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Original Research Article

Trends of utilization of free maternal services implemented among postnatal women in sub-county hospitals of selected counties in Nyanza, Kenya

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ABSTRACT

Background: Low utilization and poor accessibility of hospital based maternal services in low and middle-income countries (LMIC) are evident and financial barriers is a major bottleneck. Globally, an estimated 600,000 maternal deaths occur yearly with over 90% of these deaths occurring in LMICs. In Kenya, maternal mortality is still relatively high with 362 maternal deaths per 100,000 live births. Gaps in the quality of maternal health services exist due to high costs, poor staffing and inaccessibility. However, Utilization of hospital based maternal services enhances skilled delivery and consequently reduces maternal and child mortalities and morbidities. The aim of this study was to establish the trends of utilization of free maternal services (FMS) before and after implementation in counties of Nyanza, Kenya.
Methods: The study adopted an analytical cross-sectional study utilizing mixed methods of data collection. Secondary quantitative data on the rate of utilization between June 2011 and May 2015 was compared. Qualitative data was collected from key informants and focused group discussants. Purposive and simple random sampling were used to select target population. Data was analysed using both parametric and non-parametric statistical methods.
Results: In maternal services utilization, Kisumu county recorded the highest 98.7%. Overall, in Nyanza, there was tremendous growth on trends of FMS utilization of 53.4% from 36.7% before implementation of FMS with cases of still births, maternal deaths and neonatal deaths.
Conclusion: The upsurge of FMS utilization encouraged skilled birth attendance but also caused enormous constrains to health system and reduced the quality of FMS.

Keywords: Implementation, FMS, Utilization

INTRODUCTION

In Africa, a woman is at a reasonably high risk of dying from pregnancy-related complications with a chance of 1 in 39 lifetime risk of dying compared to 1 in 4000 in the developed countries.[1] Even with the alarming maternal mortality rates, gaps in the quality of maternal health services exist due to high costs, poor staffing and inaccessibility.[2-4]

Utilization of maternal services enhances skilled delivery and thereby reducing maternal and child mortalities and morbidities. However, to a great extent, many factors influence the rate of utilization. Financial barriers are the most common deterrent of utilizing maternal services. Other barriers include education, economic status, religion, culture.[5-8] The implementation of FMS is one of the evidences-based solutions for encouraging hospital deliveries.[9]

The implementation of maternal fees exemptions has led to an increase in the utilization of health services thereby discouraging home deliveries.[10-14] However, another study conducted in Burundi, documented no evidence in significant change in utilization after the implementation of FMS.[15] Further, elsewhere, provision of free health services has shown a significant relationship with retention of clients in consistently seeking the provided services, improved and increased timely initiation of essential services hence promotion of good health and survival of clients.[16]

Financial barriers of maternal health influence and encourage unskilled birth deliveries.[5-8] Annually, about 600,000 maternal deaths occur worldwide with approximately 800 maternal deaths occurring daily.[17,18] Over 90% of these maternal deaths occur in LMICs and yet they are avoidable.[4,18] In addition, over 70% of these maternal deaths in LMICs result from direct maternal causes such as haemorrhage, sepsis, hypertensive disorders, unsafe abortion, eclampsia, postpartum sepsis and ruptured uterus and obstructed labor which are preventable and from indirect causes such as HIV/AIDS, malaria, and anaemia account for about 20% of maternal deaths.[19-21] Cost effective and evidence-based interventions and strategies such as FMS can reduce maternal related complications and deaths.[22,23]

Previous studies have documented the possibilities of reducing maternal mortality and morbidity with technical interventions that are well understood, planned and implemented. Improved maternal health services are dependent on fully functioning of the health care systems. Technical outputs such as increased emergency facilities, resources and motivated skilled birth attendants can lead to availability, use and quality of maternal health services which will change maternal health outcomes.[24-27]Consequently, most LMICs have adopted and are now implementing the fees exemption policy of maternal services to enhance universal coverage as well as promote quality of care.[12,28]

Maternal and child mortalities and morbidities are still major challenges in most LMICs.[29] Maternal health indicators in Kenya have not recorded any significant improvement for several years now. The 1998, 2003, 2008/2009 and 2014 Kenya demographic and health surveys (KDHS) recorded a national maternal mortality ratio of 590, 414,488,362 deaths per 100,000 live births respectively. There has been a slight decline of maternal mortality in Kenya with 362 maternal deaths per 100,000 live births. This decline is not statistically significant [30]. Of all health indicators, maternal mortality, records the greatest disparity between the developed and LMICs.[31] Globally Kenya is ranked among top ten and with about 60% maternal deaths every year.[18,30,32] In this part of Kenya, maternal mortality rate (MMR) is significantly high (14.9%) than the national MMR. Nyanza is rated 2nd in fertility rates in Kenya and with low, 26% hospital deliveries.[31-34] Maternal mortalities remain unacceptably high in most developing countries.[35]

METHODS

This was an analytical cross-sectional study that adopted both quantitative and qualitative methods. The study was conducted among 1152 postnatal women in 6 sub-county public hospitals in Nyamira, Homa-bay and Kisumu counties in Nyanza, Kenya in November 2015 and September, 2016 comparing the rate of utilization between June 2011 and May 2015. This was purposively to compare utilization before and post implementation of FMS. Nyanza has a population of approximately 5.442,711 persons as at 2009.[33,34]

The study included the maternal utilization records from June 2011 to May 2015 and postnatal women of reproductive age in the postnatal ward who had delivered during FMS implementation after being discharged and only those who consented were interviewed. Only nurses who were on duty and had worked in the maternity ward for a minimum of three months and above were included in the study. Nurses in-charge, medical superintendents, CHWs and hospital administrators in public hospitals in participating hospitals who had worked for a minimum of three months and who consented were included in the study. The study excluded all maternal utilization records that not within the stated period before and after implementation, postnatal women in the postnatal ward who did not consent and were not able to bear with us during the interview due to her status of health after delivery and key informants who had not worked in the hospital for at least three months.

Data was collected through semi-structured interviewer administered-exit interviews from a sample of 1152 postnatal women seeking postnatal services who were sampled proportionately according to the hospital population size. Secondary data was collected from the maternal and child health clinics as well as the postnatal ward. Multi-stage and simple random sampling were used to select counties, Sub-counties, Sub-county public hospitals and the interviewed postnatal women who had delivered in each hospital daily were purposively selected. The limitation of the study was evident due to FMS that was initiated and is being implemented all over Kenya and the study was carried in only three counties among forty-seven counties in Kenya. It should have been collected in many counties but due to finances it was not feasible to do so

Ethical clearance was granted by Kenyatta University ethical review committee, Kenya while The National Commission for Science, Technology and Innovation, Kenya provided the research permit to conduct the study in the selected Counties in Nyanza, and each County, sub-county and hospitals provided an authorization letter and a written informed consent was obtained from each participant before conducting the interviews.

RESULTS

Utilization of FMS for postnatal women within counties

Across all the three counties, there was an overwhelming agreement on the utilization of FMS. Kisumu County recorded the highest 98.7%, Homabay County 90.6% agreement, and Nyamira 91.4%. The levels of agreement to utilization of FMS within the three counties was statistically significant an indication that there was increment in FMS utilization as shown in table 1.

When FMS was initiated, there was growth between June 2013 and May 2015 in Kenya. Before implementation there was negative growth in utilizing maternal services in health facilities. This study concludes that there has been significant growth of women seeking FMS after implementation especially on the months of November through January. An indication of high numbers of due pregnancies. However, before implementation there is a significant drop of utilization in the months of November through January. This may be an indication of low deliveries in the hospitals as shown in figure 1.

Table 1: Agreement with level of FMS utilization within counties.

Agreement	County			Total (%)	Statistics
	Homabay (%)	Kisumu (%)	Nyamira (%)		
Disagree	37 (9.4)	5 (1.3)	56 (15.2)	98 (8.5)	X^2=47.659, df=2, p=0.000***
Agree	356 (90.6)	385 (98.7)	313 (84.8)	1054 (91.5)	
Total	393 (100.0)	390 (100.0)	369 (100.0)	1152 (100.0)	

Live births before and after FMS implementation

In aggregating two years before and after implementation, there is an indication of tremendous growth of deliveries after FMS implementation in the hospitals hence an evidence of utilization increment in usage of FMS services and significant decrement before FMS implementation and especially in the month of December. This could be an indication that most women do not deliver in hospitals or that there are no due deliveries as shown in figure 2.

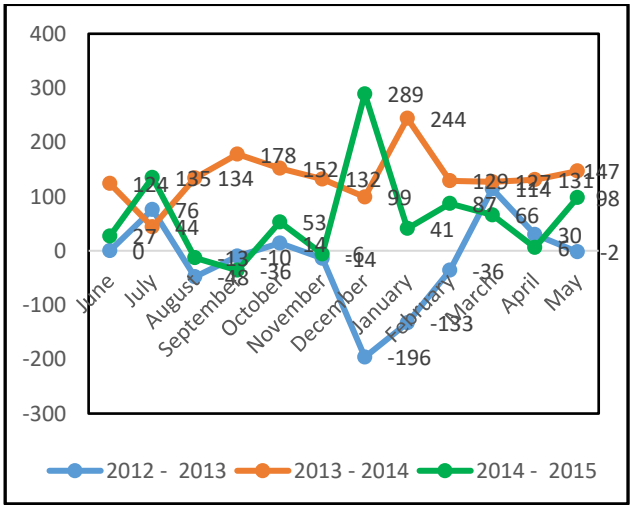

Figure 1: Deliveries before and after FMS implementation.

During the FGD discussions, postnatal women discussants, strongly confirmed that there was a high rate of utilization of FMS. They had varied comments as the discussions took place, (R3), said, "there are now very few deliveries at home", (R5), added, "other NGO like OBA give us incentives and we pay only Ksh.200 and all services are provided from the first ANC visit until delivery", but (R4), commented "some women are mishandled and so they opt to deliver at home".

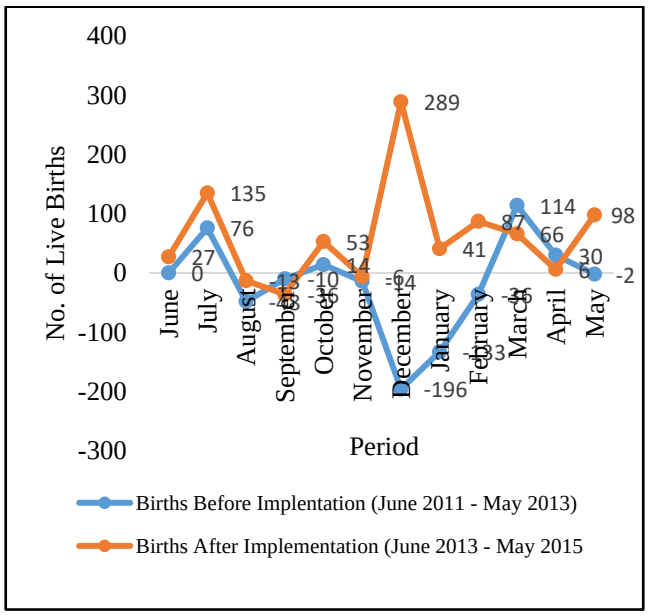

Figure 2: Aggregate live births before and after FMS implementation.

Key informants on the other hand were asked to give their views on the trends of utilization of FMS among postnatal women; they indicated that indeed there was an upsurge in utilization of FMS since its implementation in June 2013. They had most of the views indicating high rate of utilization of FMS such as; one of the Key informants, a nurse said, "the rate of utilization has really increased. About 300 deliveries per a month and sometimes more", "others confirmed and said, "the rate of utilization is high", "utilization is high compared to before the implementation of FMS" and ", another nurse in charge

said, "FMS is not well utilized, although there are increased deliveries".

The other nurse in charge strongly retorted, "the rate of utilization is quite high than before and this results to health workers in the maternity wards being overstretched". Hospital superintendents also confirmed and said, "the number of deliveries are high and so exceeds the money allocated for each mother to deliver" "there are increased deliveries", "numbers vary but most of the times deliveries are very high ever since FMS was implemented", "more mothers now deliver in the hospital although awareness has not been done extensively about the FMS package" etc. From the study, we conclude that there are many women giving birth in the hospital after the implementation of FMS.

Still births before and after FMS implementation

The study also sorts to find out the status of deaths associated with pregnancies that were experienced before and after FMS implementation. Still births were significantly recorded after implementation of FMS in both periods when comparing with those recorded before implementation shown in figure 3. This is strongly related with the data of deliveries before and after since there has been increment of deliveries after FMS implementation. This is an indication that still births before FMS implementation were not highly reported in the hospital. However, in the month of February, still births were highly recorded before and least recorded before. This could be attributed to either the seasonality of hospital and home deliveries as well as seasonality on due pregnancies.

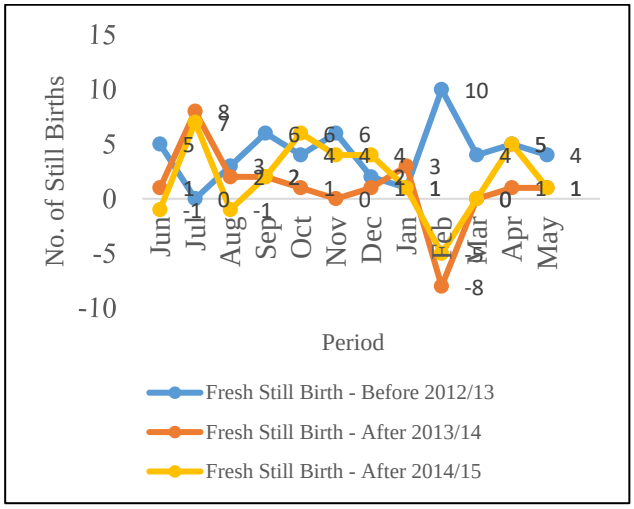

Figure 3: Still births before and after FMS implementation.

Neonatal deaths before and after FMS implementation

Neonatal deaths were least recorded after implementation of FMS and highly recorded before implementation of FMS. This could be attributed to the fact that now more deliveries were conducted in the hospital by a skilled birth attendant. In the month of April before FMS implementation, neonatal deaths were highly recorded. This could be an indication of home deliveries that led to complications that exposed the neonates to death. On the other hand, in the same month after FMS implementation, neonatal deaths were least recorded. This could be an indication of neonates receiving professional care after delivery as shown in Figure 4.

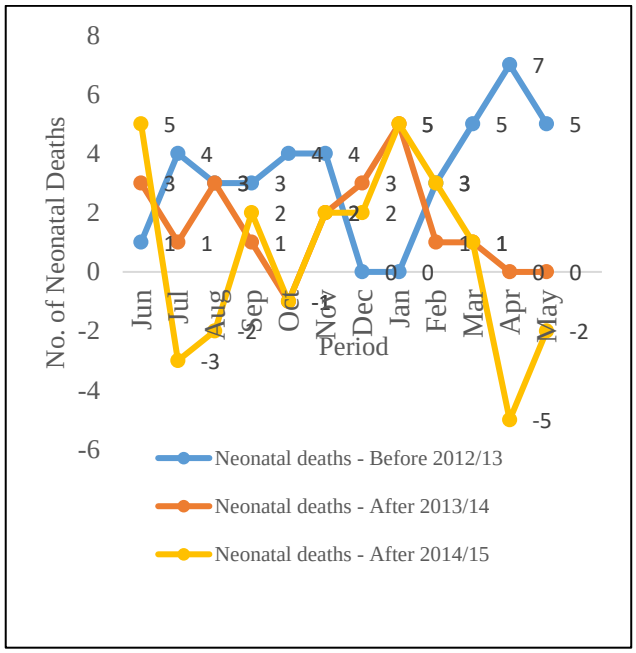

Figure 4: Neonatal deaths before and after FMS implementation.

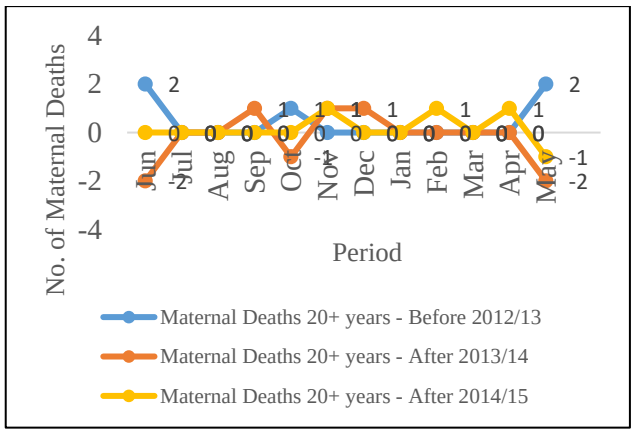

Figure 5: Maternal deaths before and after implementation.

Maternal deaths before and after implementation

On average, after implementation of FMS, less maternal deaths were recorded compared to before FMS implementation and in some months for this period records were missing an indication that some deaths were never reported as shown in figure 5.

Comparison of deaths and births before and after FMS implementation

Most of the still births were recorded before implementation of FMS and were least recorded after FMS implementation compared to neonatal and maternal deaths. Maternal deaths were least recorded both before and after implementation when compared with neonatal and still births This could be attributed to the fact before implementation less women delivered in the hospital and therefore there was no data recorded and after implementation, more women were delivered under a skilled birth attendant and therefore the situation was in control as shown in figure 6. However, even the few deaths recorded due to pregnancies should be curbed to zero death rates.

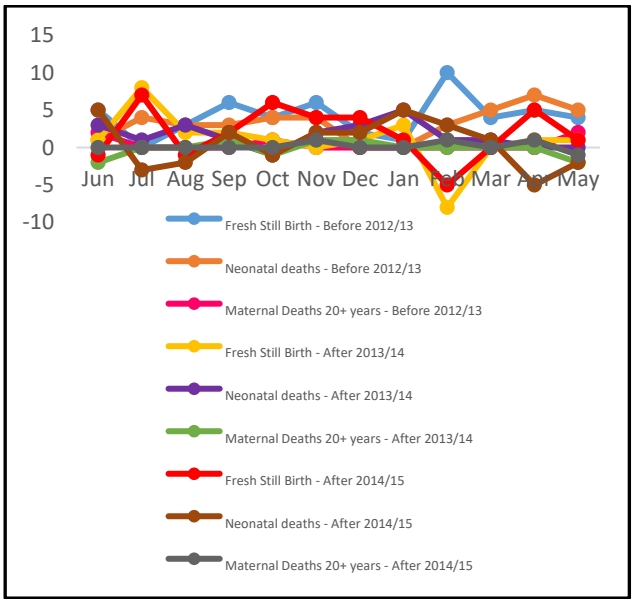

Figure 6: Comparison of deaths and births before and after FMS implementation.

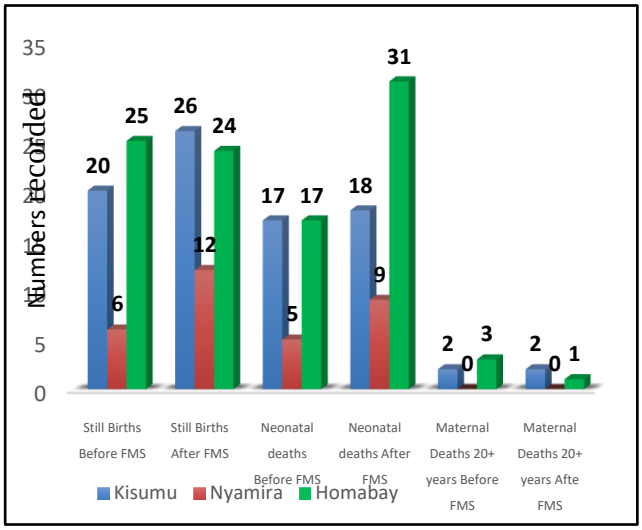

Figure 7: Comparison of deaths by county before and after FMS implementation.

Comparison of deaths by county before and after FMS implementation

Still births were highly recorded in Kisumu before implementation and highly recorded after implementation in Homabay. Nyamira county had the least recorded still births before FMS implementation and showed insignificant increase in records after FMS implementation. Also, across the three counties, Nyamira county had least recorded cases of still births, neonatal deaths and maternal deaths. In Kisumu county, neonatal deaths were highly recorded after implementation as shown in Figure 7.

DISCUSSION

According to the study findings on the secondary data collected from the hospitals, the utilization before implementation of FMS was low compared to after implementation where there was a significant growth in most months of the year as shown in Figure 4. This is consistent with findings from MOH, Kenya which documented 66% growth of skilled birth attendance from 44% before implementation.[32] This is consistent with other similar studies have documented high utilization of maternal services after the implementation of exemption fees.[6,9-11,14,26,35] From this study, January 2014 through January 2015 had the highest growth of 83.8%.

On overall, there was growth of 36.7% utilization of FMS. During initial stages of implementation in June 2013 through May 2014 there was growth of 36.7% and June 2014 through May 2015 there was tremendous growth of 53.4%. This was further affirmed by the discussants and Key informants who strongly felt and indicated that the utilization of FMS was high and as a result they were facing challenges in attending to the enormous numbers of women who came to deliver and yet human resources had not been deployed, the allocated finances were little and that the reimbursement delayed for several months and the maternity wards had not been expanded. However other studies are inconsistent with this finding by documenting that in their study there was significant change in FMS utilization after implementation.[15]

In addition, from the secondary data this study sought to find out the status of still births, maternal deaths and neonatal deaths before and after FMS implementation. There were more still births recorded after FMS implementation compared to before FMS implementation. This could be as a result of more women seeking maternal services in the hospital. There were less neonatal deaths recorded after implementation. This could be attributed to the fact that now more mothers were attended to by a skilled birth attendant. Also, less maternal deaths were recorded in the first year of implementation and after two years of implementation slightly more maternal deaths were recorded. Even with the implementation of FMS there are maternal deaths

encountered. This is inconsistent with other studies which have documented that these maternal deaths are preventable and they can be avoided at all costs and that there are disparities in maternal deaths in the developed and the LMIC.[4,12,17,18,28] Again, KDHS, 2014 findings are consistent with the findings of this study by documenting that there has been no significant decline of maternal mortality.[30]

CONCLUSION

The study ascertained that there was vast growth in the utilization of FMS in Nyanza as this was confirmed by all respondents, Key informants, discussants and hospital secondary data. All hospitals recorded growth in deliveries after the implementation of FMS. With the tremendous increase in the utilization of FMS the National Government, County Ministry of Health and other relevant organizations whose interest is to support effective implementation of FMS should devise mechanisms on how to provide quality FMS.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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