THE INTERNATIONAL JOURNAL OF SCIENCE & TECHNOLEDGE

Health System Factors Associated with Maternal Satisfaction Level among Postnatal Women Attending Public Hospitals in Nairobi City County, Kenya

Okari Maseme Geoffrey
Student, Department of Health Management and Informatics, Kenyatta University, Kenya
Dr. Kibaara Rucha Kenneth
Lecturer, Department of Health Management and Informatics, Kenyatta University, Kenya
Keraka Nyanchoka Margaret
Lecturer, Department of School of Public Health, Kenyatta University, Kenya

Abstract:
Background: Globally, the rate of maternal mortality is unacceptably on the rise. A considerable number of women are dying from pregnancy or child birth related complications across the world. Many initiatives have been intensified on policy intervention to curb the high cases of maternal mortality. Delivery in unhygienic conditions without the assistance of a skilled birth attendant may lead to adverse health outcomes. Maternal mortality rates in Kenya remain high at 362 per 100,000 live births. Only 62% of women deliver under the care of a skilled provider indicating a deficiency in the quality of care. The government of Kenya introduced the policy of free maternity services to all women attending public health facilities by June 2013 to increase access and help reduce the rate of maternal mortality and morbidity in the country. Objective: The study sought to establish the influence of health system factors with level of maternal satisfaction among postnatal women attending public hospitals in Nairobi City County.
Materials and methods: The study adopted a descriptive cross-sectional facility-based study design which encompassed use of both quantitative and qualitative data collection methods. Quantitative data was collected using pre-tested semi-structured questionnaires through interviews while qualitative data was collected using Focused Group Discussions with patients and Key Informant Interviews with care providers. A total of 383 postnatal mothers were proportionally selected through systematic random sampling and interviewed. Kenyatta National Hospital, Pumwani maternity, Mbagathi and Mama Lucy Kibaki hospitals were purposively selected. Necessary approvals were sought from relevant authorities and informed consent obtained from research participants prior to data collection. Descriptive data was analyzed with the aid of the Statistical Package for Social Sciences (SPSS) version 20.0 with the help of Microsoft Excel program to generate frequency tables, graphs and pie-charts. Thematic analysis of qualitative data and triangulation of results with quantitative data were also done. Inferential statistics were calculated using Chi-Square tests ($p<0.05$) done at 95% confidence interval to establish the relationship between study variables.
Results: The study found that the overall satisfaction level of respondents was 62.4%. Chi-square analysis revealed significant association between availability of staff ($p=0.014$), facility cleanliness ($p=0.002$), availability of drugs ($p=0.006$) and sharing of beds ($p=0.034$) on maternal satisfaction level.
Conclusion: The study results indicated a sub-optimal maternal satisfaction level with free maternity services. The policy of free maternal services has led to increased Skilled Birth Attendant deliveries due to breakdown of financial barriers associated with hospital deliveries. These research findings would assist key healthcare stakeholders to design strategic policies and initiatives to address the plight of mothers attending public hospitals. Addressing the challenges would promote sustenance and ensure improved quality of service provision in all public hospitals thus increased satisfaction with care among postnatal women.

Keywords: *Maternal satisfaction, Healthcare providers, postnatal women, Quality maternal care*

1. Introductions

Satisfaction with healthcare refers to a personal evaluation of healthcare services and the providers collectively (Sawyer et al, 2013). Getting views from patients may determine the outcome levels of their satisfaction and how best to provide quality healthcare. Patients provide the best possible source of information since they are the consumers of this service. Their views are useful in planning and evaluating satisfaction levels so as to improve the quality of care provided (Nyongesa et al, 2014). Patient satisfaction is an essential feature for maintenance of high client numbers. Dissatisfaction may lead to detrimental effects on the individual patients due to reduced utilization of available health services (Momanyi et al, 2015).

Globally, the rate of maternal mortality (MMR) is unacceptably on the rise. A considerable number of women are dying from pregnancy or child birth related complications across the world (Shrestha, 2010). Delivery in unhygienic conditions without the assistance of a skilled birth attendant (SBA) may lead to adverse health outcomes. The developing countries from Asia and sub-Saharan Africa account for 99% of the annual 287,000 maternal deaths occurring during and following pregnancy and child birth. This accounts for 800 deaths per day that are attributed to pregnancy and birth related causes (WHO, 2014). Most of these mortalities are preventable through skilled care provided before, during and after childbirth.

There are still clear discrepancies in maternal mortality worldwide. Many studies are being carried out to define the nature of maternal health in the developing countries (Laura et al, 2013). Many sub-Saharan African countries are facing inadequate budgetary allocations and limited capacity to deliver quality health care to meet patients' needs. Poor economic performance, poverty and increased population growth are leading to reduced growth in health sectors. There is increased demand for health services thus need to mobilize public resources and explore new financial modalities to meet patient requirements (Lambo et al, 2003). Many initiatives have been intensified on policy intervention for maternal mortality issues. There are national, regional and global health strategies and policies aimed at improving Maternal and Child Health (MCH). Despite the availability of these interventions to prevent neonatal, child and maternal deaths, MCH indicators remain unacceptably poor across the world (Abok, 2012). Still women are not fully making use of antenatal care services, health facility deliveries and postnatal care services hence not addressing the effect of high child and maternal mortality. Kenya is a prime example of a country that is considered to be having a relatively high maternal mortality rate. This is significantly attributed to limited access to skilled birth attendants due to limited resources (Wamalwa, 2015). Maternal and child health is one of the priority areas being addressed by the government and especially the Ministry of Health. This prompted the government of Kenya to introduce free maternity services in all public health facilities as at 1st June 2013 (GoK, 2015). The policy aimed at breaking the financial barriers associated with access to and utilization of SBA services hence improving maternal outcomes.

The government of Kenya estimated that 7,700 women die annually resulting from pregnancy-related causes with 48% of these deaths occurring during delivery. The rate of maternal mortality averages at 362 deaths per 100,000 live births in Kenya (GoK, 2014). For every female who dies in childbirth in the country, it is estimated that another extra 20-30 women suffer serious injuries or disability due to pregnancy or delivery related complications (GoK, 2013). The lifetime risk of maternal death is 1 in every 53 women, making it one of the highest in the world.

Overall, only 62% of births delivered in Kenya occur under the supervision of a Skilled Birth Attendant. This is below the estimated WHO target of 90% of deliveries by Skilled Birth Attendant. Still, Traditional Birth Attendant (TBAs) continue to assist women in child delivery with 28% births, relatives and friends account for 21%, while 7% of the mothers deliver solely without aid (WHO, 2014). In Nairobi City County, the rate of maternal mortality stands at 212 per 100,000 live births (UNFPA, 2014). Maternal morbidity and mortality can be reduced through improved access to proper health care during gestation and delivery (Arba et al, 2016). The policy of Free Maternity Services (FMS) has achieved tremendous results but more concerted efforts should be put in place to address the challenges associated with its implementation. As evidenced from studies in Ghana, there has been a confirmed increase in SBA deliveries due to the free delivery care policy though the quality of healthcare provision was compromised (Wamalwa, 2015). However, aspects of inadequate human resources for health, essential amenities and lack of enough delivery equipment with the increased number of clients are indeed proving to be a major setback. Poor client satisfaction limits access to and utilization of maternity services hence increased risk of infant and maternal mortality and morbidity (Ochako et al, 2011). Dissatisfied patients may shy off from using services efficiently, whether provided without any cost. This affects the implementation of the FMS policy in public hospitals in Kenya despite the 10% increase in skilled deliveries across the country with other counties recording a 50% increase.

2. Literature Review

2.1. Global Free Maternal Health Services

Globally, the rate of maternal mortality is unacceptably on the rise. It is estimated that about 800 women are dying from pregnancy or child birth related complications across the world every day (Bitewet al, 2015). In 2010, there were about 287, 000 global maternal deaths with 99% of these occurring in the developing countries of Asia and Africa. Maternal mortality in Sub-Saharan Africa is one of the highest, averaging 686 per 100,000 live births (WHO, 2014). Mostly, the common clinical causes of global maternal deaths include haemorrhage, eclampsia, obstructed labour, anaemia, abortion and hypertensive disorders (Quansah, 2013).

The reduction of maternal and child mortality and morbidity rate is one of the key targets of achieving the Sustainable Development Goal (SDG) number 3 of ensuring global health and wellbeing. Developing countries have adopted measures to reduce the increasing rates of maternal and child mortality including free maternity. In the more developed countries, SBA rate is about 99.5% whereas that of Africa is 46.5% (Esena et al, 2013). The World Health Organization promotes the use of SBA at every birth and recommends assessment of women's satisfaction to improve the quality and effectiveness of health care delivery (WHO, 2014). Ghana adopted the policy of free maternity services in public hospitals in July 2008. By then, the utilization rate of SBA was 59% well below the WHO target of 85% by 2010. The policy led to a steady rise in the number of facility-based deliveries from about 300,000 in 2007 to 500,000 in 2011. In the New Juaben Municipality, the policy achieved tremendous results including reduced maternal mortality rates (Ameyaw, 2011).

The introduction of the policy ensured pregnant women with complications arrived in health facilities earlier in Ghana (GNA, 2010). This was accompanied with very poor quality of care to clients leading to low utilization rates as well as satisfaction levels (Tornui, 2007). The basic delivery equipment, consumables and midwifery staff were readily available although overstretched. Expectant mothers reported different aspects of quality improvement in the public facilities, thus positively impacting on future health seeking behaviour, maternal service utilization and reduced maternal morbidity and mortality (Tuncalp et al, 2012). In Asia, especially in the Pakistani context, studies done suggested that women's utilization of maternity care services was very minimal. The most important concern is whether their service quality meets patient expectation levels (Ashraf et al, 2012). There are hidden costs that are attributed to the low utilization of free maternity policy in government health facilities in Dhaka, Bangladesh. Further, it was found that 72% of clients assessed were willing to pay a government levied user charge although this was less prevalent in low income families at 61%. Nepal introduced the policy of free delivery in 2009 as a constitutional right. It faces the challenge of high poverty levels, poor access to health facilities and poor health indicators. The use of free maternity services continues to improve with increased deliveries in health facilities. The funds are adequate to cover free maternal service delivery costs, with some surplus being invested in staff incentives and improving services. This has promoted flexible use of resources and reimbursement without delay (Paudel et al, 2015).

Nearly, a half (47.8%) of clients was satisfied with government provided free maternity services in Nepal (Shrestha et al, 2010). However, understaffing is a key issue in some posts and areas. There is decreased general revenue for facilities due to wider loss of user fee revenues. This explains the on-going charges for patients as reported by both facilities and patients from some hospitals. Despite the hindrances in access to SBA and effective emergency obstetric care provision, there has been some progress in reducing maternal mortality and morbidity levels. This in turn, increases the rates of satisfaction due to improved utilization (Koenig et al, 2009).

2.2. Overview of Free Maternal Healthcare Services in Kenya

The maternal and child mortality rates have been relatively high in Kenya. The rate of maternal mortality stands at 362 deaths per 100,000 live births (GoK, 2014). Further, for every woman who dies during child birth an extra 20-30 women suffer serious injury or disability due to complications related to pregnancy or delivery (Otieno, 2013). The high MMR has persisted irrespective of the improvements in other health indicators due to lack of access to quality maternal healthcare services such as antenatal, delivery, and post-natal health care. Despite growth in health sector infrastructure recently, many mothers are still unable to access quality maternal health services. In Kenya, only 62% of births occur under the supervision of a skilled birth attendant (GoK, 2014). This is well below the WHO target of 90% deliveries by the year 2015. Traditional birth attendants continue to assist expectant mothers with 28% of births; relatives and friends are estimated at 21%, while the rest (7%) of the mothers deliver on their own (WHO, 2014).

The Kenyan government has seen a major success in the fight towards reducing maternal and child mortality, with the introduction of free maternal and primary health care services by the year 2013. This is a major milestone towards universal health coverage as documented in the Kenya Health Sector Strategic Plan 2014-2018 (GoK, 2014). The idea of abolishing user fees has been long running in subsequent governments with strong resistance from proponents who believe that free services do not make economic sense given the increasing budgetary deficits. Civil society organizations have been lobbying for this change, and will now focus on ensuring that public health facilities are adequately equipped, staffed and stocked with drugs to make sure that the free services become a reality. The government's efforts may not work unless the free delivery services are combined with high quality of care, something majority of Kenyan women seem to doubt (Otai, 2013). The Ministry of Health revealed that ANC service utilization increased by 11% since initiating FMS, with ANC re-visits accounting for 13%. Normal deliveries increased by 22% while those of CS increased by 17%. The complications related to maternal care dropped from 4.3% in 2012/13 to 3.8% in 2013/14. The rate of obstructed labour declined greatly while other maternal complications remained fairly the same (GoK, 2014). Overall, there has been a 10% increase in deliveries across the country, with a 50% increase in certain counties (Owino, 2013). The increased demand for maternal health services has overstretched the available resources and overloaded the limited human resources. This has affected accessibility and availability of quality, equity and sustainable healthcare services (Bourbonnais, 2013). The policy has faced several challenges that need to be addressed. They include insufficient funds and delayed reimbursements, limited investment in new infrastructure, lack of adequate equipment and low staffing levels.

2.3. Health System Factors and Satisfaction with Maternity Services

The use of services by patients is hinged on how they perceive the quality of services at their disposal. The facility's structural factors and service organization plays a key role. This predicts the patient service utilization, compliance with drug prescriptions and treatment referral advices by service providers (Kiplagat, 2009). Poor quality service provision may prompt patients to seek medication elsewhere. Most studies focus on provision of free maternity services with very little attention on their quality as a predictor of patient satisfaction (Ashraf et al, 2012). The physical environment encompasses the surroundings in which care is given and features equipment, facilities and the atmosphere (Essendi et al, 2011). The physical birthing environment in most cases, affects patient safety and health, effectiveness of care and the morale of the care providers (Sheehy et al, 2011). Developed countries have attempted to make health facilities in which birth occurs more homelike and less clinical thus more comfortable to patients (Foureur et al, 2010). Overall satisfaction with the health facility's physical and birthing environment is a predictor to women's positive experience during labour and eventual delivery.

The organization of various structures within a given hospital may influence patients‟ perceptions on service provision quality. Physically appealing structures improve the chances of a good medical procedure thus promoting achievement of a desired outcome, as reflected by patients‟ satisfaction (Khamis et al, 2014). Measuring patient's past experience with care reflects on how the health system responds to patient needs as conceptualized by the World Health Organization. Healthcare organizations have been pressurized to promote service quality, safeguard patient safety and reduce the cost of providing healthcare services to patients (Sara et al, 2009). The availability of adequate supplies and equipment; and reliable referral or adequate transportation to another health facility determines the quality of care accessed in emergency situations. The status of the hospital infrastructure is worsening with increased demand for free maternity services hence increased bed occupancy and incubator sharing by children (Otieno, 2014). Maternity wards in public health facilities need to be regularly maintained to prevent further wear and tear. The overall cleanness and physical ambiance of health facilities is key to satisfaction with maternal health care (Nyongesa et al, 2014). Delivery in unhygienic conditions without the assistance of a SBA may result in adverse health conditions of pregnant women (WHO, 2014). Increased demand for free maternity services in public hospitals has compromised the adequacy and accessibility of the already available maternity amenities. This is worsening the delivery conditions in such facilities due to overstretching of the available infrastructure and equipment (KNHRC, 2015).

There is inadequate number of trained/skilled healthcare personnel to reduce the increased workload due to increased demand for free maternity services (Orare, 2015). This leads to long waiting time thus client dissatisfaction (Shrestha et al, 2010 and Tayelgn et al, 2011). Maternity wards in public health facilities are more often overcrowded with high bed occupancy rates throughout the year (Karkee et al, 2014). The current staff levels in Public facilities in Kenya meet only 17% of minimum requirements needed for effective performance of the health care systems. The ratio of nurses to patients is 7:4000 which is half the number recommended by World Bank (Bourbonnais, 2013). Limited availability of essential supplies and drugs is a challenge that is significantly affecting maternal satisfaction (Nyongesa et al, 2014). Delayed reimbursements from the National government to the facilities leads to a lack of enough funds to purchase such supplies. This has led to stalling of the provision of this services resulting to threats of abandoning the policy as recently evidenced in Kenya.

3. Materials and Methods

3.1. Study Design

This research adopted a descriptive cross-sectional facility-based approach in collecting data from the selected research respondents (Kothari, 2008). It was preferred because it ensured complete description of the situation making sure that there was minimal bias in data collection. This provided an operational framework, through which the facts were placed, analysed and produced valuable output (Otieno, 2014). The design was justified as it captured information on satisfaction levels with free maternity services as exhibited by postnatal women attending public hospitals in Nairobi City County.

3.2. Study Location

The study was conducted in four public hospitals in Nairobi City County. They comprised of one level 4 hospital, two level 5 hospitals and one level 6 hospital. This specifically focused on the postnatal mothers in postnatal wards of Pumwani Maternity Hospital, Mama Lucy Kibaki Hospital, Mbagathi District Hospital and Kenyatta National Hospital. These hospitals experience highest number of maternal deliveries in the region. Pumwani maternity hospital bears the largest share followed by KNH, Mama Lucy Kibaki and Mbagathi District Hospital. They also provide comprehensive maternal healthcare services including referrals from lower levels. The postnatal care wards were ideal study settings for this research based on the need to capture maternal experiences prevailing delivery hence making the respondents more informative. The county's public health facility bed occupancy stands at 110.7% (GoK, 2017). Public hospitals in the region serve a large client base with a catchment population of over 3.5 million people from diverse socio-economic and cultural backgrounds. In Nairobi, the doctor-patient ratio is 1:23000 while the nurse-patient ratio is 1:2797 in (Paice, 2014).

3.3. Study Population

The study targeted postnatal women using free maternal services in postnatal wards of public hospitals. A study population is defined as the entire group of persons, events or objects with some common observable features. The study population comprised of the 12117 postnatal women in postnatal wards who delivered in the sampled hospitals between May-July 2017, aged between 15-49 years attending the four sampled public health facilities in Nairobi City County (GoK, 2017). This group is more experienced as it's the targeted beneficiary of free maternal services hence making the respondents more informative.

3.4. Sampling Techniques and Sample Size Determination

3.4.1. Sampling Procedures and Techniques

Nairobi City County was purposively chosen because it is one of the most populated Counties and the capital city of Kenya. The study was carried out purposively in level 4 and above selected hospitals within the County. These hospitals provide comprehensive maternal healthcare services including referrals from lower levels. They serve a large client base with people from a diverse socio-economic and cultural background. The study was conducted among postnatal women

utilizing FMS at KNH, Pumwani maternity hospital, Mama Lucy Kibaki hospital and Mbagathi district hospital. Kenyatta National Hospital is the largest referral hospital in the region while Pumwani hospital is the largest maternity hospital in Kenya. Postnatal women in postnatal wards were identified from postnatal registers in the respective wards with the help of postnatal staff. The first respondent was picked using simple random sampling through folded pieces of paper. The subsequent respondents were drawn from each hospital's postnatal wards using systematic random sampling at a predetermined interval. Every 5th postnatal woman exiting the PNC wards was picked for interview until the required number of participants in each facility was reached. The respondents selected for the study were proportional to the number of postnatal women attending each sampled hospital. Before interviewing the participants, the purpose of the study and the risks involved in participating in the study were explained. Consent for those who agreed to participate in the study was sought. They were then given semi-structured questionnaires to fill their responses with the help of research assistants. In order to obtain additional information, 4 Focused Group Discussions (FGD) were held by the researcher with patients. Due to financial and time constraints, each facility held one FGD. The FGDs comprised of 8 postnatal women who were purposively selected based on their ability to give the required information. Those who were able to answer a given set of questions concerning delivery experiences and showed eagerness to give reliable information were recruited. In addition, 8 Key Informant Interviewees (KII) were purposively selected to give their views on the study area. The researcher picked the nursing officer in charge of maternity and the matron in charge of the postnatal wards in each facility. Key informants comprised of informed, knowledgeable and experienced persons who were conversant with the subject of study (Otieno, 2014).

3.4.2. Sample Size Determination

Sample size refers to the number of observations made in a sample (Kothari, 2008). Sampling enhances statistical precision of results by reducing bias which is related to low response rates. Sample size was determined using Fishers' formula for populations more than 10, 000. There were 12117 deliveries in the selected public hospitals in Nairobi County between April-June 2017.

According to Fishers et al (1998), sample size:

$$n = \frac{z^2 pq}{d^2}$$

Where: n = desired sample size

z = standard normal deviate (1.96)

p = 0.56 Proportion of the postnatal women attending public hospitals satisfied with maternity services in Nairobi County (Nyongesa et al, 2014).

q = 1 – p=1-0.56=0.44 Proportion of postnatal women attending public hospitals dissatisfied with maternity services in Nairobi City County.

d = degree of accuracy (0.05) i.e. at 95% confidence interval

Thus sample size was given by: $\frac{1.96^2 \times 0.56 \times 0.44}{0.05^2} = 379$ patients

10% of subjects were included to cater for non-responses thus 417 questionnaires were administered.

3.5. Data Collection Techniques

Quantitative data was collected using semi-structured research questionnaires. Trained research assistants administered the questionnaires to the participants and guided them to fill in their responses. They were monitored, guided and supervised by the researcher. All collected questionnaires were kept in locked cabinets throughout the study period and accessed by the researcher only to ensure confidentiality and avoid data loss. Qualitative data was obtained from focused group discussions held with patients in four FGD sessions. The sessions were moderated by the researcher with the research assistants recording their views by taking notes. This encouraged free discussion among participants thus captured information which was not achievable in a one on one interview. The researcher also conducted key informant interviews with 8 healthcare providers to supplement information obtained from patients. Their views, opinions and suggestions were taken into account.

3.6. Data Management and Analysis

Quantitative data was entered and stored in Microsoft Excel program. Data cleaning and editing was done where extreme, missing and inconsistent values were identified and corrected. Coding and verification of the data was done for easy manipulation, analysis and presentation. Data were then exported to Statistical Package for Social Sciences (SPSS) software version 20.0 for analysis. Descriptive analysis was done using percentages, frequency tables, charts and graphs. Inferential statistics were computed using Pearson's Chi-square and Fisher's Exact Test presented in cross tabulations. This was done at 95% confidence interval and p-values of less than 0.05 were considered significant in testing the association between study variables. Qualitative data from the FGDs and KII was analyzed through examination of patterns and trends of responses to generate themes. Key results were presented as direct quotes or narrations and triangulated to validate and enrich the quantitative findings.

3.7. Ethical Considerations

The researcher sought approval from Kenyatta University Graduate School. The study obtained ethical clearance from Kenyatta National Hospital-University of Nairobi Ethics and Research Committee. A research permit was sought from

the National Council for Science, Technology and Innovation (NACOSTI). Research authorization was sought from Nairobi City County Commissioner, County Director of Education and County Director of Health Services. Permission was also sought from the respective management authorities of KNH, Mbagathi, Pumwani and Mama Lucy Kibaki hospitals before the actual data collection.

The study sought informed consent from research participants before they were interviewed. The purpose of the study was clearly explained and participants were informed that their involvement in the research was voluntary without due coercion or influence. Their identities were kept private and confidential and the collected information used only for the purpose of this study. The findings of this research would be presented to the Board of Examiners of Kenyatta University Department of Health Management and Informatics, Graduate School and the Post-Modern Library. These results would be disseminated to KNH-UoN Ethics and Research Committee, Department of Reproductive Health at Kenyatta National Hospital, Mbagathi, Pumwani and Mama Lucy Kibaki hospitals. These results would also be published for reference and presented in conferences and workshops of relevant stakeholders.

4. Results

4.1. Socio-Demographic Characteristics of Respondents

The study targeted 417 postnatal women who had delivered in the selected facilities of Kenyatta National Hospital, Mbagathi District Hospital, Pumwani Maternity Hospital and Mama Lucy Kibaki Hospital in Nairobi City County. Out of this, 383 questionnaires were completely filled and considered for analysis representing a response rate of 91.8%. The mean age of the study respondents was 28.4 years. The study found out that slightly more than a half 198(51.7%) of the respondents were aged 20-29 followed by 114(29.8%) aged 30-39 years.40(10.4%) of the postnatal mothers were aged 40-49 years while the rest 31(8.1%) were aged 15-19 years.

Slightly more than half 202(52.7%) of respondents had attained secondary level of education followed by 115(30.0%) with tertiary education. Those with Primary education comprised of 59(15.4%) while the rest 7(1.8%) had no formal education. Regarding religion, majority 311(81.2%) of the women were Christians while the rest 72(18.8%) were Muslims. In relation to parity, slightly more than a half 199(52.0%) of the respondents had less than or equal to two children followed by 131(34.2%) with three children while the rest 53(13.8%), had four or more children.

The study revealed that the marital status of majority 275(71.8%) of respondents were married followed by 86(22.5%) single and the rest 22(5.7%) divorced. Concerning the occupational status, less than a half 147(38.4%) of the respondents were housewives followed by 133(34.7%) self-employed. 83(21.7%) were employed while the rest 20(5.2%) gave no response. Slightly less than a half 182(47.5%) of the respondents earned an average family income of less than 20,000 with 138(36.0%) earning between 20,000-30,000 while the rest 63(16.5%) earned more than 30,000 shillings per month. The results were presented in Table 1 below.

Variable	Respondent Response	Frequency (N)	Percentage (%)
Age	15-19	31	8.1%
	20-29	198	51.7%
	30-39	114	29.8%
	40-49	40	10.4%
	Mean age=28.4 years		
Level of education	No formal education	7	1.8%
	Primary education	59	15.4%
	Secondary education	202	52.7%
	Tertiary education	115	30.0%
Parity	≤2 children	199	52.0%
	3 children	131	34.2%
	≥4 children	53	13.8%
Religion	Christian	311	81.2%
	Muslim	72	18.8%
Marital status	Married	275	71.8%
	Single	86	22.5%
	Divorced	22	5.7%
Occupation	Employed	83	21.7%
	Self-employed	133	34.7%
	Housewife	147	38.4%
	No response	20	5.2%
Average monthly income (KShs)	<20,000	182	47.5%
	20,000-30,000	138	36.0%
	>30,000	63	16.5%

Table 1: Socio-Demographic Characteristics of Postnatal Mothers (N=383)

4.2. Patient Satisfaction Level

The study found out that that the overall patient satisfaction rate with perceived quality of services was slightly above average (62.4%). Among the satisfaction attributes, satisfaction rated highest on tangibility (68.6%) and lowest on empathy (56.6%) as shown in Table 2 below. The median satisfaction score was63.6%. Respondents with satisfaction scores less than or equal to the median score were classified under low satisfaction level while those with satisfaction scores more than the median score were classified under high satisfaction level. It was further revealed that slightly more than a half 202(52.7%) of the respondents had high satisfaction levels while the rest 181(43.7%) had low satisfaction levels.

Satisfaction Dimension	Perception Score	Level Of Patient Satisfaction (%)
Tangibility	3.43	68.6%
Reliability	2.96	59.2%
Responsiveness	3.27	65.4%
Assurance	3.11	62.2%
Empathy	2.83	56.6%
Patient satisfaction index	3.12	62.4%

Table 2: Patient Level of Satisfaction

4.2. Influence of Health System Factors on Level of Maternal Satisfaction

The study results showed that slightly more than a half 106(52.5%) of the respondents with high satisfaction levels comprised of postnatal women who reported staff to be readily available to attend to them. There was a significant statistical association (p=0.014) between availability of staff and level of satisfaction. However, qualitative results showed increased workload on the already available nurses. A Nursing Officer in charge of maternity ward in one of the hospitals said,

"Many women are turning up for delivery in our facility and the high numbers are becoming unmanageable……the already available members of our staff are overburdened by such increase in demand for our services."

Majority 167(82.7%) of respondents with high satisfaction levels reported that maternity and postnatal wards were clean. The level of satisfaction with maternity services increased with increased perception by postnatal women on facility cleanliness. The results showed a significant statistical association (p=0.002) between cleanliness of facility wards and the level of maternal satisfaction.

Majority 139(68.9%) of respondents with high satisfaction levels reported availability of prescribed drugs within facility pharmacies. There was a significant statistical association (p=0.006) between availability of drugs and level of maternal satisfaction. Qualitative results showed inadequate supplies and drugs as the main challenge facing the implementation of the policy of FMS. One of the staff replied, "Despite monthly delivery reports being provided regularly to the national office, reimbursement for the last quarter has not been received…..''

The study results showed that majority 142(78.4%) of respondents with low satisfaction levels reported sharing beds while they were admitted in postnatal wards. Sharing of beds among patients signifies increased congestion and thus discomfort among clients. There was a significant statistical association (p=0.034) between sharing of beds and level of maternal satisfaction. A nursing officer in charge of postnatal wards in one of the facilities interviewed said, "Most of the time wards are full every day….we are forced to accommodate two mothers in one bed while others are even provided with mattresses to sleep on the floor since we can't turn them away."

The study results showed that more than a half 105(58.0%) of the respondents with low satisfaction levels reported admission time to within the service charter timelines. There was almost equal distribution of postnatal women across the various admission time categories for the two satisfaction levels. The study revealed no significant statistical association (p=0.199) between shortness of admission time and maternal level of satisfaction. The results were presented in table 4.4 below.

Independent Variable	Respondent Response	Dependent Variable		Statistical Significance
		Low satisfaction level (N=181)	High satisfaction level (N=202)	
Staff availability	Yes	91(50.3%)	106(52.5%)	χ^2=8.534 df=2 p=0.014
	No	73(40.3%)	82(40.6%)	
	I can't tell	17(9.4%)	14(6.9%)	
Cleanliness of maternity wards	Yes	136(75.1%)	167(82.7%)	χ^2=12.512 df=2 p=0.002
	No	18(9.9%)	26(12.9%)	
	I can't tell	27(14.9%)	9(4.5%)	
Availability of drugs	Yes	47(25.9%)	139(68.9%)	χ^2=10.338 df=2 p=0.006
	No	121(66.9%)	32(15.8%)	
	I can't tell	13(7.2%)	31(15.3%)	
Sharing of beds by mothers	Yes	142(78.4%)	61(30.2%)	χ^2=6.748 df=2 p=0.034
	No	32(17.7%)	120(59.4%)	
	I can't tell	7(3.9%)	21(10.4%)	
Shortness of admission time	Yes	105(58.0%)	104(51.5%)	χ^2=3.229 df=2 p=0.199
	No	21(11.6%)	36(17.8%)	
	I can't tell	55(30.4%)	62(30.7%)	

Table 3: Association between Health System Factors and Level of Maternal Satisfaction (N=383)

5. Discussions

5.1. Health System Factors

The availability of staff to attend to mothers when they needed help was significantly associated with maternal satisfaction. This could be explained by the view of the majority of postnatal women with high satisfaction levels who reported that the available staff worked hard to ensure that clients received the necessary help. However, it was revealed from the researcher's observation that most of the hospitals had inadequate number of staff to meet the increased number of deliveries occurring at public hospitals due to the effects of free maternity policy.

These results were contrary to a study done in Machakos level five hospital, Kenya in which majority of the respondents indicated inadequate number of midwives to attend to women in labour wards thus low satisfaction levels among postnatal women (Orare, 2015). The same results were also inconsistent with results from a World Bank report which showed that the current staffing levels in public facilities in Kenya meet only 17% of minimum requirements needed for effective performance of the health care systems (Bourbonnais, 2013).

The study found out that majority of women with high satisfaction levels reported prescribed drugs to be readily availability. This was significantly associated with maternal satisfaction. Availability of prescribed drugs within the hospitals pharmacy departments save patients" time from travelling outside the facility looking for drugs which may even be more costly thus more satisfied. The results are in line with another Kenyan study which showed that availability of essential drugs is a predictor that is significantly affecting satisfaction with maternity services among patients (Nyongesa et al, 2014). However, delayed reimbursement of funds from the national government to the county offices at times leads to acute shortage of drugs which significantly affects service delivery in public hospitals.

The study showed that most of respondents with high satisfaction levels reported postnatal wards to be clean. Facility cleanliness had a significant influence on maternal satisfaction. Perceived facility cleanliness is associated with high quality service provision. Similar results were reported by Sheehy et al (2011) who argued that the physical birthing environment in most cases, affects patient safety and health, effectiveness of care and the morale of the care providers. Overall satisfaction with the health facility's physical and birthing environment is a predictor to women's positive experience during labour and eventual delivery (Foureur et al, 2010). This was further supported by a report by the World Health Organization which explained that delivery in unhygienic conditions without the assistance of a Skilled Birth Attendant (SBA) may result in adverse health conditions of pregnant women consequently reducing their satisfaction levels (WHO, 2014).

High bed occupancy rate is a feature that is common across most public facilities in Kenya. With increased demand for free maternity services, most patients reported sharing beds which significantly reduced their satisfaction with service delivery. Bed sharing in majority of public hospitals causes patient discomfort and hinders patient privacy. This concurs with a report by KNHCR (2015) which stated that increased demand for services in public hospitals is worsening the delivery conditions due to overstretching of the available infrastructure and equipment. The same results were also reported by another study done in Nepal which showed that maternity wards in public health facilities were more often overcrowded with high bed occupancy rates throughout the year (Karkee et al, 2014).

Majority of respondents with low satisfaction levels reported waiting time to be within the service charter timelines. The study did not establish a significant influence of waiting time on the level of maternal satisfaction. Waiting time was not viewed as a significant issue among respondents since there were slight differences in satisfaction levels across all the waiting time categories. The findings were inconsistent with an Ethiopian study done in Amhara region, which showed that majority of respondents reported long waiting time as a feature that was associated with patient dissatisfaction (Tayelgn et al, 2011). These results were also contrary to another study done in Paropakar Maternity and

Women Hospital in Nepal which showed that majority of postnatal women who experienced shorter admission time and to consult a doctor were more satisfied (Shrestha et al, 2010).

5.2. Conclusion

The study revealed that the overall satisfaction of postnatal women utilizing free maternity services in public hospitals was suboptimal. The policy has increased demand for maternity services which suggest a reduced quality of care due to lack evidence of increased investments thus overstretching the available resources. Despite this policy facing significant challenges on its implementation, addressing them would promote sustenance and ensure improved of quality of service delivery in public hospitals thus increased satisfaction among postnatal women.

6. References

i. Abok Roberts. (2012). Factors influencing maternity services utilization in Loima and Turkana Central Districts of Turkana County. Nairobi: University of Nairobi Printing Press. Addai I. (2008). Demographic and socio-cultural factors influencing use of maternal health services in Ghana. African Journal of Reproductive Health, 2(1):73-80.
ii. Ameyaw Emmanuel Asante. (2011). An assessment of the effect of the free maternal care policy on the utilisation of maternal care services in the New Juaben Municipality. Kumasi: Kwame Nkrumah University.
iii. Ashraf Mariam, Ashraf Fatima, Rahman Atif and Khan Rukhsana (2012). Assessing women's satisfaction level with maternity services: Evidence from Pakistan. Health Services Academy Islamabad, Pakistan. International Journal of Collaborative Research on Internal Medicine & Public Health. Vol 4 No. 11.
iv. Bitew Kurabachew, Mekonnen Ayichiluhm and KedirYimam. (2015). Maternal Satisfaction on Delivery Service and Its Associated Factors among Mothers Who Gave Birth in Public Health Facilities of Debre Markos Town, Northwest Ethiopia. BioMed Research International. 2015:
v. Bourbonnais Nicole. (2013). Implementing Free Maternal Health Care in Kenya: Challenges, strategies and recommendations. Nairobi: Government Printer. Davidson, M., London, M. and Ladewig, P., (2012) Olds' Maternal-Newborn Across the Lifespan. Nursing &Women's Health.
vi. Esena R.K and Sappor M.M. (2013).Factors associated with the utilization of skilled delivery services in the Ga East Municipality of Ghana. Part 1: Demographic characteristics. International Journal of Scientific & Technology Research. Vol 2, No. 8, August 2013.
vii. Essendi H., Mills Samuel and Fotso JC, (2011). Barriers to Formal Emergency Obstetric Care Services" Utilization. J Urban Health; 88 (Suppl 2): 356–369
viii. Fishers and Fowler, F. J. (1998). Survey research methods (2nd ed.). Los Angeles: Sage Publications. Fourer et al. (2010). The relationship between birth unit design and safe, satisfying birth: Developing hypothetical model. International Nursing and Midwifery Journal. 26(3):520-525.
ix. GNA. (2010). "Ghana can achieve MDGs Four and Five – Dr Sory" Thursday, October 21st, 2010 | Posted by Vibe Ghana.
x. GoK (2014). Kenya Demographic and Health Survey 2014 Report. Nairobi: Government Printer. GoK.(2010). National Roadmap for Accelerating the Attainment of MDGs related to Maternal and New-born health in Kenya. Nairobi: Government Printer.
xi. GoK (2017). District Health Information System (DHIS) Database.
xii. GoK. (2013). Transforming Health: Accelerating attainment of Health Goals. Nairobi: Government Printer.
xiii. Government of Kenya, Ministry of Health. (2015). Status of Implementing Free Maternal Health Care in the devolved Health System in Kenya: A comprehensive Assessment Report. Nairobi: Government Printer.
xiv. Karkee Rajendra, Lee H Andy and Pokharel K Paras. (2014). Women's perception of quality of maternity services: a longitudinal survey in Nepal. Dharan: Koirala Institute of Health Sciences.
xv. Khamis Kudra and Njau Benard (2014).Patients" level of satisfaction on quality of health care at Mwananyamala hospital in Dar es Salaam, Tanzania.BMC Health Services Research.2014 (14):400
xvi. Kiplagat Micah (2009). Factors influencing the quality of antenatal care in public maternal and child health facilities in Nairobi Province, Kenya. Kenyatta University, Nairobi.
xvii. KNHRC.(2015). Status of implementation of free maternity services (FMS) program in the devolved health system in Kenya: A comprehensive assessment report. Nairobi: Government Printer.
xviii. Koenig and Bazant. (2009). Maternal Health and Care-Seeking Behaviour in Bangladesh: Findings from a National Survey. Baltimore: Johns Hopkins University.
xix. Kothari, C. (2008). Research Methodology; Methods and Techniques. New Delhi: New Age International Publishers.
xx. Lambo E & Sambo G. (2003).Health sector reform in Synthesis of country experience the Sub- Sahara Africa. East Africa Med. J., 80 (6) 10- 13.
xxi. Laura Byford-Richardson, Walker Mark, Muckle Wendy, Sprague Ann, Fergus Stevenson, White Ruth Rennicks and Dicket. Bertha (2013). Barriers to Access of Maternity Care in Kenya: A Social Perspective. J Obstetric Gynaecology Can 2013; 35(2):125–130.
xxii. Momanyi Nelson and Kaimenyi Catherine. (2015). An Investigation into Factors Causing High Nurse Turnover in Mission Hospitals in Kenya: A Case for Pcea Chogoria Hospital. International Journal of Academic Research in Business and Social Sciences. Vol. 5, No. 3.

xxiii. Nyongesa Margaret, Onyango Rosebella and Kaikai Rose. (2014). Determinants of clients' satisfaction with healthcare services at Pumwani Maternity Hospital in Nairobi, Kenya.International Journal of Social and Behavioural Sciences Vol. 2(1), pp. 11-17.

xxiv. Ochako R, Fotso J.C, Ikamari L., and Khasakhala A. (2011). Utilization of maternal health services among young women in Kenya: Insights from the Kenya Demographic and Health Survey. BMC Pregnancy Childbirth; 11: 1.

xxv. Orare O. Evans. (2015). Evaluation of Free Maternal Healthcare Services in Kenya: A case study of Machakos Level Five Hospital. Nairobi, University of Nairobi Printing Press.

xxvi. Otieno Ochieng" (2014). Factors influencing implementation of Free Maternal Services in Kenya: A case of Public Hospitals in Nairobi County. Nairobi, University of Nairobi Printing Press.

xxvii. Otieno W. O (2013). "Kenya's Other Great Catastrophe: Women and Infants Dying in Childbirth," The Guardian, September 28, 2013.

xxviii. Paice Edward. (2014). Nairobi's first birthday: What is really happening in the city? African Research Institute.

xxix. Paudel Yuba Raj, Mehata, Suresh, Paudel Deepak, Dariang Maureen, Aryal Krishna Kumar, Poudel Pradeep, King Stuart, and Barnett Sarah (2015). Women's Satisfaction of Maternity Care in Nepal and Its Correlation with Intended Future Utilization. International Journal of Reproductive Medicine. Volume 2015, pp 9.

xxx. Quansah Anthony. (2013). The impacts of free maternal delivery policy on maternal mortality in Ghana: A case study of Kumasi Metropolis. Kumasi: Kwame Nkrumah University.

xxxi. Rossier, C.; Muindi, K.; Soura, A.; Mberu, B.; Lankoande, B.; Kabiru, C. & Millogo, R. (2014). Maternal health care utilization in Nairobi and Ouagadougou: evidence from HDSS. Global Health Action, 7, 10.3402/gha.v7.24351.

xxxii. Sara Bleich, EmreÖzaltin & and Christopher Murray (2009). How does satisfaction with the health-care system relate to patient experience? Geneva, Switzerland: World Health Organisation.

xxxiii. Sawyer Alexandra, Ayers Susan, Abbott Jane, Gyte Gillian, Rabe Heike and Duley Lelia. (2013). Measures of satisfaction with care during labour and birth: a comparative review. BMC Pregnancy and Childbirth 2013, 13:108.

xxxiv. Sheehy Annabel, Foureur Maralyn and Catling Christine. (2011). Examining the Content Validity of the Birthing Unit Design Spatial Evaluation Tool Within a Woman-Centered Framework.Journal of Midwifery and women health. 2011,Vol. 56 (5): 494–502

xxxv. Shrestha S; Dhimal B.; Nironjan S., and Bikram D. (2010). "Client's satisfaction on maternity services at Paropakar maternity and women's hospital, Kathmandu," Journal of Health and Allied Sciences, vol. 1, no. 1, pp. 56–59.

xxxvi. Tayelgn Azmeraw, Zegeye Desalegn and Kebede Yigzaw (2011). Mothers' satisfaction with referral delivery services in Amhara region , Ethiopia. BMC Pregnancy and Child birth; 11:78

xxxvii. Tornui Janet Ansong, Margaret Armar-Klemesuand Julia Hussein. (2007). Hospital based maternity care in Ghana - Findings of a confidential enquiry into maternal deaths. University of Ghana, Legon, Ghana. Ghana Medical Journal. Volume 41, No. 3

xxxviii. Tunçalp Ö, Hindin MJ, Adu-Bonsaffoh K, Adanu R (2012).Listening to Women"s Voices: The Quality of Care of Women Experiencing Severe Maternal Morbidity, in Accra, Ghana. PLoS ONE 7(8): e44536. doi:10.1371/journal.pone.0044536

xxxix. UNFPA. (2014). Trends in maternal mortality: 1990 to 2013. Estimates by WHO, UNICEF, UNFPA, the World Bank and the United Nations Population Division. Geneva, Switzerland: World Health Organization.

xl. Wamalwa Emmanuel Wekesa (2015). Implementation challenges of free maternity services policy in Kenya: the health workers" perspective. Pan African Medical Journal. 2015; 22:375 doi:10.11604/pamj.2015.22.375.6708

xli. WHO.(2014). World Health Statistics 2014. Geneva, Switzerland: World Health Organization.

xlii. Otai Jane. (2013). What Is Free Maternity Care in Kenya Worth? Baltimore: John Hopkins University.

xliii. Foureur M., Davis, D., Fenwick, J., Leap, N., Iedema, R., Forbes, I., & Homer, C. (2010). The relationship between birth unit design and safe, satisfying birth: Developing hypothetical model. International Nursing and Midwifery Journal. 26(3):520-525.

xliv. Arba, Mihiretu Alemayehu, Tadele Dana Darebo, and Mengistu Meskele Koyira. (2016)."Institutional Delivery Service Utilization among Women from Rural Districts of Wolaita and Dawro Zones, Southern Ethiopia; a Community Based Cross-Sectional Study" PLoS ONE.2016 (Suppl 2): 356–369