

Factors Associated with Choice of Place of Delivery and What Motivates Mothers to OPT for TBA Care in West Pokot County- Kenya

Article by Ezekiel Sirya¹, Edwin Were², Joseph Rotich³
Public Health Specialist, Kenya
E-mail: olesirya@gmail.com

Abstract

Background: Skilled birth attendance in Kenya declined from 50% in 1988 to 42% in 2003, remained the same by 2008/9 increased to 62% by 2014. By 2008/09, only 43% of births took place at HFs by SBAs while 58% occurred at home. Socio-demographic factors could be attributed to this.

Objective: To determine factors influencing mothers' choice of place of delivery and motivating them to opt for TBA care.

Methods: Descriptive cross-sectional study of 375 women. Both quantitative and qualitative data obtained from semi-structured questionnaires and FGDs/KIIs respectively. Statistical techniques; analysis using (SPSS V.20). $p < 0.05$ significant.

Results: Majority 340 (90.7%) delivered at home. Education ($p < 0.001$) and religion ($p < 0.003$) were significant predictors. Secondary level education 1.6 times more likely to choose HF delivery. Catholics 4 times and protestants 6 times more likely to deliver at HF compared to non-believers (OR; 95% CI: 3.618(0.715-18.305) and 6.162(1.401-27.102). Socio-cultural beliefs and practices were main impediment to HF delivery.

Conclusion: HF delivery found to be low (9.3%) compared 61% national. Level of education and religion impact positively HF delivery whereas socio-cultural beliefs and practices, lack of transport and availability of TBAs main bottlenecks.

Recommendation: A comprehensive program on safe motherhood by RH actors to be designed focusing on TBAs and socio-cultural beliefs and practices.

Keywords: Place of delivery, skilled birth attendance, socio-cultural beliefs.

Introduction

Background information

Worldwide, it is estimated that nearly 600,000 women die yearly from complications related to pregnancy and childbirth (about one woman every minute) (6). 99% of these deaths occur in developing countries (15). Maternal death refers to death related to pregnancy and childbirth among women of reproductive age and maternal mortality ratio is defined as the number of maternal deaths per 100,000 live births. Worldwide, more than 50 million women suffer the consequences of poor reproductive health care. Whereas 1 in every 16 women in developing countries will die of pregnancy complications, only one in 2,800 will die of a similar problem in the developed countries (15). Approximately 50% of maternal deaths occur during the first 24 hours after delivery, 25% during pregnancy, 20% between the second day and one week postpartum and 5% can occur any other time later up to six months (15). For every maternal death, another 200 women will develop some form of lifelong morbidity related to pregnancy and child birth. This is a considerable burden of disability and disease, not forgetting the millions of children who become motherless annually (15). Kenya is a good example of this saddening picture according to KDHS reports.

In the year 2015, 6,623 mothers died as a result of pregnancy and childbirth related complications and ranked 138/179 best country to be a mother with a lifetime risk of maternal death of 1:37 (11).

The five major causes of maternal deaths include; haemorrhage (27%), pregnancy-induced hypertension (14%), post-partum infection (sepsis) (11%), unsafe (septic) abortion (9%) and pregnancy related complications; obstructed labour, ruptured uterus, malpresentation (4). All of these complications cannot be managed at home by traditional birth attendants (TBAs) and require timely

referral to second level health facility or other higher levels for comprehensive obstetric care by skilled attendants.

Skilled birth attendance occurs at a health facility equipped with emergency obstetric services such as blood transfusion, intravenous fluids, antibiotics and skilled attendance (2). The best choice of place of delivery for a pregnant woman includes hospital delivery under skilled attendance. This refers to a qualified midwife or doctor with formal training and in a safe environment (2).

Complications related to pregnancy and childbirth is among the leading causes of mortality for women of reproductive age in many parts of the developing world. The age at which women begin or stop child-bearing, the interval between each birth, the total number of lifetime pregnancies and the socio-cultural and economic circumstances in which women live all influence maternal morbidity and mortality (5). Maternal mortality is a health indicator that shows very wide gaps between the rich and the poor, both between countries and within them. The number of women dying as a result of complications during pregnancy and childbirth has decreased by 34% – from 546 000 in 1990 to 358 000 in 2008. Although the progress is notable, the annual rate of decline of 2.3% is less than half of the 5.5% needed to achieve the target. While the global proportion of births attended by a skilled health worker has increased, in the WHO regions of Africa and South-East Asia fewer than half of all births had skilled assistance. (16). Women in the poorest countries, such as Malawi, and other parts of the world are over 1000 times more likely to die from maternal causes than those in developed countries. For every 30,000 women in Sweden, only one will die from pregnancy-related complications (Ibid).

Most obstetric complications could be prevented or managed if women had access to skilled birth attendance – doctor, nurse, midwife – during childbirth.

The maternal mortality ratio (MMR) in Kenya is one of the highest in the world, standing at 488 per 100,000 live births (9). Addressing the tenacious MMR in Kenya is a great challenge, which requires the collaboration of community, government, and private actors. One of the main indicators in assessing and improving maternal health is the presence of a skilled attendant at birth. In this context, it is important to define skilled attendance, examine the prevalence of skilled attendance at birth, and to assess potential reasons why most women still prefer TBAs instead of skilled attendance at birth. By assessing the access barriers, it becomes possible to provide services that are better able to reach the women who need them most in terms of antenatal care, labour and delivery, and post-delivery care for the mother and the neonate. Without political commitment and investment in maternal health service delivery, declines in maternal deaths are unlikely in the next 10-20 years. It is also doubtful that the fifth Millennium Development Goal- to reduce maternal mortality by 75% by 2015 will be met in Kenya given the worsening trend.

Central Pokot Sub-County of West Pokot County in North Rift region of Kenya is among the counties in Kenya leading with home deliveries and high MMR. One single evidence-based, high impact health intervention measure that can significantly reduce MMR if implemented is increasing skilled attendance at birth (7).

The problem statements

The percentage of skilled birth attendance in Kenya has declined steadily from 50% in 1988 to 45% in 1993 to 44% in 1998 to 42% in 2003 and remaining at 42.6% in 2008 (9).

This worsening trend is also evident in Kenya Health Sector performance profile report 2004/2005 could be attributed to differences in social, cultural, economic and demographic factors which influence the choice of skilled or unskilled birthing process.

In the modern health care sector, traditional birth attendants (TBAs) are not recognized as skilled birth attendants. According to the WHO, TBAs can be defined as “traditional, independent (of the modern health system), non-formally trained and community-based providers of care during pregnancy, childbirth, and the postnatal period” (14).

Traditional practitioners such as TBAs are often favored by women in the community to perform deliveries (8). Hence, despite an increase in efforts to move women to health facilities and skilled personnel attendance, the utilization of TBAs has remained stagnant.

This study examined what factors (social, cultural, economic and demographic) influence choice of skilled or unskilled birth attendance and therefore determine why most of the parturient women still prefer TBAs in this 21st Century with all the dangers associated with home/unskilled delivery.

Research questions

What factors influence women in determining the choice of place of delivery of their babies in Central Pokot Sub-County?

Rationale and justification of the study

Understanding why women prefer home (unskilled) care to skilled attendance in West Pokot County is an unexplored topic. Indeed, research exists regarding the effectiveness of training TBAs, previous government collaborations with TBAs, and the role that they should be playing in maternal and child health (MCH). But few studies have examined client perspectives on TBAs, TBA perspectives on the health care system, and key government health workers' views on the role of TBAs within the national MCH strategy.

Maternal mortality in developing nations Kenya inclusive remains a big challenge. The statistics from Kenya mirrors the world wide literature as evident in the demographic health reports (8, 9). Arid and Semi-Arid Lands (ASAL) for instance the Pokot County have even worse mortality statistics on skilled delivery uptake than other parts of Kenya. There has been limited data to show what factors influence choice of place of delivery among women in this part of Kenya.

This study has therefore endeavored to fill the gap on existing knowledge on whether factors known to affect choice of health facility or home delivery attendance in other areas are operative in Central Pokot Sub-County of West Pokot County.

The findings from this study will lead to the development of a hypothesis, which can further be tested and having been tested, could contribute to evidence-based maternal care interventions which will go a long way in the reduction of maternal and infant mortality rates and improve maternal care services in the study area and beyond through scale-up and replication.

This quantitative/qualitative research study results will be used to inform future policies that a project can employ with regards to integrating or shifting away from TBAs' involvement in MCH services.

Objectives of the study

Broad objective

To determine the factors that influence women's choice of where to deliver their babies in Central Pokot Sub-County. The study seeks to understand the services provided by TBAs and their role within the community. It will also identify their link to the formal health sector and the ways in which they disseminate information and deliver care with regards to maternal health care (MHC) in order to understand both possible interventions and current best practices that lead to their preference by mothers.

Specific objectives

The specific objectives of the study are:

1. To determine the percentage of health facility-based deliveries by skilled birth attendants in Central Pokot Sub-County.
2. To determine the cultural, social and demographic factors associated with choice of place of delivery.
3. To identify additional care that TBAs provide to the mothers before, during and after delivery
4. To ascertain TBAs' awareness about dangers associated with home delivery

Literature review

The world literature shows that the worsening trend in maternal mortality parallels decreased skilled (health facility-based) attendance at birth (5). The literature from Kenya mirrors this world wide literature as evident in the demographic health reports (8, 9). The pillars of safe motherhood initiative

which include skilled attendance at birth need to be delivered through primary health care (PHC) (1). Safe motherhood aims at attaining optimal maternal and newborn health. Safe Motherhood Initiative was launched at an international consultative conference of United Nation Agencies in Nairobi Kenya in 1987. Skilled attendance at birth forms an important part in achieving the safe motherhood initiative goals. Yet in many parts of the world, women turn to TBAs because skilled health workers are not available or are too expensive, or because TBAs understand their culture and respect the women's needs (3).

Skilled attendance does not include care at birth provided by TBAs, volunteer workers, family members, friends and women themselves without midwifery skills (13).

Methodology

Study Design: Descriptive cross-sectional study.

Study Setting: Pokot Central Sub-County is one of the Sub-Counties of West Pokot County. It is among the Sub-Counties in North Rift. The Sub-County has five Divisions and a projected population of 128,972 people.

Study Population: The study population were women of reproductive age 15-49 years, who have at least delivered once and residing in the villages. TBAs active (conducting deliveries) within the study area and health care (HCPs) engaged in maternal child health (MCH) interventions at the health facilities serving the catchment population also formed part of the study population.

Sample size determination

The sample size was determined using the interpolation formula based on the proportion of expectant mothers who deliver at the health facilities and the precision set at 0.05. Fisher's formula, 1983.

$$n = Z^2 p (1-p) / d^2$$

Where: - n is the desired sample size

Z = 1.96 a statistical constant representing 95% confidence interval

P = prevalence of home deliveries = 0.58 (Reference No. 15 KDHS 2008-09)

d = statistically tolerated error (0.05) or 5% or the level of statistical significance

Therefore, the sample size for the post-natal mothers was obtained using the above formula.

$$n = 1.96^2 (0.58 \times 0.42) / (0.05 \times 0.05) = 374.3$$

The sample size calculated is 374.3. The sample size recruited for the study was 375 women rounded off to the nearest whole number.

Sample selection and procedure

Multistage sampling procedure was employed as follows:

i) Purposive sampling for the two divisions (Sigor and Chesogon) out of the five divisions; Sigor being highland and Chesogon being lowland.

ii) Stratified random sampling was employed to select 2 villages from each division

iii) A sampling frame was then drawn from the four selected villages using the house-hold (HHs) registers kept by the Community Health Workers (CHWs) working in the villages. The number of respondents from each village was then allocated proportionately based on 20% of their population size i.e. the proportion of women of reproductive age (15-49) years demographically.

Village	Population	No. HHs	Women 15-49	Sample Size
Akiriamet	4,001	892	800	87
Ptokou	4,759	986	952	104
Nyangaita	4,207	811	841	92
Cheptulel	4,297	860	859	92
TOTAL	17,264	3,549	3,452	375

iv) Simple Random sampling procedure was then employed for the respondents using SPSS

Data collection Instruments: - The study employed both qualitative and quantitative methods for data collection. The qualitative methods employed were Key informant interviews [KII] and focus

group discussions [FGDs] and quantitative method was through interviewer administered questionnaires.

Findings

Results/Findings

Socio-demographic characteristics

Among the 375 respondents that participated in the study, 214(57.1%) were aged below 30 years and 314(83.7%) were married. More than half 193(51.5%) were illiterate and 182(48.6%) were protestants and majority 257(68.5%) had delivered 5 or less children by the time of the study.

Majority 276 (73.6%) had between 3-9 deliveries and nearly three quarters of the respondents 280 (74.7%) attended ANC during their last pregnancy prior to the study while 25.3% did not attend.

Among those who attended ANC, close to half 137(48.9%) attended ANC 3 times. Among those who did not attend ANC, 50(52.9%) reported distance and cost 32 (33.7%) as the main reasons for non-attendance with majority of the respondents 340 (90.7%) delivered at home during their last delivery prior to the study. For those who delivered at home, availability of TBA services 160(47.1%) and lack of transport to the health facilities 148(43.5%) were the main reasons cited for not seeking health facility delivery services. Majority of those who delivered at home 333(97.9%) were assisted by TBAs. Only 5(1.5%) were assisted by the mother in laws. For those who delivered at the health facility, 25(71.4%) reported safe delivery as a reason.

Nearly half 185(49.3%) preferred to deliver in future at home while 122(32.6%) preferred health facility or hospital delivery although only 35(9.3%) actually had health facility delivery during their last delivery.

Factors that greatly influenced choice of place of delivery (Home or Health Facility) and favoring home delivery included; costs incurred during delivery, distance to the nearest HF, fear of surgery, privacy, age of the birth-attendant and hostile hospital staff.

More than half of the respondents 213(56.8%) prefer to be accompanied by the TBA during delivery even at the health facility and 139 (37.1%) prefer to be accompanied by a close relative

Majority of the respondents 255(68%) reported that means of placenta disposal do affect their choice of place of delivery with home delivery being the preferred choice.

Education level, religion, number of children delivered at home, ANC attendance and household expenditure per month were significantly associated with choice of place of delivery ($p < 0.05$)

Those who have had secondary level of education were 1.6 times more likely to seek health facility delivery. It implies that the more educated the woman is, the more likely for them to choose delivery in the health facility. The catholic were almost 4 times more likely to deliver at the health facility and protestants were 6 times more likely to deliver at the health facility compared to non-Christians (OR;95%CI: 3.618(0.715-18.305) and 6.162(1.401-27.102)) respectively.

The study found out that availability of TBA services, cultural practices like placenta disposal and lack of transport to the nearest health facility as the main impediments to health facility delivery, mothers cited lack of privacy, cost incurred during delivery, distance to the nearest health facility, fear of surgery, age and sex of birth attendants and hostile medical staff as reasons for their preference to deliver at home.

The major themes that emerged from KIIs as the main obstacles to health facility delivery were; distance to the health facilities, TBA services, shortage of staff at the health facilities, cultural beliefs and practices, lack of awareness on the importance of health facility delivery among the community and lack of transportation during time for delivery.

Traditional birth attendants (TBAs) although in favour of home delivery, since they belief that they provide a complete package of care to the mother before, during and after delivery which includes; abdominal massage, placenta burial at the right place and conducting rituals but were willing to support

health facility delivery if fully involved and if an incentive of about KES 500 is given per every mother referred and escorted by the TBA to the health facility for delivery.

Majority of the respondents 255 (68%) reported that means of placenta disposal do affect their choice of place of delivery with home delivery being the preferred choice.

The placenta is disposed of at a designated place (animal shed) and only done by the TBAs among the Pokot community and should not be disposed of into a pit latrine (placenta disposal pit) as it is done at the health facilities. This signifies a blessing to the family and the animals will also multiply and bring prosperity to the family.

This was better illustrated by the response of one of the mothers who said:

“We bury the placenta (parwa) at the right place where it is supposed to be buried ensuring the correct position depending on the sex of the baby” indicating at the animals shed. *“We also vary the position in order to influence the sex of the next child depending on the wishes of the family”* she concluded.

It is a general belief among the Pokot that women who have undergone FGM/C are courageous enough to deliver at home since they are not cowards. Health facility delivery is meant for cowards who have not undergone FGM/C and prostitutes and leads to stigmatization.

One of the senior TBAs had this to say:

“Delivery in the hospital is for women who have not been circumcised since they are cowards. But for us the Pokot, we have been circumcised and can just deliver at home without any fear”.

There is a general belief among the Pokot community that any woman faithful to her husband should be able to deliver without any difficulties or complication, thus if a mother suggests that she would like to deliver at the health facility, then that is an indication that she has not been faithful and therefore foresees a difficult delivery and this may lead to conflict in the family. *Parpara* is performed at home during delivery to cleanse her.

One of the participants indicated that:

“It is better to have delivery at home so that if a mother had been unfaithful, an old man is called upon to conduct a cleansing ceremony (parpara) that would allow smooth delivery of the baby and that is why we prefer delivery at home....”

Discussion

A total of 375 respondents i.e. women of reproductive age were recruited into the study and the inclusion criteria were women of reproductive age (15-49) years who have had at least one delivery previously.

The results of this study show that most respondents 90.7% delivered at home during their last delivery prior to the study with only 9.3% having gone for skilled health facility-based delivery. This finding reveals that the prevalence of Health facility delivery is too low in Central Pokot Sub-County compared to the national prevalence of 61% (10).

The results show that high level of education, house hold expenditure, religion and ANC attendance influence choice of place of delivery by mothers in Central Pokot Sub-County of West Pokot County. The study shows that household expenditure per month is a good predictor of place of delivery with mothers with an average monthly expenditure of Kshs. 5,000 were more likely to deliver at the health facility than mothers with an average monthly expenditure of Kshs. 2,000. Majority of those who had home delivery also cited cost as a reason for not seeking health facility delivery. The study also showed that mothers with secondary level of education were 2 times more likely to deliver at the health facility compared to those with tertiary level of education. Those with Primary and below levels of education were however less likely to deliver at a health facility. The study also showed that Protestants were 6 times and Catholics 4 times more likely to seek health facility delivery than non-christians (those not attending any church). There is need for further studies to determine what role the Christian teachings play in promoting maternal care or health facility delivery.

Socio-cultural factors and Health Facility based delivery

This study identified a number of socio-cultural factors that contribute significantly to the low uptake of health facility delivery with the following being the main ones among others:

Parpara; a cleansing ceremony to cleanse an expectant mother; anthill soil mixed with water is used to bath the mother as traditional songs are sang while she is in labour. This cleansing ceremony can not be conducted at the hospital and thus mothers would prefer to deliver at home where the ritual can be performed. FGM/C another cultural practice whereby the women belief that those women who have undergone the FGM/C rite of passage are courageous enough and should deliver at home with the assistance of TBAs and there is also the fear that the health care personnel will tamper with the FGM/C scar.

Motivating Factors to mothers to prefer home delivery under TBAs

This study pinpointed a number of factors that motivated expectant mothers to seek TBA care and not health facility-based care under skilled health professionals and are as follows;

TBAs provided psychosocial support to the mothers throughout the birth process unlike hospital staff who dedicated very little time to the mothers in labour, provided massage to the mothers throughout labour until delivery occurred, provide maximum attention to the mother during delivery including feeding the mother before and after delivery and understood their culture and respect it e.g. the disposal of the placenta after delivery

The hospital staffs were reported to be hostile to mothers in labour and the age of the birth attendants at the health facilities also drive away the mothers since they don't want to be assisted by young girls of the same ages like their daughters and being attended by male birth attendants also drove away mothers from the health facilities.

Conclusion

The results of this study show that the prevalence of health facility-based (skilled) delivery is 9.3% in Central Pokot Sub-County of West Pokot County which is very low compared to the national prevalence of 61% currently (10).

Socio-cultural beliefs and practices e.g. placenta disposal was found to be the main impediment to health facility delivery in addition to TBA services and lack of transport. TBAs lack awareness on dangers associated with home delivery and additionally provide placenta burial which does not add any value.

The factors found to affect health facility delivery were;

1. Median household expenditure per month was shown to be a good predictor of place of delivery with mothers with a mean expenditure of Kshs 4,000 more likely to deliver at the health facility than mothers with a mean of Kshs 3,000 who preferred home delivery. This is supported by previous literature review.
2. Mothers with secondary school level of education were twice as much likely to deliver at the health facility than those with tertiary level and those with primary level and below were more likely to deliver at home. This is in contrast to previous literature review.
3. Religion was found to be a predictor too with Protestants more likely to deliver at the health facility than those not affiliated to any church. This finding is supported by literature review prior to this study.
4. Placenta disposal mechanism was found to significantly affect choice of place of delivery by mothers.
5. Socio-cultural beliefs and practices greatly affect choice of place of delivery by mothers (*parpara* and *Sapana*) among others.
6. The most preferred place for delivery is home and thus a lot needs to be done to increase the uptake of health facility-based delivery and thus help curb MMR which still remains high in Kenya.

Figures and tables

Majority of the respondents 340 (90.7%) delivered at home during their last delivery prior to the study

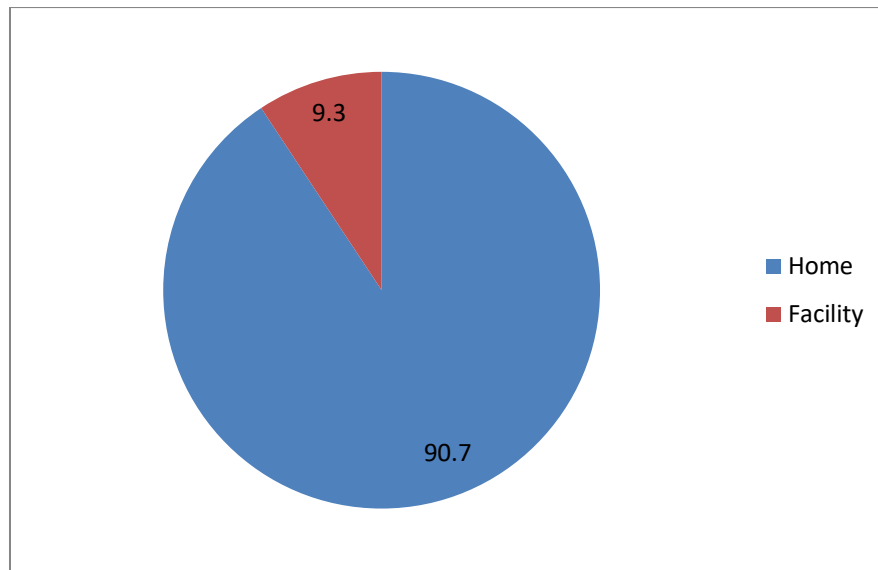


Figure 4.3. Place of delivery

n=375

Table 4.3. Factors associated with choice of place of delivery

Factor	Place of delivery		Chi-square	P=-value
	Facility (%) n =35	Home (%) n=340		
Age-group			4.453	0.486
15-19	4(11.4)	18(5.3)		
20-24	9(25.7)	76(22.4)		
25-29	10(28.6)	97(28.5)		
30-34	7(20.0)	74(21.8)		
35-39	5(14.3)	54(15.9)		
>40	0(0)(0)	21(6.2)		
Distance to facility			0.462	0.927
<6	5(14.3)	63(18.5)		
6-10	12(34.3)	114(33.5)		
11-15	12(34.3)	104(30.6)		
>15	6(17.1)	59(17.4)		
Marital status			1.821	0.402
Single	4(11.4)	20(5.9)		
Marital	27(77.2)	287(84.4)		
Other (sep/div/widow)	4(11.4)	53(9.7)		
Education level			38.123	<0.001
Illiterate	9(25.7)	184(54.1)		
Primary	17(48.6)	146(42.9)		
Secondary	7(20.0)	7(2.1)		
Tertiary	2(5.7)	3(0.9)		
Religion			11.737	0.003
Protestant	25(71.4)	157(46.1)		
Catholic	8(22.9)	73(21.5)		
Pagan	2(5.7)	110(32.4)		
Parity			5.604	0.133
1-2	12(34.3)	82(24.1)		
3-5	18(51.4)	145(42.6)		

6-9 ≥10	5(14.3) 0(0)	108(31.8) 5(1.5)		
No. of children delivered at home	18(51.4) 12(34.3) 5(14.3) 0(0)(0) ≥10	89(26.2) 144(42.4) 102(30.0) 5(1.5)	19.102	<0.001
ANC attendance				
Yes	35(100)	245(72.1)	13.097	<0.001
No	0(0)(0)	95(27.9)		

Factor	Place of delivery		Z-value	P=-value
	Facility median (IQR)	Home median (IQR)		
Median expenditure	4000(3000, 6000)	3000(1500, 4000)	3.038	0.002

Table 4.4. Multiple binary logistic regression

Factor	Regression coefficient (β)	OR (95%CI)	P-value
Education (ref=tertiary)			0.001
Illiterate	-2.175	0.144(0.016-0.785)	
Primary	-1.447	0.235(0.036-1.533)	
Secondary	0.445	1.560(0.191-12.737)	
Religion(ref=non-Christ)			0.039
Catholic	1.286	3.618(0.715-18.305)	0.120
Protestant	1.818	6.162(1.401-27.102)	0.016
Home deliveries (≤5)	0.244	1.276(0.478-3.406)	0.627

References

- [1]. Achwal, I. and Ndede F. (2004). "Engender Health: Improving essential Obstetric care services through whole site training." Paper presented in 2004 Kenya Obstetrical and Gynaecological Society scientific conference. Ministry of Health. Nairobi.
- [2]. Bell, J. (2003). "Improving skilled attendance at delivery: a preliminary report of the Safe Strategy development tool." *Journal of Birth* 30(4): 227-234.
- [3]. Carlough, M. and McCall, M. (2005). "Skilled birth attendance: what does it mean and how can it be measured?" A clinical skills assessment of maternal and child health workers. *Nepal. Int. J. Gynecol, Obst*: 89: 200-208.
- [4]. Goodburn, E. & Campbell, O. (2007). "Reducing maternal mortality in the developing world: sector wide approaches may be the key." *British medical journal (BMJ)*; 322: 917-920.
- [5]. Kenneth, H. (2007). "Estimates of maternal mortality worldwide between 1990 and 2005: An assessment of available data". *Lancet*, 370: 1311-1319.
- [6]. Khan, K.W. (2006). "WHO analysis of causes of maternal death: a systematic review".
- [7]. Magadi, M. (2003). "The inequality of maternal health care in urban sub-Saharan Africa in the 1990s". *Population studies*. 57(3): 347-366.
- [8]. Republic of Kenya. (2004). "The Kenya National Demographic and Health Survey (KDHS)" 2003. Nairobi: The Government Printer.
- [9]. Republic of Kenya: (2011). "The Kenya National Demographic and Health Survey (KDHS)" 2008-09. Nairobi: The Government Printer.
- [10]. Republic of Kenya: (2014). "The Kenya National Demographic and Health Survey (KDHS)" 2014. Nairobi: The Government Printer.

- [11]. Save the Children International (2015). “The state of the world’s Mother’s 2015 Report”. London: SCI (4th May 2015).
- [12]. The White Ribbon Alliance. (2004). Saving Mother’s Lives. What Works: Field Guide for Implementing Best Practices in Safe Motherhood. *The White Ribbon Alliance for Safe Motherhood in India*. Women” Family and Community Health, Department of Reproductive Health and Research.
- [13]. World Health Organization (WHO) (2008). “Estimates of maternal mortality. A joint WHO/UNFPA/UNICEF/World Bank statement”. Geneva: WHO. Available at www.who.int/reproductive-health/publications/
- [14]. World Health Organization. (2004). Making pregnancy safer: the critical role of the skilled attendant. *A joint statement by the WHO, ICM and FIGO*.
- [15]. World Health Organization. (2006). “*WHO Annual report 2006 WHO/MPS/07.08.*”
- [16]. “*Department of making pregnancy safer, Geneva: WHO.*
- [17]. World Health Organization. (2011). “WHO Annual report 2010; Progress towards the health-related Millennium Development Goals.” *Fact sheet* No. 290 May, 2011.