

Uptake of maternal health systems initiatives among mothers in Nakuru County, Kenya.

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Abstract- Globally, more initiatives have been taken in order to strengthen national health systems. By coordinating actions across the six building blocks of the health systems, programmes to improve maternal health services can increase coverage and reduce barriers to the use of various initiatives. Service delivery building block is therefore very important in improving maternal mortality which remains an urgent problem to be addressed by Health Systems in developing countries around the world. About 800 women die every day and 99% of these deaths occur in developing countries, Kenya included. 56% of women in Kenya deliver outside health facilities despite availability of skilled maternal health services. In 2013, Nakuru County had a maternal mortality rate of 374 per 100,000 live births and skilled delivery of 51%. It was ranked among the top four (4) counties in Kenya with high maternal death burden by UNFPA in 2014 despite being one of the counties with the best infrastructure, high number of health workers and with 35% of its budget being allocated to health as indicated in county budget paper 2014. This revelation was an indicator of ineffective health systems leading to low utilization of maternal health services. The purpose of the study was to assess uptake of maternal health systems initiatives among mothers in Nakuru County, Kenya. Specific objectives included: to assess the effects of client's characteristics to uptake of maternal health services and to find out levels of awareness of maternal health initiatives. The study was undertaken in Nakuru County Health facilities. The study was a cross-sectional in design. A total of fifteen level four health facilities that is, 9 private and 6 public were purposively selected for the study. The sample size was obtained by use of Yamane 1967 formula where 245 mothers were included in the study as respondents. The data was collected using semi structured questionnaires. Analysis was done using SPSS software and presented in tables and pie charts. The response rate was 233(95.1%). The finding of this study indicated that a client's characteristics like age, education, religion, marital status and employments have significant influence on the awareness and the level of education was the best predictor of awareness of maternal health systems initiatives, In the area of awareness of maternal health systems initiatives, emergency obstetric care (EmOC) and free maternity services (FMS) had the lowest awareness level with a median of 1 (that is slightly aware). The least P-value was in free maternity services (P-value=.037). In conclusion, although the maternal health systems initiatives existed, Clients characteristics like educational level are good predictor of uptake of maternal health initiatives and very few mothers were fully aware of maternal health initiatives.

Index Terms- Awareness; maternal health; health systems initiatives; uptake

I. INTRODUCTION

Health Systems consist of all the people and actions whose primary intent is to promote, restore or maintain health (WHO, 2007). According to World Health Organization, a health system comprises six essential 'building blocks' or pillars that are all needed to improve health outcomes. These include: service delivery; health workforce; health information; medical products, vaccines and technologies; health financing; and leadership and governance (WHO, 2007).

This study mostly focused on Service Delivery building block (pillar) but other building blocks were also included as they affect service delivery. The service delivery building block is one concerned with how inputs and services are organized and managed, to ensure access, quality, safety and continuity of care across health conditions (WHO, 2007). Globally, there is renewed interest in applying systems thinking to health programmes. Systems thinking identify where the system succeeds, where it breaks down, and what kinds of integrated approaches will strengthen the overall system and thus assist countries in reaching the Millennium Development Goals (MDGs) (Atun et al, 2010). As a well-functioning health system is one built on having trained and motivated health workers, a well-maintained infrastructure, and a reliable supply of medicines and technologies, backed by adequate funding, strong health plans and evidence-based policies (WHO, 2015). This highly complex, system-level issue must be addressed across the system rather than in isolation (World Bank, 2011).

Orientation towards designing, implementing and evaluating interventions that strengthen systems is directly relevant to maternal health programmes (Savigny, & Adam, 2009). Reducing maternal mortality is a health-related MDG whose progress has been "the most disappointing" to date (Behague, & Storeng, 2008). Without action to strengthen health systems, many countries of sub-Saharan Africa will not meet the health-related MDGs not because they are unattainable but because current health systems and services in those countries are too weak to reach the beneficiaries and achieve the disease-reduction targets of the MDGs (AHSI, 2013).

More than 15 years since the launch of the Safe Motherhood Initiative (SMI), maternal and neonatal mortality levels in Africa have sadly continued to rise instead of decline (Kenya National Road Map, 2010). Maternal health initiatives such as family planning have been used to reduce maternal mortality by prevention of unwanted pregnancy, Safe management of unwanted pregnancy and Prevention of death from a

complication of pregnancy or childbirth (DFID, 2004). However, weaknesses of the health system such as human resource capacity, health facility infrastructure, supply chain systems, financial resources, national health management and information system and district level management negatively impact on these initiatives that are aimed at strengthening Maternal neonatal and child health(MNCH) services (GHI-K, 2011).

Some of these strategies for example, birth attendance by skilled health professionals, as timely management and treatment can make the difference between life and death (WHO, 2014). And although free maternity health services has been implemented in all health facilities in Kenya, in Nakuru County 58.7% of mothers attended first antenatal clinic (ANC) then 30.8% in fourth ANC and only 51% who delivered in the facility in 2013 (District Health Information System, 2013). Inadequate access to integrated, affordable and quality reproductive health (RH) services especially unsafe motherhood have been reported to influence provision of reproductive health services in Nakuru (County Health Strategic Plan, 2013). This study therefore was aimed at assessing uptake of health systems initiatives for maternal health services among mothers in Nakuru County.

Statement of the Problem

Although over the last two decades maternal deaths have decreased by nearly 50% worldwide, still, everyday 800 women die from pregnancy or childbirth related complications (WHO, 2014). In Kenya, a total of about 32,021 women of reproductive age died in 2013, of which 6,632 died of pregnancy related complication (UNFPA-K, 2014). Nakuru County was ranked number 4 out of 47 counties in Kenya with high burden of maternal deaths in 2013. It was observed that 40% of these death occurred during delivery, 31% within the first two months after delivery and 28% during pregnancy (UNFPA-K, 2014). In the same year, 49% of mothers delivered outside the health facilities. In spite of all this, free maternity services policy had been implemented. There were also push and pull factors that prevented or encouraged women from receiving or seeking care during pregnancy and childbirth (WHO, 2014). This study sought to find out the uptake of maternal health systems initiatives among mothers in Nakuru County, Kenya.

Objectives

Broad Objective

The broad objective was to assess uptake of maternal health systems initiatives among mothers in Nakuru County, Kenya.

Specific objectives

The specific objectives were;

- To establish the effects of clients characteristics on uptake of maternal health initiatives among mothers in Nakuru County, Kenya
- To assess levels of awareness of the maternal health initiatives among mothers in Nakuru County, Kenya.

Research Questions

The research questions were;

- How do client's characteristics affect uptake of maternal health initiatives among mothers in Nakuru County, Kenya?

- What are the levels of awareness of the maternal health initiatives among mothers in Nakuru County, Kenya?

Study Justification

Kenya's maternal mortality rate stood at 488 per 100,000 live births (KDHS, 2009) compared to other developing countries of 230 per 100,000 live birth and 16 per 100,000 in developed countries (WHO, 2014) while in Nakuru County which is one of the 47 counties in Kenya has a maternal mortality rate of 374 per 100,000 live births (UNFPA, 2014). This trend is worrying and urgent measures need to be put in place. There is a need to strengthen the health care systems through interventions aimed at addressing maternal health services in the county. At the County there was inadequate information regarding awareness levels of various initiatives among mothers. The pull factors for utilization of maternal health system initiatives were unknown and this hindered the development of specific strategies that can address MHS. Lacking this vital information still left a puzzle as to why services were not being utilized despite proof that there were indicators of rich initiatives for promoting uptake of MHS at the county. It was therefore obvious that critical information for enhancing uptake was lacking.

Lack of this vital information and deterioration of maternal health indicators formed the basis of this study.

Study Significance

Reducing maternal mortality is a health related MDG whose progress has been the most disappointing to date. Without action to strengthen health systems, many sub Saharan countries Kenya included will not meet the health related goals not because they are unattainable but because the health systems are very weak and unable to address the needs of the beneficiaries. Despite the introduction of free maternity services, many mothers still deliver outside the health facilities.

This study will help the decision makers to understand the systems weakness and come up with specific strategies that will improve uptake of health systems initiatives and hence lowering the maternal mortality in the County and Country at large. It will also strengthen health care systems in improving efficiency and effectiveness at the service delivery point without compromising the quality of care. It will also help the ministry to come up with specific policies to address specific needs of the community.

Lastly it will form the basis of further research works or reference materials for further studies in order to improve the body of knowledge.

Study Limitation

The study was carried out in all level four hospitals. Therefore many mothers may not have been covered in this study most likely because they were at home or in other levels that is three and five health facilities. The scope of this study was also limited by the fact that not all the factors known to affect maternal health initiatives uptake were included.

Study Delimitations

The study was carried out in all level four hospitals both private and public that offers integrated maternal health services to mothers and therefore gave the right impression of the uptakes of maternal health initiatives. The total catchment population

was used in calculating the sample size and therefore it was a true representative of the entire County population.

II. RESULTS

Introduction

The study was a first of its kind since the devolution of health services from National Government to County Governments especially in Nakuru County. The researcher assessed the uptake of maternal health systems initiatives among mothers at health facilities in Nakuru County.

Demographic characteristics

The sample was designed to compose of 245 mothers although only 233(95.1%) participated.

The respondents' age ranged from 26.58 to 28.24 years old. Majority 107(45.9%) of the respondents had attained Secondary

education, 68(29.2%) had attained Primary education, 37(15.9%) had attained University education while 21(9.0%) had no education at all.

The sample consisted of 141(60.5%) Protestants, 69(29.6%) Catholics, 10(4.3%) Muslims and 13(5.6%) other religions. 176(75.5%) were married, 43(18.5%) were single, 5(2.2%) were divorced and 4(1.7%) were widowed. Most of the respondents 70(30.0%) were self-employed, 64(27.5%) were housewives 60(25.8%) employed and 39(16.7%) were not employed. In all the above characterization, One sample Chi-square test(P-values <.05) indicated that the proportion of respondents varied with various categories of all characteristics listed above that is, level of education, religion, marital status and employment status, refer to table 4.1.

Table 1 Demographic characteristics

Characteristic	Categories	Frequency	Percent	Test (p-value)
Level of education	Primary	68	29.2	One sample Chi-square test (<.001)
	Secondary	107	45.9	
	University	37	15.9	
	None	21	9.0	
Total		233	100%	
Religion	Catholic	69	29.6	One sample Chi-square test (<.001)
	Muslim	10	4.3	
	Protestant	141	60.5	
	Other	13	5.6	
Total		233	100%	
Marital status	Married	176	75.5	One sample Chi-square test (<.001)
	Divorced	5	2.1	
	Single	43	18.5	
	Separated	5	2.2	
	Widow	4	1.7	
Total		233	100%	
Employment	Self employed	70	30.0	One sample Chi-square test (.018)
	Employed	60	25.8	
	Not employed	39	16.7	
	Housewife	64	27.5	
Total		233	100%	

Effects of demographic characteristics on uptake of MHS

Chi square tests were used to ascertain effect of demographic characteristics on the levels of awareness. Larger proportions of mothers who had secondary and university education were more aware of antenatal clinic services (p value<0.001); importance of FANC (p value<0.001); EmOC (p value= 0.001); family planning services (p value<0.001); services covered by free maternity policy (p value= 0.013); and importance of birth plan (p value<0.001). The results shown that education affect the awareness of maternal health systems initiatives. This is in line with Banerjee (2003) who reported that educated mother's are more aware of health services and may use this information to remain healthy (Banerjee, 2003).

Greater proportions of employed mothers were more aware of antenatal clinic services (p value<0.001); importance of FANC (p value=0.001); EmOC (p value= 0.003); family

planning services (p value<0.034); and importance of birth plan (p value=0.003). It was also observed that socio-economic activity or employment is one of the demographic factors that awareness and possible uptake of MHS. This is not in line with previous finding by Chubike & Constance (2013) that shown that occupation is not one of the demographic factor that affect utilization of MHS (Chubike & Constance, 2013).

It was clear from the study that majority of the mothers had high level of education, married, religious and employed. These individual client's factors affects awareness and uptake of MHS. This is in line with Grossman (1972) theory that observed that client's characteristics affect the demand for Health care services (Grossman, 1972 and Jamora & Andrea, 2014). But this was not in line with Seilder (2009) theory, who observed that rational people wish to maximize their utility in consumption of goods and services that is, "if services are good, they will increase

utility and if they are bad, they decrease utility of the goods and services (Seilder, 2009).

Level of awareness of current MHS initiatives.

- **Antenatal Clinic (ANC) services**

Majority 103(44.6%) of the respondents were well aware of the ANC services, 62(26.6%) were slightly aware, 46(19.7%) were fully aware while 21(9.0%) were not aware at all. One sample Chi-square test (P-value < .001) indicated that the proportion of awareness level were significantly different. This implies that in Nakuru County the proportion of respondents who have a particular awareness of ANC services is different. This is in line with Sadip et al (2010) that many factors can influence the use of antenatal care services including literacy levels and level of awareness regarding the importance of antenatal care (Sadiq et al, 2010).

- **Focused Antenatal Clinic (FANC) services awareness**

Most 100(42.9%) of the respondents were well aware of importance of Focused Antenatal Care (FANC) services, 60(25.8%) were slightly aware, 45(19.3%) were fully aware while 28(12.0%) were not aware at all, refer to fig 4.1. One sample Chi-square test (p-value < .001) indicated that the proportion of awareness level were significantly different. This implies that in Nakuru County the proportion of mothers who have a particular level of awareness of importance of Focused Antenatal Care (FANC) services is different. This awareness level was higher than other African countries which stand at 44% (WHO, 2010). However, awareness of focused ANC visits was lower than ANC visit (DHI, 2013). This result shows a trend indicate slower progress in sub-Saharan Africa than in other regions (WHO, 2010). Despite the fact that women in Nakuru have the right to free information, the findings of this research reveal inequalities in access to care and deficiencies in ensuring the completion of four antenatal care visits.

Focused antenatal care services

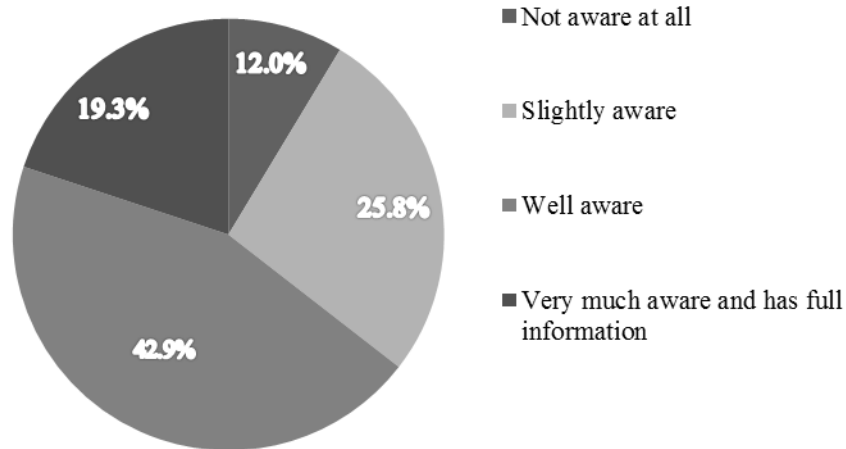


Fig 1 focused antenatal care services

- **Emergency obstetric care services (EmOC)**

Most 77(33.0%) of the respondents were not aware at all of EmOC, 67(28.8%) were slightly aware, 53(22.7%) were well aware and 36(15.5%) were fully aware and had full information refer to fig. 4.2. One sample Chi-square test (p-value = .001) indicated that the proportion of awareness level was significantly different. This implies that in Nakuru County the proportion of mothers with a particular EmOC awareness level is different. Majority of the respondents had low awareness in EmOC. Lack of awareness in EmOC is widely believed to be the leading cause of maternal mortality because of failure to recognize danger signs hence delay in decision making to seek care. This is in line with Thaddeus & Maine (1994) who observed that lack of EmOC

awareness led to the first delay in making decision to seek healthcare services at the household and it the one of the cause of maternal mortality (Thaddeus & Maine, 1994). Lack of knowledge in EmOC can led to low uptake of maternal health services while increased level of awareness can reduce maternal mortality through decision making (Igberase et al, 2009). It was also in line with Lawn et al (2009), Bhutta et al (2010) & Lee et al (2009) timely emergency obstetric care, provision of immediate newborn care and post natal care are essential services in promoting neonatal health(Lawn et al & Lee et al 2009; and Bhutta et al, 2010).

Emergency Obstetric Care Services

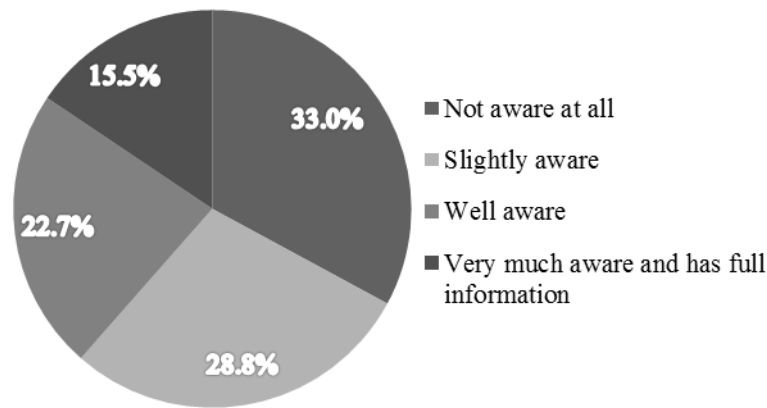


Fig 2 Emergency Obstetric Care Services

- Family Planning Services**

Most 100(42.9%) of the respondents were well aware of Family Planning services, 68(29.2%) were slightly aware, 45(19.3%) were fully aware while 20(8.6%) were not aware at all, to refer fig. 4.3. One sample Chi-square test (p-value < .001) indicated that the proportion of awareness level was significantly different. This implies that in Nakuru County the awareness level of family planning services among mothers is different. It's widely agreed that family planning for example can prevent as many as one in every three maternal death (Worley, 2015). But according to the study only 45 (19.3 %) of mothers who were fully aware of family planning services. But the finding

contradicts the use of family planning commodities in Nakuru County as although there is high level of awareness in FP services, only 35% of mothers were found using the same (DHI, 2013). This is also in line with Olayinka et al (2014) that despite of high awareness of MHS, there is lack of in-depth knowledge of some services rendered (Olayinka et al, 2014). This is also in line with Mahajan & Sharma (2014) that there is need to focus on increasing awareness levels of mothers through sustained and focused information, education and communication campaigns within the communities (Mahajan & Sharma, 2014). This lack of in-depth knowledge affects uptake of MHS.

Family Planning services

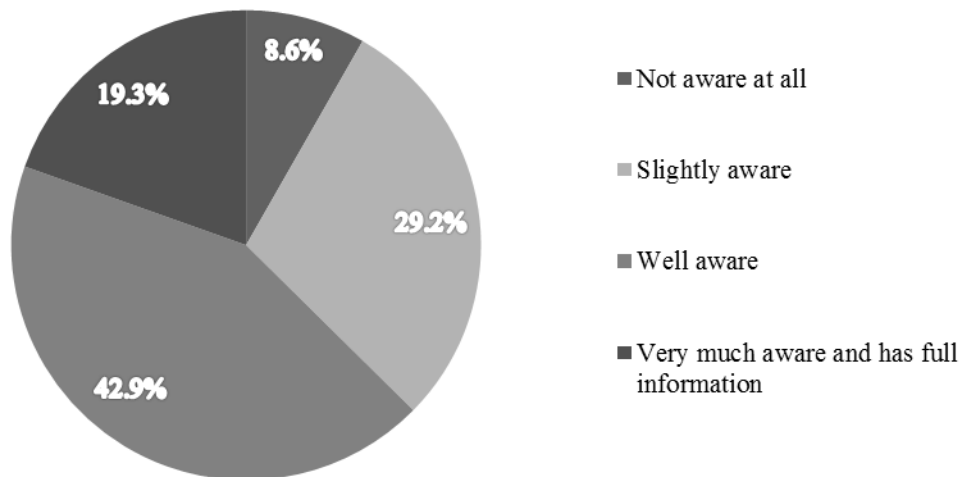


Fig 3 family planning services

- Free Maternity services**

Most 68(29.2%) of the respondents were slightly & well aware of the services covered by free Maternity policy, 57(24.4%) were not aware at all while 40(17.2%) were fully aware and had full information, refer to fig. 4.4. One sample Chi-square test (p-value = .037) indicated that the proportion of awareness level was significantly different. This implies that

among mothers in Nakuru County the awareness level of services covered by free maternity policy is different. The result show that majority of the respondents were not aware of services covered by free maternity service. This is not in line Kinara et al (2014) that Majority of pregnant mothers are aware of free maternity services (FMS) covered (Kinara et al, 2014). But this contradict another study which was done in Bangladesh by

Hoque (2015) that a higher proportions of women were aware of different components of MHS covered by the insurance (Hoque, 2015). A study conducted in Kenya by Otai (2013) found that, “Women fear that if they accept free care, they would be relinquishing their rights and would have to accept poor

treatment” (Otai, 2013). This women fear of free services may be due to lack of awareness of these services covered by FMS and this hence led to low uptake and utilization of maternal health services.

Services covered by Free Maternity policy

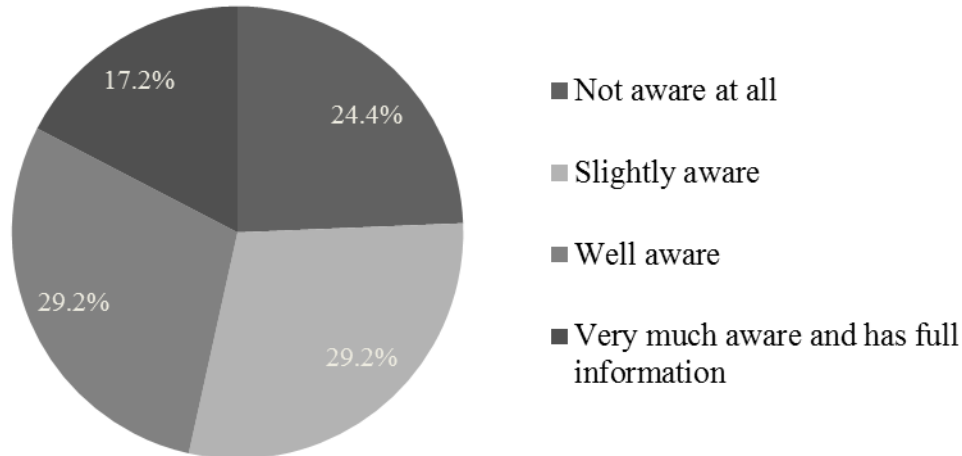


Fig 4 Services covered by Free Maternity

• Birth Plan

Majority 95(40.8%) of the respondents were well aware of the importance of a birth plan, 62(26.6%) were fully aware, 46(19.7%) were slightly aware while 30(12.9%) were not aware at all, refer fig 4.5. One sample Chi-square test (p-value < .001) indicated that the proportions of awareness levels were significantly different. This implies that in Nakuru County the awareness level of the importance of Birth Plan among mothers is different.

The results show that awareness of the concept of birth plan was very high. Although awareness of the concept of birth preparedness was high, educational status was the best predictor of this awareness. This is in line with Ekabua et al (2011) that of the four variables, age, educational status, marital status, and parity, educational status was the best predictor of awareness of the concept of birth preparedness (Ekabua et al, 2011). This is not in line with skilled deliveries conducted in hospital which stood at 51% according to District Health Information system in the County (DHIS, 2013).

Importance of Birth Plan

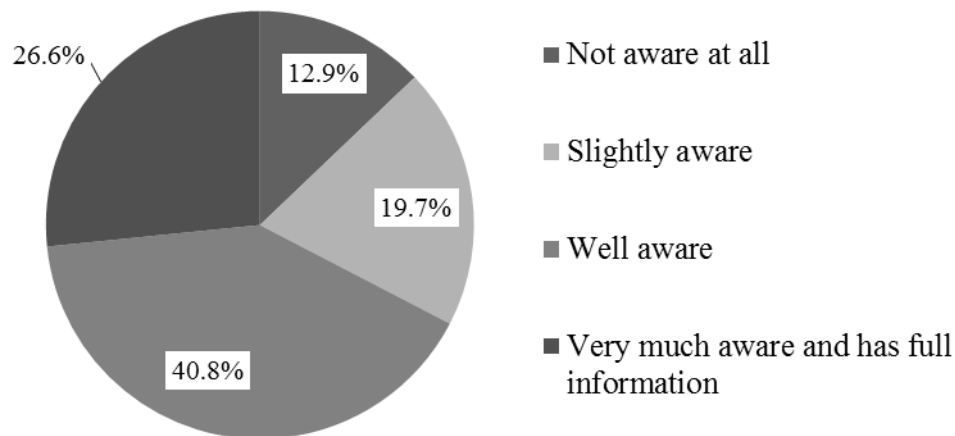


Fig 5 Birth Plan

III. CONCLUSION

• Summary of findings

Client’s characteristics like age, education, religion, marital status and employments have significant influence on the awareness of MHS. From the socio-demographic profile of mothers surveyed, the age ranged from 26.58 to 28.24 years, majority 144 (61.8%) had secondary and university education,

141(60.5) were protestant, 176 (75.5%) were married, and 70 (30.0%) were self employed. Level of education was a best predictor of maternal health systems initiatives. The least P-value was in employment (P-value = .018).

In the area of awareness of maternal health systems initiatives, emergency obstetric care (EmOC) and free maternity services (FMS) had the lowest awareness level with a median of 1 (that is slightly aware). ANC services, FANC services, FP services and Birth plan had median awareness level of 2 (well aware). But surprisingly no single initiative that got a median awareness level of 3 (fully aware). The least P-value was in free maternity services (P-value=.037)

Conclusion

Based on the above findings, it can be concluded that:

Client's characteristics like Level of education were the best predictor of awareness of maternal health systems initiatives.

Majority of mothers were not fully aware of health initiatives but Emergency obstetric care and free maternity services scored least. Lack of this vital information lead to delay in seeking care and hence leads to increased maternal mortality and under utilization of health services.

Majority 224 (96.1%) of mothers do not consider advice given during antenatal clinic as priority when considering the facility to deliver from and this why most of them still deliver outside health facilities.

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