#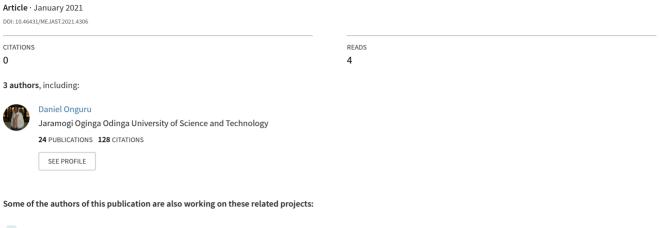 Determinants of the Uptake of Free Maternity Services among Pregnant Mothers in Malava Sub-County, in Kakamega County, Kenya

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Determinants of the Uptake of Free Maternity Services among Pregnant Mothers in Malava Sub-County, in Kakamega County, Kenya

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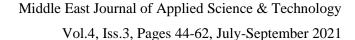
Country: Kenya

ABSTRACT

Over the past decade, Kenya has made tremendous efforts to enhance maternal and child health. Secure maternity policies such as free maternity care are one of the initiatives that have enhanced maternal and child health in all public health facilities. Despite these attempts, public health facilities for maternal and child health are still underused. This study employed a cross-sectional descriptive study design to identify determinants of free maternal health services by evaluating factors determining perceptions and health-seeking behavior of 384 pregnant mothers in Malava Sub-County, Kakamega County. The study used a mixed-method (quantitative and qualitative approaches). Questionnaires were administered to pregnant mothers selected for the study. The study employed a purposive sampling of research participants. Quantitative data were collected using the questionnaire administered by the research assistants whereas qualitative data were collected by the researcher through interview schedules. Quantitative data analysis was carried out using SPSS 23. However, qualitative data were analyzed through content analysis. Quantitative data representation was done in terms of frequency and percentages. Analysis of chi-square testing was used to assess the association between the variables of socio-economic and health facilities and the provision of free maternity facilities (p<0.05). The study established that the uptake of free maternal service by pregnant mothers was influenced by their level of primitivism and religious beliefs. In addition, this study found out that 53.8% and 77.7% of the pregnant mothers could not attend antenatal and post-natal care because government facilities were located far away from their residences and they also had less access to some information about free maternal health care. The results of this research would be disseminated to the hospital management team, Sub-Country health management team, County health management team, and other stakeholders, thereby demonstrating reasons for low uptake of free maternity services and helping to strategize for better service delivery. Based on the finding, the study recommends that to improve access to free maternal health care, the county government ought to place health services as close as possible to the community where people live. Secondly, there is a need to embrace the usage of the existing media network to sensitize pregnant mothers to the danger signs and the need to have decision-making powers over their safety. Lastly, hospital management ought to increase the awareness of free maternal health care and to include it among the community priorities during dialog days, action days, and other group discussions.

Keywords: Free maternity services, Kakamega county, Health management team, Pregnant mothers, Maternal health care.

Introduction

Maternal health is a worldwide problem, ideally, a pregnant mother should attend four pregnancy-wide antenatal care sessions, be attended by a skilled birth attendant during delivery at a health facility, and then receive post-partum care, as recommended by (WHO, 2017). One of the primary goals of the Millennium Development Goals (Goal 5) was to reduce maternal mortality by 75% in each nation. This is based on better policies and efficient programs (Agrawal et al., 2016). However, as of the end of 2015, statistics show that globally, the maternal mortality rate within the MDG era 1990-2015 had reduced by 44%. Furthermore, an estimated 303,000 maternal deaths were reported representing at least 216 per 100,000 live births. According to (Alkema et al., 2015), there were also 830 maternal deaths due to pregnancy complications. Within WHO regional classification, the African region was most disproportion claiming at least two-thirds of the global share. Kenya Demographic and Health Survey 2014 (KNBS, 2014) statistics show that maternal mortality is 362 per 100000 live births. In contrast, WHO data reports that Kenya's maternal mortality rate stands at 510 per 100000 live births. In Japan, it is said that the utilization of maternal health services has sufficed as a result, with the mother's mortality ratio (MMR) falling by nearly two-thirds from 130 to 50 over only 10 years. To meet the target year of the Millennium Declaration, this provides support for many developing countries that are seeking significant falling maternal mortality. Japan's success in dealing with maternal mortality has been due not only to several factors but also to the three main actions
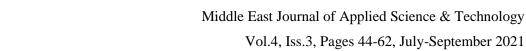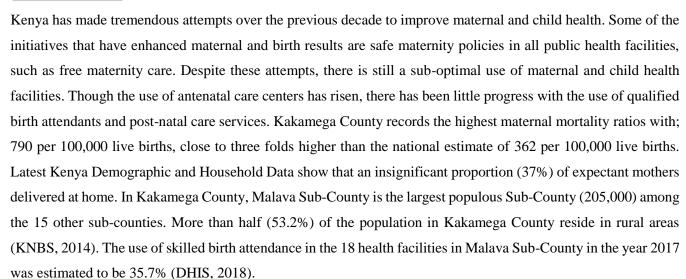
needed worldwide. It has universal access to the provision of skilled care. Japan has long invested in training and ensuring the availability of siblings and nurses to women during childbirth, delivery, and post-natal care (at no cost). Nowadays, 100% of deliveries in Japan take place with the assistance of health professionals, and in healthcare facilities equipped to handle normal cases. By providing high-quality skilled care, Japan has virtually eliminated mothers and babies' major causes of death after birth.

With regards to antenatal care, (UNECA et al., 2014) data shows that 96% of mothers of reproductive age who had a live birth before the survey had received Antenatal Care from a skilled provider. Additionally, 60% of mothers surveyed received at least 4 ANC visits, but only a fifth (20%) had their first antenatal visit in the first trimester. With regards to deliveries, 60% or 6 in 10 mothers delivered in healthcare centers with nearly half of them (46%).

Children's birth is linked to poor health and even death in developing countries. There has been a decreased number of mothers' death globally due to the increasing focus on maternal health. There is a growing global and African movement to reduce financial obstacles to general healthcare, but with a particular focus on high-priority services and vulnerable groups. In Burundi, for instance, in 2006 free services were introduced for pregnant women and the younger five, and use appears to have increased as a consequence, although no formal assessment has been made. In 2006, fees for rural districts were suspended while in Zambia. An 80% subsidy policy has been launched in 2006 in Burkina Faso. Although with varying target groups, other countries have taken the lead and are still at the stage of development. In sub-Saharan Africa, there has been further progress but in Kenya, the risk of maternal deaths is very high at 1 in 39, as is the case in the developing world, where the risk of a woman's lifecycle is 1 in 3800. Therefore, it is important to ensure the best quality of care is provided for increasing numbers of women seeking maternal health care during childbirth and after childbirth in healthcare institutions. According to Kenya's demographic health survey, it is estimated that around 43% of the births in Kenya are delivered under the guidance of a skillful child care provider. 28% of the births are still helped by TBA and 22% are home deliveries supported by friends and relatives. The use of antenatal and maternal services is an essential health indicator and step in the right direction. Kenya women have been suffering from high maternal mortality and morbidity for many years. Increasing the proportion of women cared for, during pregnancy, delivery, and post-warning in health facilities reduces the mother's and child's health risk.

When pregnant mothers have access to a qualified birth attendant–physician, nurse, midwife–during pregnancy, most obstetric complications can easily be avoided or managed. Globally, qualified attendant coverage improved from 61% in 2000 to 78% in 2016 during pregnancy. Despite continuous enhancement worldwide and within areas, however, a midwife, a doctor, or a qualified nurse did not assist millions of births. About half of all live births were produced in Sub-Saharan Africa in 2016 with the help of a qualified birth attendant. Important improvements in the coverage of the percentage of births attended by skilled health care providers as well as their care providers may have contributed to maternal mortality declines between 1990 and 2015. However, the estimated coverage of qualified birth attendants between 2012 and 2017 shows the inequality between WHO regions as only more than half of births in sub-Saharan Africa, where maternal mortality is the highest, are attended by qualified health care providers, while more than 68% to 99% of all births are attended by qualified health care workers in other WHO regions (WHO, 2017).

Kenya has made tremendous attempts over the previous decade to improve maternal and child health. Some of the initiatives that have enhanced maternal and birth results are safe maternity policies in all public health facilities, such as free maternity care. Despite these attempts, there is still a sub-optimal use of maternal and child health facilities. Though the use of antenatal care centers has risen, there has been little progress with the use of qualified birth attendants and post-natal care services. Kakamega County records the highest maternal mortality ratios with; 790 per 100,000 live births, close to three folds higher than the national estimate of 362 per 100,000 live births. Latest Kenya Demographic and Household Data show that an insignificant proportion (37%) of expectant mothers delivered at home. In Kakamega County, Malava Sub-County is the largest populous Sub-County (205,000) among the 15 other sub-counties. More than half (53.2%) of the population in Kakamega County reside in rural areas (KNBS, 2014). The use of skilled birth attendance in the 18 health facilities in Malava Sub-County in the year 2017 was estimated to be 35.7% (DHIS, 2018).

Statement of the Problem

Promoting maternal health is one of the main pillars for curbing maternal mortality. Around 65% of pregnant women in developing countries are estimated to have access to ANC. A worrying trend is particularly in the developing world, with loss of life for productive mothers during, before, or post-delivery.

High rates of maternal morbidity and mortality have long affected Kenya. Disparity associated with the characteristics of individuals and the community is shown to lead to poor use of maternal health care. This means that most pregnant women are unable to detect abnormalities in their pregnancy early enough. They only report their problems to health care facilities only when they are exposed to pregnancy-related risks.

Maternal deaths are high in western Kenya: 800 per 100,000 live births (Kilonzo, Kamaara & Magak, 2017). This is attributed to unqualified caregivers, poverty, analphabetism, and poor utilization of prenatal care. In developing countries, critical challenges for maternal and emerging healthcare include poor healthcare systems, low use of skilled birth care, low-cost equipment, and low technology utilization.

The Maternal Mortality Rate (MMR) in Kakamega County is at 880 deaths per 100,000 live births, while deliveries to health care providers are a mismatched figure of 25.4 percent compared to home delivery at 74.6 percent (Nasengo, 2019). In Malava Sub County, these indicators are prevalent more than other Sub-Counties in Kakamega County because of their larger population. This has remained so despite increased resources for the health care sector (mother and child) and the provision of free maternity.

In 2013, the Kenyan administration implemented free maternal services to decrease the high maternal mortality rate at 495 deaths per 100 000 pregnant mothers (Nyamao, 2020). Unfortunately, a skilled provider offers maternal health services to only 62 percent of all births in Kenya (Ibworo, Guyah, & Omondi, 2020). According to the survey, 61 percent of deliveries are made in health facilities. The cumulative loss of pregnant mothers when they are born has long-term consequences for the whole economy of a country. To develop efficient policies and realize the 2030 Kenyan vision of a healthy population with low maternal mortality, there is a need to understand determinants of the use of free maternal health services in Kenya. This study, therefore, examined determinants of low utilization of maternal health services by mothers in Malava Sub County, Kakamega County.

Research Objectives

Broad Objective

To investigate the determinants of uptake of maternal health services by pregnant mothers in Malava Sub-county.

Specific Objectives

1. To establish maternal health-seeking behavior of pregnant mothers in Malava Sub-County.

2. To determine the influence of socio-economic factors on the use of free maternal health services among pregnant mothers in Malava Sub-County.

3. To determine the role of health facility factors on the uptake of free maternity services for pregnant mothers in Malava Sub-County.

4. To assess the perceptions of pregnant mothers on free maternal health services in Malava Sub-County.

Research Questions

1. What is the health-seeking behavior of pregnant mothers in Malava sub-county, Kakamega County?

2. What are the socio-economic factors influencing the use of free maternity health services among pregnant mothers in the Malava sub-county?

3. What do the pregnant mothers perceive on the use of free maternity health services by expectant mothers in the Malava sub-county?

4. What are the health-facility attributes that influence the use of free maternity health services for pregnant mothers in Malava sub-county, Kakamega County?

Methodology

The study site: This research was carried out in Malava sub-county, Kakamega County, Kenya. It has 12 sub-counties and 60 wards and it covers an area of approximately 3050.3 km2. Kakamega County has an estimated population of 1,660,651; the estimated 2017 population is 2,028,324 (Nguhiu, Barasa & Chuma, 2017). Kakamega County borders South Vihiga, North East Uasin Gishu and East Nandi County, West Busia and Siaya County, North Bungoma and Trans Nzoia. The county has an area of approximately 3050.3 km2. Administratively, the county has twelve sub-counties with 60 wards and 405,665 households (Nguhiu, Barasa & Chuma, 2017).

The study design: The cross-sectional descriptive research design was used in this study. Cross-sectional studies are used to assess the population's burden of diseases or health needs. They are particularly helpful in informing health resource planning and allocation. A cross-sectional survey can be used to describe the burden of a particular disease in a specified population. A cross-sectional study design promotes the collection of information from a different category of respondents. Concerning this study, pregnant mothers and health care providers working within the selected public health facilities in Malava Sub County were considered for the study.

Study Population: The study targeted a population consisting of 8,786 pregnant mothers and 12 health care providers from the selected public health facilities in Malava Sub County that offer antenatal clinic, delivery, and post-natal care services.

Sampling Technique: Using purposeful sampling, mothers visiting the antenatal hospital, labor and delivery, and postnatal mothers were systematically sampled. Mothers were sampled by choosing customers who left the service delivery space on the day of the interview or were about to leave. The estimated number of mothers selected and interviewed in each facility was calculated based on average number of customers seen over the past seven days.

Sampling and Data Analyses: The sample population was 301 pregnant women obtained through purposeful sampling. They consisted of the women visiting antenatal hospital, labor, and delivery, and postnatal mothers were systematically sampled. The data were collected through questionnaire administration and In-Depth Interviews. The descriptive data analysis was undertaken out using Statistical Package for Social Sciences (SPSS Version. 23.0) and analyzed using frequency and percentages.

Exclusion and Inclusion Criteria

Inclusion Criteria

1. Pregnant mothers who delivered in a government hospital within three months were included in Study.

2. Pregnant mothers who delivered in a government facility within three mothers and gave informed permission was included in the research.

Exclusion Criteria

1. The research excluded pregnant mothers who sought maternal health services from non-public health facilities within the study area.

2. The research excluded pregnant mothers with mental disabilities.

3. Following ethical regulations, pregnant mothers who refused to give informed permission were also excluded.

Data Collection Technique and Tools

Semi-structured Questionnaires were designed and used in Malava Sub County to collect primary data from pregnant women who were seeking maternal health services from public health facilities within the study area. The questionnaire was the closed-ended and free choice format that allowed respondents to choose one alternative.

The questions used in the analysis were streamlined and built explicitly for easy comprehension by respondents. The study used this approach because it allowed the respondents to remain anonymous, which, in addition to providing first-hand information, also helped to increase the response rate. However, qualitative data were collected by the use of interview schedules. An interview schedule was administered by an interviewer and two trained assistants.

Validity and Reliability

Validity

The accuracy with which a method measures what it is intended to measure is referred to as its validity. If research has high validity, it produces results that correspond to real variables' relationships. One sign that measurement is valid is high reliability. To address the issue of the validity of the instruments, separate data collection instruments

were tailor-made to suit the various categories of respondents. In addition, the instruments were shared with experts at supervisors for review before data collection.

Reliability

Reliability refers to the consistency of the results of the study to the extent that when it is repeated, it produces similar results. Cronbach's formula was used by the researcher to test the consistency of the instruments used in this study. This is a measure of internal consistency, or how closely related a group of items is. It is regarded as a scale reliability metric. Cronbach's Alpha (α) is commonly used to assess internal consistency. Cronbach's Alpha has a value between 0 and 1, with higher values indicating greater internal consistency and, ultimately, reliability. A Cronbach Alpha Coefficient of 0.7 was used as a cut-off point, and any object with a value less than 0.7 was considered weak and thus rejected.

Furthermore, the study's reliability was calculated through a pilot test by pre-testing the research method with a survey group similar to the actual sample, to provide a good report on the findings. The researcher used the pre-testing results to assess the instrument's compatibility and accuracy with the study requirements, and editing was performed in areas that require improvement to create a reliable instrument.

Data Analysis and Presentation

Using SPSS version 23, quantitative data from questionnaires were coded, entered, cleaned, and analyzed. Frequencies and percentages were used for descriptive statistics analysis. Regression, correlation analysis was performed to assess the relationship between variables relating to socio-economic, cultural, and health facilities and the provision of free maternity facilities ($p<0.05$). Thematic analysis was used to analyze qualitative data collected through interviews. For comparison purposes, data were triangulated from questionnaires and main informant interviews. The study will employ a multivariate analysis for the analysis of data involving more than one type of measurement or observation. This helps in solving problems where more than one dependent variable is analyzed simultaneously with other variables.

The inferential statistical tests that were performed for this paper were Chi-square tests, correlation, and multiple linear regression analysis. Multiple linear regression (MLR), also known simply as multiple regression, is a statistical technique that uses several independent variables to predict the outcome of a dependent variable.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: Y = employees' performance

β_0 = Constant Term; β_1, β_2, β_3, & β_4 = Beta coefficients;

X1 = Maternal Health-Seeking Behavior

X2 = Socio-Economic Factors

X3 = Health Facility Factors

X4 = Perceptions on Free Maternal Health Services

ε = Error term assumed normal and, independent and identically distributed.

Ethical approval: Ethical approval for this study was sought from the Institutional Research Ethics Committee, NACOSTI, and administrative approval from the Ministry of Education in Kisumu County that gave informed consent for the respondents who were expectant in Public hospitals, Malava Sub County. Participants were assured of the confidentiality of their responses.

Results

Demographic characteristics

The majority of the respondents 45.2% were aged (15-24) years, and the majority of the participants 83.7% were married. In addition, most of the participants 58.8% got married at (19-26) years. Regarding participants' religion, the findings of the study showed that almost all the respondents (99.7%) were Christians. Study results indicate that 0.3% of the participants had 19 and 20 children respectively while 27.9%, 19.6%, and 16.6% had 1, 2, and 3 children respectively. Study findings, therefore, showed that most females tend to have between 1-3 children. 98.7% of participants had attained formal education and the majority 28.2% participants had completed secondary education. 96.3% of the participants' spouses had attained formal education and 40.5% of participants' spouses had completed secondary education. Regarding the household income, most of the participants 36.9% earn between 0-2,500 every month followed.

Table 1. Demographic Characteristics of the Respondents

Demographic Variables		Frequency	Percent
Participants' Age	15-24	134	45.2
	25-34	129	42.9
	35-42	36	11.9
	Total (n)	**301**	**100.0**
Marital Status	Divorced	3	1.0
	Married	252	83.7
	Single	44	14.6
	Widowed	2	0.7
	Total (n)	**301**	**100.0**
Age got Married	Singles	44	14.6
	12-18	76	25.3
	19-26	177	58.8
	27-34	4	1.3
	Total (n)	**301**	**100.0**
Religion	Christian	300	99.7
	Other	1	0.3
	Total (n)	**301**	**100.0**
	0	52	17.3
	1	84	27.9

	19	1	.3
	2	59	19.6
	20	1	.3
Number of Children	3	50	16.6
	4	27	9.0
	5	13	4.3
	6	6	2.0
	7	6	2.0
	8	2	.7
	Total (n)	**301**	**100.0**
	No formal education	4	1.3
	Primary Incomplete	54	17.9
	Primary Complete	78	25.9
Highest Level of Education	Secondary Incomplete	41	13.7
	Secondary Complete	85	28.2
	College/University	39	13.0
	Total (n)	**301**	**100.0**
	No Formal Education	11	3.7
	Primary Incomplete	48	15.9
	Primary Complete	43	14.3
Level of Partner Education	Secondary Incomplete	34	11.3
	Secondary Complete	122	40.5
	College/University	43	14.3
	Total (n)	**301**	**100.0**
	Ksh 0-2,500	111	36.9
	Ksh 2,501- 5,000	109	36.2
Household Income	Ksh 10,001-15,000	67	22.3
	Above Ksh 15,001	14	4.7
	Total (n)	**301**	**100.0**

Maternal health-seeking Behavior of Pregnant Women

Tables 2, 3, and 4 show that the study established that the majority of participants 43.9% first made an antenatal visit when they were less than 16 weeks pregnant and the majority of participants 26.9% made only 4 ante-natal care visits. The study also established that majority of pregnant women 85.4% attended ante-natal care, 86.7% during previous pregnancy delivered at the government facility, and 83.4% of participants who visited government facilities before, during, and after delivery indicated that no service had been paid for before, during or after delivery. However, the uptake for free maternal health care was still low in Malava Sub County.

Table 2. Antenatal Care

Questions		Frequency	%
In the current pregnancy, after how many weeks did you make your first antenatal visit?	Never attended ANC	44	14.6
	<16 weeks	132	43.9
	>36weeks	4	1.3
	16-24 weeks	104	34.6
	28-32 weeks	17	5.6
	Total	**301**	**100.0**
In previous pregnancy, how many antenatal care visits did you make?	0	44	14.6
	1	9	3.0
	2	9	3.0
	3	30	10.0
	4	81	26.9
	5	62	20.6
	6	27	9.0
	7	13	4.3
	8	25	8.3
	9	1	.3
	Total	**301**	**100.0**
If none what is the possible reason why?	Attended antenatal care	257	85.4
	NA	2	.6
	Ignorance	41	13.7
	Religious beliefs	1	.3
	Total	**301**	**100.0**

Table 3. Choice of Place of Delivery

		Frequency	%
In previous pregnancy, did you deliver at a government facility?	No	40	13.3
	Yes	261	86.7
	Total	**301**	**100.0**
	Delivered in Government Facility	261	86.7
	Advised by the partner to undergo home delivery.	2	.6
	At term	1	.3
	Delivered home 4 children due to distance to the facility and knowledge gap in health issues	10	3.2
	Distance	1	.3

Reasons for choice of place of delivery	Ignorance	1	.3
	Illiteracy	1	.3
	NA	1	.3
	Ignorant	18	5.9
	Religious beliefs	1	.3
	Self	1	.3
	There was no electricity	1	.3
	This is the first pregnancy	1	.3
	Two deliveries at home	1	.3
	Total	**301**	**100.0**

Table 4. Post-Natal Care

Questions	Visits	Frequency	%
In the previous, pregnancy how many post-natal care visits did you make after two weeks of delivery?	0	77	25.6
	1	55	18.3
	2	12	4.0
	3	10	3.3
	4	3	1.0
	5	17	5.6
	6	40	13.3
	7	10	3.3
	8	72	23.9
	9	2	.7
	10	2	.7
	15	1	.3
	Total	301	100.0
Did post-natal care in the question above done at a government health facility?	No	24	8.0
	Yes	277	92.0
	Total	301	100.0

Influence of Social and Cultural Characteristics on Free Maternal Health Care Uptake

Table 5. Perceptions on a Male Health Care Worker

		Frequency	%
Antenatal Care	Comfortable	145	48.2
	Extremely uncomfortable	2	.7
	Uncomfortable	28	9.3
	Very Comfortable	126	41.9

	Total (n)	**301**	**100.0**
	Comfortable	167	55.5
During Child Birth	Extremely uncomfortable	2	.7
	Uncomfortable	18	6.0
	Very Comfortable	114	37.9
	Total (n)	**301**	**100.0**
	Comfortable	160	53.2
After Child Birth	Extremely uncomfortable	2	.7
	Uncomfortable	13	4.3
	Very Comfortable	126	41.9
	Total (n)	**301**	**100.0**

Table 6. Attitude of Staff at Health-Facilities during Clinic Visits

		Frequency	**%**
	Friendly	298	99.0
Antenatal Care	Harsh	3	1.0
	Total (n)	**301**	**100.0**
	Friendly	289	96.0
During Child Birth	Harsh	12	4.0
	Total (n)	**301**	**100.0**
	Friendly	296	98.3
After Child Birth	Ignorant	5	1.7
	Total (n)	**301**	**100.0**

Tables 5 and 6 show many participants 48.2% were comfortable and 41.9% were very comfortable with a male health care provider during prenatal care visits. In addition, 99.0% of the participants admitted that health care workers in the health care facilities they visited during ante-natal care had a friendly attitude, 96.0% indicated that the health care staff was polite to them and 98.3% of the participants found that they were friendly after childbirth.

Qualitative findings show that most of the socio-cultural factors identified by health providers have also been highlighted by the respondents. These include a high level of respect and availability of traditional birth attendants (TBAs) for deliveries in some rural areas. There is also a cultural perception of pregnancy as a normal condition that may discourage certain women from accessing ANC services and facilities. In some cases, pregnant women who attended ANC sessions regularly were seen as *'not good enough.'*

Health Facility Factors and Uptake of Free Maternity Service

The study established that 53.8% of participants resided in places where they could take more than 1hr to walk to a government-owned health facility. The facility-level nearest to their home is a health center. Furthermore, 81.4% and77.7%, participants could take more than 1 hr. to walk to the nearby health facility. Qualitative studies have shown

that the factors affecting the use of free maternity services in health care facilities are insufficient, poorly equipped, and poorly staffed; long distances to health facilities; conservative cultural practices; and gender bias.

Table 7. Health Facility Attributes

Questions		Frequency	Percent
How far do you live from a government-owned health facility?	30 min. to 1 hour	112	37.2
	More than 1hr	162	53.8
	Less than 30 min	27	9.0
	Total (n)	**301**	**100.0**
Facility Level nearest to your home?	Dispensary	77	25.6
	Health center	162	53.8
	Sub County Hospital	62	20.6
	Total (n)	**301**	**100.0**
Does the health facility provide sufficient privacy when seeking health care?	No	4	1.3
	Yes	297	98.7
	Total (n)	**301**	**100.0**
Antenatal Care	30 min. to 1 hour	51	16.9
	More than 1hr	245	81.4
	Less than 30 min	5	1.7
	Total (n)	**301**	**100.0**
During Child Birth	30 min. to 1 hour	21	7.0
	More than 1hr	260	86.4
	Less than 30 min	20	6.6
	Total (n)	**301**	**100.0**
After Child Birth	30 min. to 1 hour	52	17.3
	More than 1hr	234	77.7
	Less than 30 min	15	5.0
	Total (n)	**301**	**100.0**

Perceptions of Expectant Women on Free Maternal Health Services

Findings in tables 8 and 9 indicate that 81.1% of participants do not own any form of health insurance, 87.4% of participants had not had any complications in their current pregnancy, 99.0% of participants said that they have not been asked to pay for any amount during medication. In addition, 79.4% of participants are key decision-makers as far as seeking maternal health care is concerned. Moreover, 27.2% of participants rely on health care providers as the main sources of information on services provided in the facility they visit while other sources of information cited by the participants are mass media, community health volunteers, pinned posters, Facility/community Outreaches, and Barazas respectively. Moreover, 98.7%, 93.0%, and 93.0% of participants are satisfied with the overall services during antenatal care, during childbirth after childbirth. The qualitative result shows that the

perception of free maternal health among pregnant women in the Malava Sub-County is poor due to the cultural practice of concealing pregnancy for the first trimester. This is a major obstacle to the early adoption of the ANC programs. This practice is not only limited to uneducated women in remote areas, but it is also popular with educated women in towns.

Table 8. Health-Seeking Behaviour

		Frequency	Percent
Do you own any form of health insurance Private or Public cover?	No	244	81.1
	Yes	57	18.9
	Total (n)	**301**	**100.0**
	No	263	87.4
	Yes	38	12.6
Have you experienced any complications with your current pregnancy?	**Total (n)**	**301**	**100.0**
	No Response	263	87.4
If yes in the above, how you managed to sort the complication?	Self-medication	1	.3
	Sought Medical assistance	37	12.3
	Total (n)	**301**	**100.0**
	No	298	99.0
Have you ever been asked to pay for any amount during your visits?	Yes	3	1.0
	Total (n)	**301**	**100.0**
	Husband/Partner	31	10.3
	Make own Decision	239	79.4
Who decides to seek maternal health care in your household?	Others Specify	31	10.3
	Total (n)	**301**	**100.0**

Table 9. Satisfaction with the Overall Services at Health Care Facility

		Frequency	**Percent**
	Satisfied	297	98.7
Antenatal Care	Somewhat satisfied	4	1.3
	Total	301	100.0
	No Answer	13	4.3
	Satisfied	280	93.0
During Child Birth	Somewhat satisfied	8	2.7
	Total	301	100.0

	Dissatisfied	1	.3
	No Answer	12	4.0
After Child Birth	Satisfied	280	93.0
	Somewhat satisfied	8	2.7
	Total	301	100.0

Satisfaction with Health Care Services

Antenatal Care	Satisfied	298	99.0
	Somewhat satisfied	3	1.0
	Total	301	100.0
	No Answer	15	5.0
During Child Birth	Satisfied	280	93.0
	Somewhat satisfied	6	2.0
	Total	301	100.0
	No Answer	14	4.7
After Child Birth	Satisfied	280	93.0
	Somewhat satisfied	7	2.3
	Total	301	100.0

Satisfaction with the other staffs' services

Antenatal Care	No Answer	1	.3
	Somewhat satisfied	298	99.0
	Satisfied	2	.7
	Total	301	100.0
	No Answer	15	5.0
During Child Birth	Somewhat satisfied	282	93.7
	Satisfied	4	1.3
	Total	301	100.0
	No Answer	14	4.7
After Child Birth	Somewhat satisfied	283	94.0
	Satisfied	4	1.3
	Total	301	100.0

Inferential Statistics

Correlation Analysis: To determine if there were any relationships between Maternal health-seeking Behavior, Socio-Economic Factors Health Facility Factors, Perceptions of Free Maternal Health Services, and Utilization of

Free Maternal Health Services, a correlation analysis was conducted. According to the findings, there exists a strong positive relationship between maternal health-seeking behavior and utilization of free maternal health services, r (.245); P ≤ 0.05; thus, the relationship is statistically significant. The findings show that there exists a strong positive relationship between socioeconomic factors and utilization of free maternal health services, r (.515); P ≤ 0.05; thus, the relationship is significant statistically. There also exists a strong positive relationship between health facility factors and utilization of free maternal health services, r (.525); p ≤ 0.05; hence, the relationship is significant statistically. Lastly, there exists a moderate positive relationship between perceptions on free maternal health services and utilization of free maternal health services, r (.411); P ≤ 0.05; thus, the relationship is statistically significant.

Table 10. Correlation Analysis   (Source: Field Data - 2019)

Variables		Maternal health-seeking Behavior	Socio-Economic Factors	Health Facility Factors	Perceptions on Free Maternal Health Services	Utilization of Free Maternal Health Service
Maternal health-seeking Behavior	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	301				
Socio-Economic Factors	Pearson Correlation	.572*	1			
	Sig. (2-tailed)	.006				
	N	301	301			
Health Facility Factors	Pearson Correlation	.452*	.649*	1		
	Sig. (2-tailed)	.005	.001			
	N	301	301	301		
Perceptions on Free Maternal Health Services	Pearson Correlation	.610*	.503*	.493*	1	
	Sig. (2-tailed)	.002	.003	.008		
	N	301	301	301	301	
Utilization of Free Maternal Health Services	Pearson Correlation	.245*	.515*	.525*	.411*	1
	Sig. (2-tailed)	.002	.005	.006	.001	
	N	301	301	301	301	301
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Regression Analysis

A regression analysis was carried out to determine the level of significance that existed in relationships between all the independent variables; Maternal health-seeking Behavior, Socio-Economic Factors Health Facility Factors, Perceptions of Free Maternal Health Services, and dependent variable; utilization of Free Maternal Health Services. The regression model was: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$. According to the findings that are highlighted in Table 4.14 the study reveals a significant relationship with all combined variables on Maternal health-seeking Behavior, Socio-Economic Factors Health Facility Factors, Perceptions on Free Maternal Health Services and utilization of Free Maternal Health Services, r (.445); $P \leq 0.05$ as indicated in Table 4.17. According to Chambers, Freeny, and Heiberger (2017), analysis of variance is a tool used in statistics that divides an observed aggregate variability found within a data set into two parts, systematic factors, and random factors. The Analysis of Variance (ANOVA), F (1, 300) = .312; $P \leq 0.50$; indicated that the means differences between and within the variables were statistically significant as indicated in Table 11.

Table 11. Multiple Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
1	.833[a]	.694	.659	.039

a. Predictors: (Constant), Maternal health-seeking Behavior, Socio-Economic Factors Health Facility Factors, Perceptions on Free Maternal Health Services

ANOVA for All Variables

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.298	1	.232	.312	.001[b]
Residual	29.321	300	.323		
Total	30.619	301			

a. Dependent Variable: Utilization of Free Maternal Health Services

b. Predictors: (Constant), Maternal health-seeking Behavior, Socio-Economic Factors Health Facility Factors, Perceptions on Free Maternal Health Services

Multiple Regression Analysis Coefficients

The study indicated a regression coefficient ß (.449); $P \leq 0.05$ between Maternal health-seeking Behavior and Utilization of Free Maternal Health Services; a regression coefficient ß (.286); $P \leq 0.05$ between Socio-Economic Factors and Utilization of Free Maternal Health Services; a regression coefficient ß (.213); $P \leq 0.05$ between Health Facility Factors and Utilization of Free Maternal Health Services and a regression coefficient ß (.426); $P \leq 0.05$ between Perceptions on Free Maternal Health Services and Utilization of Free Maternal Health Services. All the combined variables were significant statistically as indicated in Table 12.

Table 12. Multiple Regression Analysis Coefficients

	Unstandardized		Standardized	t	Sig
	B	Std. Error	Beta		
(Constant)	.626	.428		1.676	.020
Maternal Health-Seeking Behavior	.271	.045	.449	.578	.000
Socio-Economic Factors	.315	.270	.286	1.054	.010
Health Facility Factors	.512	.128	.213	1.224	.020
Perceptions on Free Maternal Health Services	.256	.068	.426	.657	.01

a. Dependent Variable: Utilization of Free Maternal Health Services

The formula used to compute the relationship was;

Utilization of Free Maternal Health Services = .626 + .271X1 + .315X2+.512X3 + .256 X4

Where **X1** = Maternal health-seeking Behavior

X2= Socio-Economic Factors

X3 = Health Facility Factors

X4 = Perceptions on Free Maternal Health Services

Discussions

Results of the study show that the majority of the participants 85.4% attended antenatal care. However, this proportion is less than 94.0% recommended by the Kenya Population and Health Statistics 2014. This shows that there are still a reasonable number of pregnant women who do not seek antenatal care due to several reasons such as primitivism, religious beliefs among others. Although the report by (WHO, 2013) recommends that mothers should make at least 4 post-natal visits in the first 6 weeks for full clinical examination after childbirth, results of the study shows that majority 25.6% participants never made post-natal care visit while some only made 1-3 postnatal visits after childbirth. Results of the study implied that after childbirth, 53.2% of participants were just comfortable with male health care workers, the findings contradicted (Benova *et al.*, 2014) report which shows that socio-economic and cultural factors act as a barrier to healthcare access thus influence maternal healthcare outcomes.

Study results also show that after childbirth, 98.3% of participants observed that the health care staffs they encountered were friendly. The outcome supported (Mannava *et al.*, 2015) observation which shows that healthcare providers' attitudes and behaviors affect clients' perceptions such as friendly service providers promote satisfaction in health centers. Results of the study show that distance to public health facilities was a major influencing factor on

the uptake of free maternity services in Malava Sub County. For instance, 53.8% and 81.4%, participants lived more than 1hr walk to a government-owned health facility. However, 98.7% of participants agreed that health facilities provided them with sufficient privacy whenever they were seeking maternal health care. The findings of this study were in support of (Caulfield *et al.*, 2016) study in Laikipia County, Kenya, which shows that distance to healthcare and accessibility to transport was established as an obstacle to the use of skilled birth attendance. That means that women who live far away from health care facilities mostly do not maximize maternal health care utilization as opposed to those who live near health facilities. The majority 81.1% of participants do not own any form of health insurance, which is private or public cover. The majority of the participants 79.4% are key decision-makers as far as seeking maternal health care is concerned. The majority 27.2% obtained information from health care providers. This finding concurred with the (Finlayson & Downe, 2013) study which shows that expectant females in a low-income nation seek information mainly from health care providers. Regarding satisfaction 98.7% of participants were satisfied with the overall services during antenatal care, 93.0% participants were satisfied with the overall service during childbirth and 93.0% participants were satisfied with the overall service after childbirth. The result of this study conferred with Nigeria's cross-sectional study which established that females using maternity facilities expressed elevated rates of satisfaction with the quality of services they received. The same research also disclosed that young females had greater expectations of health care delivery compared to elderly females (Emelumadu *et al.*, 2014).

From Chi-square tests, the study established that there was an association between household's income level and the number of post-natal care visits after two weeks of delivery ($X^2(2)> = 94.405$, $p = 0.000$); and there was an association between religion and number of post-natal care visits after two weeks of delivery ($X^2(2)> = 4.488$, $p = 0.043$). This is an indication that the number of post-natal visits was determined by the economic endowment of the women as well their religious practices/beliefs.

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Consent for publication

Authors declare that they consented for the publication of this research work.

Availability of data and material

The required data and materials are included in the manuscript itself.

Ethical Approval

Ethical approval for this study was sought from the Institutional Research Ethics Committee, NACOSTI, and administrative approval from the Ministry of Education in Kisumu County that gave informed consent for the respondents who were expectant in Public hospitals, Malava Sub County. Participants were assured of the confidentiality of their responses.

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