

# The Utilization of Maternal Health Care Services at Kilifi County Referral Hospital in Kenya

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**Abstract:** *The main purpose of the study was to establish the level of utilization of the maternal health care services at Kilifi County Referral Hospital, Kilifi County, Kenya. The study was necessitated by the fact that Kilifi County is one of the leading counties with high maternal mortality cases. This was a descriptive cross sectional study conducted in Kilifi County Referral Hospital. The sample size was determined statistically for population greater than 10, 000. The data was collected through the administration of questionnaire to 384 respondents. The validity and reliability of the instruments was done through content analysis and half split test to determine whether it was going to address all aspects of variables. The results were analysed using a statistical package for social science (SPSS 20)*

## 1. Introduction

Improving maternal health is the fifth of eight Millennium Development Goals (MDGs), aiming to reduce the Maternal Mortality Ratio (MMR) by three quarters between 1990 and 2015. A recent estimate shows that there are 281,500 maternal deaths worldwide every year with more than 99% of these occur in the developing world and most could be prevented. Every year more than 4 million newborns die and another million babies are stillborn. Nearly all these deaths take place in low and middle-income countries and most could be prevented with medical care. Social scientists and public health experts declare that maternal mortality is an important, complex and neglected field of study in developing countries but this has only been recognized as a public health problem since the 1980s. Estimating maternal mortality levels is complicated particularly in developing countries, like Nepal, where data gathering systems are not robust (Clerk, 2013).

Over the past two decades the high level of maternal mortality in developing countries has increasingly been recognized as an urgent public health concern. The 'Safe Motherhood' conference in Nairobi, (Kenya) in 1987, drew attention to maternal mortality and the issue has remained on the international agenda ever since. Nepal has a long history of traditional medicine, including: faith healing, naturopathy, youga, ayurved and homeopathy, but the history of modern health services in the country is not long (Ronsman, 2007). Modern health services were introduced in the early 1960s after the establishment of democracy. Previously there were only very limited health facilities in urban areas. After the establishment of the Ministry of Health in 1956, the Government of Nepal (GoN) started a systematic development of the country's health system through a series of five year plans (Gandaho, 2012).

The first five year plan started in 1956 with the aim of providing employment and improving people's living standards. The third five year plan (1965-1970) launched family planning, maternal and child health projects (in 1968). By then the GoN had been working towards

improving maternal health services through a series of different programmes. It was only after the 'Safe Motherhood' conference in Nairobi in 1987, that Nepal formulated a long-term plan in Quarterly scientific, online publication by Department of Nursing. A Technological Educational Institute of Athens (1991) and identified safe motherhood as a priority programme to be institutionalized in the primary health sector care (Yakasai, 2010).

This laid the basis for the formulation of a national safe motherhood plan (2002-2017) which is working on the basis of the implementation of various interventions aiming at safe motherhood. In many low-income countries, utilization of health care services is affected by both supply and demand factors (Anwar *et al.*, 2013).

The supply-side factors include the availability and quality of services; the demand side, on the other hand, entails socio-economic and socio-cultural factors that determine the uptake of available services (Saye and Raine 2007; Simkhada *et al.*, 2008). With donor support, many governments in low-income countries have financed health care inputs—including infrastructure and stocking and staffing health facilities—with varied success (Ensor and Ronoh 2005; Kruk *et al.*, 2007). Moreover, there is evidence from many of these countries that the poor not only benefit less than the wealthy from collectively funded health services, but also suffer greater disease burden (Gwatkin *et al.*, 2014; Prata *et al.*, 2015).

Given the limitations of the traditional input-based approach, interventions that link new demand-generation strategies with stronger incentives for high quality supply side outputs provide, in theory, an alternative to financing health care services in low-income countries. These approaches—referred to as demand-side financing or output-based approaches (OBA)—condition government or donor subsidies on the service user rather than the provider, and include franchising and contracting, social health insurance, conditional cash transfers and vouchers (Bhatia and Gorter, 2007; Mumssen *et al.*, 2008). High maternal mortality rates in Sub-Saharan Africa (SSA) remain one of history's

puzzling on-going tragedies. Improving maternal health continues to be a major challenge such that a woman living in SSA has a 1 in 31 chance of dying during pregnancy or childbirth, as compared to 1 in 4,300 in a high-income country such as Sweden (Zereet *et al.*, 2011). Ghana is among a few countries in SSA committed to achieving the Millennium Development Goal (MDG) 5 target of reducing maternal mortality ratio (MMR) by 75% between 1990 and 2015 (Lordcary, 2012).

In 2003, the Ghana government pioneered and is implementing a new maternal healthcare policy that provides free maternity care at the point of delivery in all public and mission facilities to ensure increased and equitable access to and use of skilled maternal healthcare service. The policy is pursued against the backdrop of existing inequities in maternity care services accessibility and utilization, and is premised on the notion that financial barriers are one of the most important constraints to equitable access and use of skilled maternity care (Bosuet *et al.*, 2007; Witter *et al.*, 2007). There is indeed a growing global movement towards the abolition of user fees as a way to redress barriers and inequity of access to maternity care, ensure increased access to and use of skilled maternal healthcare services, and ultimately improve maternal health.

A group of researchers (Medaet *et al.*, 2008) recently argue that 'alleviating financial barriers must become a priority for policymakers if their will is really to accelerate the reduction of maternal and perinatal mortality in the developing world'. The argument in support of free maternity care is founded on equity grounds: that the poor would not and have not been able to afford to pay for the use of necessary services. While very sound theoretical arguments and normative claims have been advanced in support of free maternity care, empirical evidence on whether providing free maternity services has a corresponding effect on the equal uptake of these services by women across all socio-demographic strata is notoriously scant. This lacuna in the literature and in our understanding not only breeds unnecessary speculation and propagandism, but also the evidence gap poses frustrating barriers to decision makers and researchers looking to draw evidence and transferable lessons to inform debates or the design of future policies in differing settings.

The need to understand the role of inequities in maternal health, and how free maternity care improves equity in service accessibility and utilization in Ghana becomes more compelling as Ghana has had a persistently high maternal mortality ratio, estimated to range from 214 to 800 per 100,000 live births (Witter *et al.*, 2007). Maternal mortality, which accounts for 14% of all female deaths, is still the second largest cause of female deaths in Ghana (Asamoahet *et al.*, 2011). Indeed, nearly five years after the implementation of Ghana's free maternal healthcare policy, Ghana's Minister of Health in a 2008 Aide Memoire declared the high continuing maternal mortality in the country as a 'national emergency' (Witter *et al.*, 2009). As more resources continue to flow into the design and execution of the policy and discussions of the need to achieve MDG-5 figure prominently in national and international policy discourses, empirically investigating the question of equity, and the extent to which Ghana's free maternal healthcare

policy is achieving its core objective of ensuring equitable access and use of maternity care services is crucial. In Kenya, the government has implemented a voucher programme since 2006 with funding from the German Development Bank (KfW). Its objective is to significantly reduce maternal and neonatal mortality by increasing the number of health facility deliveries and improving access to appropriate health services—including reproductive health—for the poor through incentives for increased demand and improved service provision (Hagenmeyeret *et al.*, 2015 RH-OBA Technical Committee, 2009).

The programme subsidizes comprehensive safe motherhood services (up to four antenatal care visits, delivery, postnatal care up to 6 weeks, Caesarean section, if needed, and treatment of maternal and neonatal complications) and long-term family planning methods (implants, intrauterine contraceptive device [IUCD] and voluntary surgical contraception) to economically disadvantaged women in Kisumu, Kitui and Kiambu districts, and in Korogocho and Viwandani informal settlements in Nairobi. The vouchers are made available through distributors appointed by the voucher management agency at a subsidized cost of Ksh.200 (equivalent US\$2.50) for safe motherhood and KSh.100 (equivalent US\$1.25) for family planning services. Additional vouchers are made freely available for all women (poor and non-poor) seeking sexual and gender-based violence recovery services.

The distributors use a poverty grading tool consisting of eight items on household assets and amenities, expenditure or income, and access to health services that are unique to each district to identify poor women who qualify for the vouchers (those scoring 8–16 points). The design of this programme followed the description as elaborated by Janischet *et al.* (2010). During the first phase of the programme (2006–08), a total of 54 public and private health facilities (18 in Kisumu, 17 in Kiambu, 12 in Nairobi and 7 in Kitui) were contracted as voucher service providers to offer services at specified standards of quality to voucher clients. During the first 2 years of this phase, distributors from non-governmental organizations (NGOs) were used, who received a commission for each voucher sold. This led to vouchers being sold to non-eligible (non-poor) women. This strategy was abandoned and in the final year of the phase, vouchers were sold through salaried distributors (EPOS Health Management 2011). Up to Mid 2011, 25 more health facilities were included in the second phase (2008–11) of the programme (6 in Kisumu, 5 in Kiambu, 1 in Nairobi and 13 in Kitui) while 5 facilities left the programme for various reasons including fraud or dissatisfaction with the level of reimbursement. In addition, the programme began contracting health facilities and distributing vouchers in Kilifi and Kaloleni Districts in Coast Province from Mid 2011.

There has, however, been no systematic evaluation of the programme to determine the impact of vouchers on the utilization of reproductive health services among communities that are exposed to it. Although evidence from similar programmes indicates positive outcomes, a number of contextual, institutional and design factors may determine the effectiveness of voucher schemes. For instance, the legal

and regulatory framework, the prevailing socio-economic and political conditions, administrative and management capacity, as well as the reimbursement process can determine whether the programme achieves the desired outcomes (Gauri and Vawda, 2004).

## 2. Material and Methods

The study applied a descriptive cross-sectional study design describing the situation at the point in time. This type of research showed the characteristics of given individuals or groups of persons. To undertake the study conclusively, data was collected from the targeted population, organized, collated, analysed and interpreted.

The study population was mothers whose deliveries were conducted at Kilifi county referral hospital. The population sample size was 384 respondents.

### Sampling frame

For determination of sample size for questionnaire administration, the researcher applied the following formula;

$$N = \frac{Z^2 \times P \times (1-P)}{C^2}$$

Where;

Z = Z value (1.96 for values of selected alpha level of 0.025 in each tail (95% confidence interval this acceptable error of 5%). P = percentage picking a choice expressed as decimal (0.5 used for sample size needed as maximum possible proportion), C = acceptable margin of error for proportion being estimated, expressed as decimal.

Therefore;

$$N = \frac{1.96^2 \times (0.5) \times (1 - 0.5)}{0.05^2} = 384$$

A sample size of 384 is the minimum ideal target sample for questionnaire administration for this study. However with an anticipated return estimated at 75%, 481 persons will be sampled for this study.

### Sample size distribution

The selected samples were in two distinct categories questionnaire administration and structured observations. Members of the public within the targeted populations in the community. The selection was covering a range of the population selected randomly within the targeted areas. The results from the questionnaire administration were obtained from respondents of the three sub-counties using proportional (purposive) random sampling technique.

$$N_o = \frac{N_h}{N} \times n$$

Where  $N_h$  = population per sub-county,  $N$  = Total population for the three sub-counties,  $n$  = the sample size

### Sample and sampling technique

The study was integrated in determining the outcome of free maternity policy and utilization of maternal health care services at Kilifi County Referral Hospital. The study was only involving respondents whose deliveries were conducted at Kilifi County Referral Hospital. The target population was comprised of the 3 sub counties. A select sample was applied using stratified random sampling technique.

### Data Collection Instruments

This study employed questionnaires, and structured participatory observations using a prepared check list in the collection of information. The questionnaire was designed in five main parts. Part A relates to the general information of the respondents. Part B aims to obtain opinion of the respondents on the free maternity policy and utilization of maternal health care services including their awareness level.

Part C required the respondents to identify types of sources on information on the free maternity policy.

Part D required the respondents to indicate where they receive free maternal healthcare services.

### Data Collection Procedure

Data was collected through the administration of a questionnaire to the respondents. A questionnaire, and check list was administered by the principal investigator and the research assistants at household level. The check list was to determine proof of availability of immunization cards or birth certificates as a means of child having been born at the hospital. All questionnaires were collected and analyzed after administration. All the information was collected and treated with high confidentiality.

### Pilot Testing

Pretesting of the tools was done on similar groups of persons with similar characteristics. Content validity with reference measured the degree to which data collected using a particular instrument represents a specific domain or content of a concept. Berg and Gall (2009) defines validity as the degree by which the sample of test item represents the content the test is designed to measure.

### Data Processing and Analysis Technique

Before processing the responses, questionnaires were edited for completeness and consistency. Quantitative data collected was analyzed by the use of descriptive data analysis using Statistical package for the social sciences to generate frequency tables and range of scores from indicators of close ended questions on the independent variables. A descriptive data analysis was used since it assisted in generating summaries and organizes data effectively and in a meaningful way. According to Nachamias, (1996) it provides tool for describing collection of statistical observations and reducing information to an understandable form. The data from open ended questions was analyzed by examining the responses to identify any major patterns, trends and a summary of whatever was discovered in the responses generated. These were then to be interpreted in a descriptive text incorporating narratives directly from the respondents. According to Baulcomb (2003), content analysis uses a set of categorization for making valid and replicable inference from data to their context. The data was broken into different aspects of factors that was to influence implementation of free maternal healthcare services in Kilifi County. The data collected was analyzed both qualitatively and quantitatively as appropriate. Data was analyzed using the SPSS programme to group data since the programme has the capability of handling recurring needs of data analysis. This enabled the researcher to record variables and effect transformations.

### 3. Results

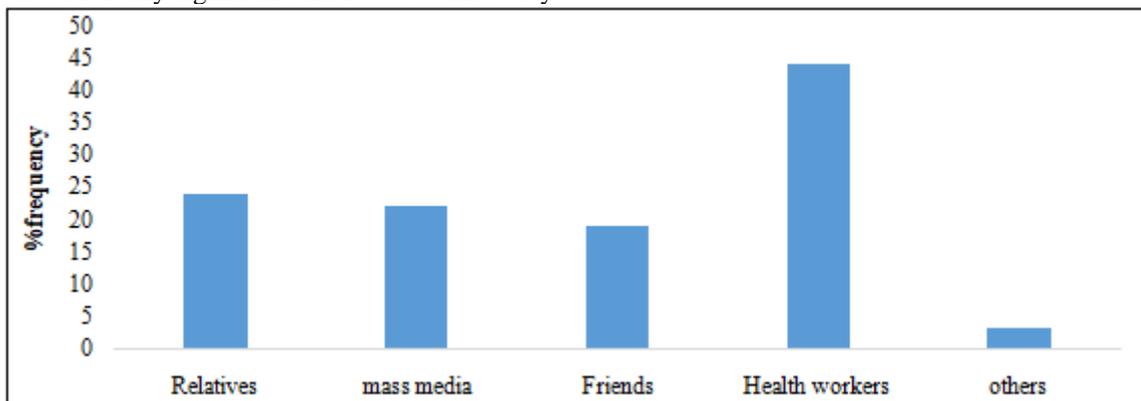
This chapter presents the results and discussion on the utilization of maternal health care services at Kilifi County Referral Hospital. The raw data was transformed to a format to make it easy to understand and interpret, population matrix, comparisons and association of data. Conclusions were based on the analysis of the results.

**Result Table 1:** Level of Awareness on free maternity policy.

Variables	Yes	No	P Value
The degrees of awareness of the free maternal policy	94.8, (N=364)	5.2%, (N=20)	0.12
Eased the cost of burden	95.3%, (N=364)	4.7%, (N=18)	0.23
The degree of payment for the delivery of services	14.7%, (N=56)	85.3%, (N=325)	0.13
The degree of awareness of the free maternal services by the County Government	83.7%, (N=318)	16.3%, (N=62)	0.36

Table 1. Shows the variables being measured where “yes” indicates the level of agreement with the variables while “No” indicates the level of disagreement with the variables. P< 0.05 was statistically significant and N=384. The study

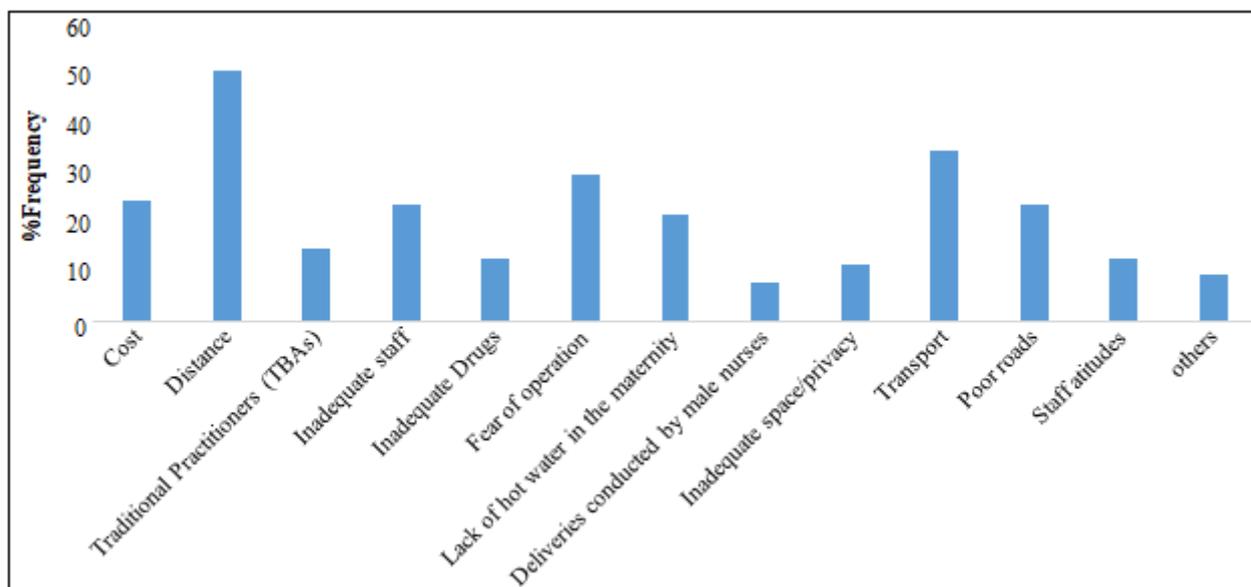
sought to know the level of awareness of the free maternity policy by mothers utilizing maternal health care services and it was revealed that majority (94%) of the mothers were aware of the free maternity policy. In relation to easing cost burden, majority (95.3%) of the respondents said that it was a big relief for them, while (85.3%) of the respondents indicated that the maternal healthcare services were absolutely free. In addition: some respondents indicated that there was satisfaction on the county government efforts on informing its citizen (Table 1). However, (16.3%) indicated that the county government was not effective and commended that more sensitization should be done (Table 1). This is in agreement with Paul and Rumsey (2002) who found that due to vigorous education creation awareness by community health officers in maternal health care services utilization increased by two folds in rural areas. On’gech (2013) stated that after the introduction of free maternal healthcare services in hospitals in Kenya, there has been an increase in the number of deliveries in most Kenyan hospitals. Nurses has also reported being overburdened due to the new policy with nearly all working overtime and as few as three (3) nurses adding about 20 mothers at a time (On’gech, 2013).



**Results Figure No.2:** Source of information on availability of free maternal services at Kilifi County Referral Hospital.

The study sought to understand the source of information on the availability of free maternity services. It was revealed that majority (44%) received information from the health workers while (24%) got information from relatives. The mass media contributed (22%), while friends contributed (19%) (Figure.2). The findings clearly indicate that the media plays a key role in informing the general public on the availability of free maternal health care services. This study

is in agreement with that of Raghupathamy, 2009) and that of (Chakraborty *et al*, 2003) suggests that the knowledge on maternal health care services is not only tied to formal education but also on informal communication (Chakraborty *et al*, 2003). Further, though several researches have shown a positive influences of education on utilization of maternal health care services; the study on the importance of informal knowledge is still wanting.



**Results Figure 3.** Barriers in Utilisation of Free Maternal Health Care Services. Utilisation of free maternal health care services was dependent on a number of barriers.

(Pearsons chi square = 367.9,  $p=2.2 \times 10^{-16}$ ).

Determination of the binomial proportion confidence interval shows an agreement between normal approximation interval and Wilson Score interval. For example the result showed that the Distance being (198/384; 51.6%), transport (130/384; 33.9%), fear of the operation (117/384; 30.5%) and cost (98/384; 25.5%) were the main barriers.

The study aimed to determine the barriers that affected utilization of maternal health care services at Kilifi County Referral Hospital. The results indicated that majority (51.6%) associated distance as an impediment to health care service delivery. Secondly, it also indicated that transport 35% was another challenge in maternal health care services delivery. Fear of the operation was a third factor in terms of challenge. Other factors that impede utilization of health care services were as stated below; e.g cost, this is due to the fact that during delivery, the facility could be in short supply of consumables or breakdown of X-ray machines in case for those required X-ray services while in labour ward, then their guardian were asked to provide. The other identified impediments were poor roads and inadequate staff at 24% respectively. Lack of hot water, 22% identified it as a barrier towards utilization of maternal health care services (Figure 3)

Traditional birth attendants 15% said was a barrier since they still encourage mothers to deliver at home despite the fact that it is a free service just because of their own selfish interests. Staff attitudes (13%) also played a critical role as a barrier. (Figure 3)

This is in consistent with Dana *et al*, (2003) whose findings indicated that nature of roads, distance and cost were associated with poor use of maternal health care services. In another study carried out in Malindi, Kenya, cost was found to be an impediment to maternal health care service delivery since a patient that was unable to pay would be retained in the ward for at least two weeks to prove their inability to pay (WBW, 2003).

**Result Table No.2:** Client’s Satisfaction on maternal healthcare service delivery at Kilifi County Referral Hospital.

Variables	Good	Poor	Total
The level of reception by the hospital staff	94.53%, (N=363)	5.47%, (N=21)	100%, (N=384)
The promptness of the reception by hospital staff	94.27%, (N=362)	5.73%, (N=22)	100%, (N=384)
The promptness by the nurses during the delivery time	94.75%, (N=364)	5.25%, (N=20)	100%, (N=384)

Table 2 clients’ satisfaction on maternal health care services delivery at Kilifi County Referral Hospital. This was the third objective of the study that sort to identify and evaluate the level of satisfaction on the utilization of maternal health care services at the hospital. The results showed that (94.53%) of the promptness of the health workers, (94.27%) indicated prompt reception. On response at delivery time (94.75%) of the respondents indicated that workers were responsive (Table 2).

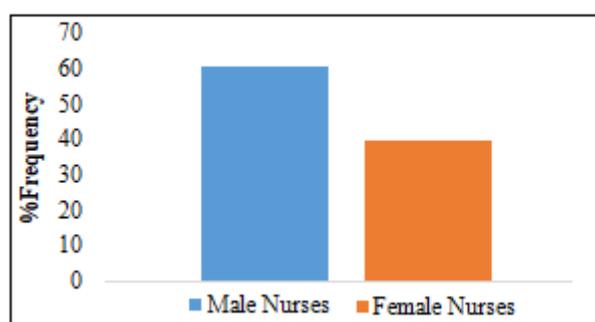
**Table 3:** Client’s satisfaction on maternal healthcare service delivery at Kilifi County Referral Hospital

Variables	YES	NO	Total
The helpfulness of the hospital staff	89.47%, (N=340)	10.52%, (N=44)	100%, (N=384)
The level of cleanliness at the hospital	87.73%, (N=336)	12.27%, (N=48)	100%, (N=384)
Drug availability	77.02%, (N=295)	22.88%, (N=89)	100%, (N=384)
The level of dignity, respect and courtesy awarded by the hospital staff	87.43%, (N=334)	12.57%, (N=50)	100%, (N=384)
The availability of warm water during delivery	69.53%, (N=267)	30.47%, (N=117)	100%, (N=389)
Availability of privacy	84.07%, (N=322)	15.93%, (N=62)	100%, (N=384)

Table 3 above sought to understand the level of helpfulness of the health care workers during and after delivery time at Kilifi County Referral Hospital. The results indicated that, (89.47%) were helpful. On the level of cleanliness at the

hospital, (87.73%) indicated that the health care workers kept the hospital clean. On the drugs availability, (77.02%) indicated that drugs were available at the hospital. On the level of dignity, respect and courtesy, (87.43%) were accorded with respect, dignity and courtesy by the hospital staff and the entire health care workers. On the availability of warm water during and after delivery, (69.53%) they were not availed with warm water during and after delivery unless provided for by relatives. On the issue of privacy, the level of satisfaction was (84.07%) (Table 3).

The findings on table 2 and 3 were found to be consistent with a facility based study in Thailand (McDermott, 2005) who observed that frequent changing of bed-sheets, maintenance of cleanliness, promptness, help fullness, availability of drugs, good reception and quick response at delivery time led to enhanced satisfaction (McDermott, 2009).



**Results Figure No.4. Preference of female to male nurses during delivery time at Kilifi County Referral Hospital**

The Figure number 4 above sort to understand the level of preference by the respondent utilizing maternal health care services at Kilifi Referral Hospital. The results indicated that (60.42%) preferred male nurses during delivery as opposed to female nurses. This is due to the fact that they considered female nurses to be “harsh”. The second great fear encompasses both the treatment of clients by the hospital staff and gender of the healthcare provider. Most indicated detailed outright physical abuse by health workers. This was found to be inconsistent with qualitative findings which indicated that some women preferred male nurses as opposed to female nurses (FGD, 2014). Similar studies have also indicated that it was important to look at maternal satisfaction and its determinants (Ronsmans, 2011; UNICEF, 2009; WHO, 2011).

#### 4. Discussions

The introduction of free maternal healthcare service policy in all public health facilities in Kenya was initiated as a strategy to improve access to skilled healthcare and reduce maternal health outcome.

Therefore the study sought to look into factors that influenced the utilization of maternal healthcare services.

The findings of the study established that free maternity policy introduced in all the public health facilities influenced the utilisation of maternal health care services.

It was realized that 94.8% of the respondents were aware of the policy. Majority (95%) of them said it eased the cost of burden since it was a free service. This high degree of awareness is attributed with high level of sensitization on free maternity policy, education level and adult age. The findings showed that 35% of the respondents were married, majority(25%) had attained primary and (12%) post primary education and had attained the reproductive age bracket.

The study further established that 44% of the respondents received information on the fee maternal healthcare services from the health workers, hence the need for other government agents to be actively involved in passing the information to the general public.

The general perception before then was that since these services involves women then they would prefer female nurses to conduct the deliveries. However, this was disapproved by 60.24% of the respondents who preferred male nurses to female nurses.

#### 5. Recommendations

- There is need to sensitize women of reproductive age on the benefits of skilled deliveries or deliveries conducted by skilled health workers.
- In this regard, they may see the need of utilising free maternal healthcare services offered at Kilifi County referral hospital.
- The male and female nurse ratio should be looked into during recruitment drives since study has shown that women of reproductive age prefer male to female nurses.
- Advocacy on free maternal healthcare services should be intensified to cover the entire population with an aim of achieving 100% awareness. This should include bringing other stakeholders and partners on board, so that there can be source of information on free maternal healthcare services.
- By so doing, it will improve the level of uptake of maternal healthcare services In Kilifi Counting Referral Hospital.

#### 6. Conclusion

- The level of awareness of a health service and its uptake still remains a challenge in Kenya.
- It really baffles when a service is free, but still citizens will shun away and opt for the same service elsewhere.
- The study revealed that the level of awareness was at 98.4% while the uptake was at 70% at Kilifi County Referral hospital. This is wanting because the expectation should be at least above 90% of the uptake.
- There may be need to look into recruiting more male than female nurses since 60.4% of the respondents preferred male nurses.

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