that all women are prepared for safe deliveries.

REFERENCES

[1] Adegoke A, van den Broek N (2009), *Skilled birth attendance-lessons learnt,* BJOG 2009;116 (Suppl. 1):33–40.

[2] Agarwal S *et al*(2010), *Birth Preparedness and Complication Readiness among Slum Women in Indore City, India,* J Health Popul Nutr 2010 Aug; 28 (4): 383-391

[3] Birungi H, Ouma W O (2006), Acceptability *and Sustainability of the WHO Focused Antenatal Care package in Kenya***,** Frontiers in Reproductive Health Program, Population Council, Institute of African Studies, University of Nairobi

[4] Borghi *et al.* (2006), *Mobilising financial resources for maternal health*, Lancet 2006; 368: 1457–65, DOI: 10.1016/S0140-6736(06)69383-5

[5] Campbell O M R and Graham W J (2006), *Strategies for reducing maternal mortality: getting on with what works,* Lancet 2006; 368: 1284–99, DOI: 10.1016/S0140- 6736(06)69381-1

[6] CIDA 2011 cida.gc.ca/acdicida/ACDI-CIDA.nsf/eng/JUD-41183252-2NL

[7] Filippi V, Ronsmans C, Campbell OMR, Graham WJ, Mills A, Borghi J, Koblinsky M, Osrin, D. (2006). Maternal survival-Maternal health in poor countries: the broader context and a call for action.

[8] GoK, (2007), *Kenya vision 2030; A globally competitive and prosperous Kenya.* Ministry of planning, Government printer,

[9] Gwamaka S. M. D. (2012). Utilization and Factors Affecting Delivery in Health Facility among Recent Delivered Women in Nkasi District Master of Public Health Dissertation. Muhimbili University of Health and Allied Sciences.

[10] Hailu M, Gebremariam A, Alemseged F, Deribe K (2011),*Birth Preparedness and Complication Readiness among Pregnant Women in Southern Ethiopia.* PLoS ONE 6(6): e21432. doi:10.1371/journal.pone.0021432

[11] Hiluf, M., Fantahun M., (2007), *Birth Preparedness and Complication Readiness Among Women in Adigrat Town, North Ethiopia.* Ethiop. J. Health Dev. 2007;22(1): 14-20.
[12] JHPIEGO (2004), *Maternal and neonatal health, Monitoring birth preparedness and complication readiness, tools and indicators for maternal and newborn health*, Johns Hopkins, Bloomberg school of Public Health, Center for communication programs, Family Care International; Available at: http://pdf.dec.org/pdf_docs/ PNADA619.pdf
[13] Kabakyenga J K, Ostergren P O, Turyakira E, Pettersson K O, (2012), *Influence of Birth Preparedness, Decision-Making on Location of Birth and Assistance by Skilled Birth Attendants Among Women in South-Western Uganda*. PLoS ONE 7(4): e35747. doi:10.1371/journal.pone.0035747
[14] Kenya National Bureau of Statistics (KNBS) and ICF Macro, Kenya Demographic and Health Survey, 2008/2009.
[15] Kirigia et al. (2011) Effects of maternal mortality on gross domestic product (GDP) in the WHO African region.
[16] KNBS and ICF Macro (2010), *Kenya Demographic and Health Survey 2008–09*. Calverton, Maryland: Kenya National Bureau of Statistics and ICF Macro; National Bureau of Statistics and ICF Macro;
[17] Kowalewski M, Mujinja P, Jahn A: Can mothers afford maternal health care costs? User costs of maternity services in rural Tanzania. Afr J Reprod Health 2002, 6:65–73.
[18] Kunst A, Houweling T (2001), A global picture of poor–rich differences in the utilisation of delivery care; In: De Brouwere V, Van Lerberghe W (Eds) *Safe Motherhood Strategies: A Review of the Evidence.* Stud Health Serv Organ Policy 2001; 17: 297–315
[19] Kyomuhendo GB: Low use of rural Maternity service in Uganda: Impact of women's Status, traditional *Lancet* , 368(9546):1535-1541.
[20] Maureen M, Peter M: Determinants of skilled birth attendant utilization in Afghanistan. Am J Public Health 2008, 98(10):1849–1856.
[21] MOH (2011), *Consolidated district health sector plan; Wareng district 2011/2012 (AOP 7)*, DHMT Wareng.
[22] Mpembeni, *et al.* (2007), *Use pattern of maternal health services and determinants of skilled care during delivery in Southern Tanzania: implications for achievement of MDG-5 targets.* BMC Pregnancy and Childbirth 2007, 7:29. Available at: http://www.biomedcentral.com/1471-2393/7/29
[23] National Coordinating Agency for Population and Development (NCAPD) Kenya, Ministry of Medical Services (MOMS) Kenya, Ministry of Public Health and Sanitation (MOPHS) Kenya, Kenya National Bureau of Statistics (KNBS) Kenya, ICF Macro. 2011. Coordinating Agency for Population and Development, Ministry of Medical Services, Ministry of Public Health and Sanitation, Kenya National Bureau of Statistics (KNBS) Kenya and ICF Macro.
[24] Ochako et al. (2011). Utilization of maternal health services among young women in Kenya: Insights from the Kenya Demographic and Health Survey 2003.
[25] Red Cross Kenya (2011). Maternal Health
[26] United Nations (2007), Millennium Development Goals Report, United Nations, New York, NY, USA
[27] UNPF, (2011). "The State of the World's Midwifery". Retrieved August 2011.
[28] Urassa, D.P, Pembe A.B, Mganga F, (2012), *Birth Preparedness and Complication Readiness Among women in Mpwapwa District, Tanzania.* Tanzania Journal of Health Research 2012; (14) 1 DOI: http://dx.doi.org/10.4314/thrb.v14i1.8
[29] WHO (2009), *Address by Sarah Brown Patron, White Ribbon Alliance for Safe Motherhood*, Geneva, World Health Organization.
[30] WHO: *Trends in Maternal Mortality: 1990 to 2008*. Geneva: WHO, UNICEF, UNFPA & The World Bank; 2008.
[31] World Health Organization (2007), Maternal Mortality: Estimates of WHO, UNICEF, UNFPA, and World Bank, WHO, Geneva, Switzerland.