

Original Research Article

Evaluation of the Referral Process for Emergency Obstetric Care (EmOC) in Primary Health Facilities in Bungoma County, Western Kenya

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Abstract: Background: A referral system is an essential component in healthcare. The unpredictable nature of any pregnancy and the potential for life-threatening complications necessitate timely and effective referral mechanisms to ensure access to appropriate emergency obstetric care. An optimal obstetric referral system reduces delays and ensures timely access to appropriate care, leading to a reduction in pregnancy and childbirth complications. However, weaknesses in transport and communication systems, including health infrastructure often compromise the provision of quality obstetric care. The study aimed to assess the referral process for emergency obstetric care in primary level facilities as well as the availability of essential supplies for EmOC. **Methods:** The study used a cross-sectional design. The study was conducted between August and December 2022, targeting all healthcare workers working in obstetric units in Level 3 and 4 hospitals. Cochran's formula was used to estimate the sample size (n =151). Stratified random sampling was used to select study participants. An interviewer-administered structured questionnaire and an observation checklist were used to collect data. The data was entered into SPSS v25 for analysis and analysed using descriptive and inferential statistics as applicable. **Findings:** Most of the respondents were aged between 30-39 years (54.0%), held a diploma education (88.2%), were nurses/midwives (81.4%) and were from Level 3 facilities (55.7%). Over 98% of the respondents agreed that EMoC referral is a common occurrence in their facilities and 96.3% were aware of obstetric signal functions. Effective communication and transport (linear regression coefficient, T=3.24, p=0.001), healthcare workers' perceived competence on the use of signal functions (linear regression coefficient, T=7.15, p=0.003), and the availability of supplies and equipment were strongly associated with the provision of quality EmOC services during the referral process (Chi-square value=240.05, p=0.002). **Conclusion:** Emergency obstetric referrals were common in the county, and enhanced by effective means of transport (ambulances) and pre-referral communication. While most healthcare workers demonstrated competence in the referral process, significant gaps still existed in resource availability with some hospitals reporting shortage of essential supplies. **Recommendations:** These findings highlight the need for continuous strengthening and equipping of primary facilities with functional communication and transport systems such as telephones and ambulances. Regular and constant availability of essential drugs and equipment, is critical in EmOC. Moreover, continuous professional development in EmOC among reproductive healthcare staff, including the development of standard obstetric referral forms is warranted.

Keywords: Emergency Obstetric Care, Referral, Primary Health Facilities.

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BACKGROUND

The referral system is an important component of healthcare, particularly in primary-level facilities. A

referral is a process in which a healthcare worker (HCW) at one level of a health system, having insufficient resources such as drugs, equipment, and skills to manage a clinical condition, seeks the assistance of a better-

resourced facility at the same or higher level to assist in, or take over the management of the case (Amumpaire *et al.*, 2021; Nezhad *et al.*, 2021). Timely and appropriate emergency obstetric referral is an indicator of effective health systems. Implementation of a well-managed and functional referral system leads to quality health care (Nguru & Ireri, 2022).

An emergency referral system is an integral part of safe maternal care due to the unpredictable nature of pregnancy and the potential for the rapid progression to life-threatening conditions (Nguru & Ireri, 2022; Sharew *et al.*, 2025). Timely and appropriate referral should be provided to women who develop emergency obstetric complications and should be attended to by skilled health personnel promptly. Effective referral interventions reduce delays in reaching the health facility for Emergency Obstetric and Newborn Care (EmONC) and contribute to reductions in adverse pregnancy and birth outcomes, including prevention of maternal morbidities in low- and middle-income countries (LMICs) (Alaofe *et al.*, 2020).

The World Health Organization (WHO) highlights through the efforts of the safe motherhood initiative that any failure in the referral system to securely transport pregnant women to an appropriate level of care with competent personnel when complications arise can have adverse consequences on maternal and foetal outcomes (Daniels & Abuosi, 2020). Essentially, all women should be assessed upon arrival at a primary health facility to determine whether they can be treated or managed, and/or whether to be quickly transferred to an advanced level of care accordingly following standard referral protocols (Ameyaw *et al.*, 2020). Often, a major setback in reducing maternal mortality and morbidities is that most women do not access and/or obtain timely EmOC. An obstetric referral is particularly important in pregnancy and birth, when potential complications would often necessitate management and skills accessible at higher levels of care (Nguru & Ireri, 2022; Sharew *et al.*, 2025). EmOC is thus critical, especially for pregnant women who are likely to experience life-threatening maternal and /or neonatal problems. Additionally, safe motherhood initiative emphasizes the importance of prompt referral. Yet access to an appropriate level of care through a referral system is a complicated process and remains a global public health issue (Ofosu *et al.*, 2021).

Kenya's maternal morbidity and mortality rates still remain unacceptably high, with maternal mortality rate of 355 deaths for every 1000 live births (Muthee *et al.*, 2025). The Kenya National Commission on Human Rights (KNCHR) also reported that for every one maternal death that occurs in Kenya, there is a corresponding serious injury or disability to another 20-30 women during childbirth (Mose & (Ph.D), 2020). Such high morbidity and maternal mortality indicators may be attributed to delays and poor management in the

health referral system, system failures that translate to poor quality of care, insufficient numbers of trained health care providers, shortage of essential medical supplies, and poor accountability of the health care system (Nezhad *et al.*, 2021; Nguru & Ireri, 2022).

To achieve a significant reduction in maternal morbidity and mortality, several interventions have been put in place during the antenatal and intrapartum periods, including nutritional interventions, treatment of hypertensive disorders, diabetes mellitus and post-term pregnancy, preterm labour, preterm rupture of membranes, newborn resuscitation as well as essential newborn care (Zavala *et al.*, 2022; Yahaya *et al.*, 2024). These measures, if properly implemented across the continuum of care from prenatal to postnatal care, can have a significant influence of maternal and newborn wellbeing and outcomes at individual, family, community, and facility levels.

METHODS

Research Design

A cross-sectional quantitative research design was adopted for the study. Primary data was collected from HCWs and through observation using checklists from August 2022 to December 2022.

Study Setting

The study was conducted in one of the populous Counties in Western Kenya. The county has an area of 2,069 Km² and a population of about 2 million [13]. There are about 429,762 women of reproductive age in the county (15 – 49 years), constituting over 22% of the total population [14], with about 265 primary health facilities which serve majority of the population. The study focused on Level 3 (health centers) and Level 4 (Subcounty hospital) health facilities, which account for most of the obstetric referrals to the main referral hospital in the region where Comprehensive Emergency Obstetric Care services (CEmOC) are available.

Study Population

The study population included all reproductive healthcare workers (HCWs) working in obstetric units in the sampled Level 3 and 4 facilities in the study county.

Sample Size Determination

There are 10 sub-counties in the county, of which seven refer to the main Referral Hospital in the region. From the total sample of 244 HCWs distributed across the 23 Level 3 and Level 4 health facilities in the seven sub-counties, the study sample size was calculated using Cochran's (1967) formula [15], with a 95% confidence level and margin of error (e) = 0.05

$$n = \frac{N}{1 + e^2}, \text{ where: } N \text{ is the population size of HCWs.}$$

Thus;
$$n = \frac{244}{1 + (0.05^2)} = 151 \text{ participants}$$

With this sample divided by the total number of health facilities (n=23), that is, $151/23 = 6.56 \approx 7$,

therefore, each health facility would have a sample size of seven, distributed across the Level 3 and Level 4 facilities as shown in Table 1. The total sample size was

therefore 161, which was considered adequate to cover for attrition and/or non-response.

Table 1: Sample Distribution across Facility Levels

Facility Level	No. of facilities	Sample size distribution
3	17	119
4	6	42
Total	23	161

Sampling Technique

This study employed a stratified random sampling technique to select participants. The sample size was first divided among the 23 health facilities and 7 participants were selected from each facility using simple random sampling.

Eligibility Criteria

Inclusion Criteria

The study included all HCWs (nurses, midwives, and doctors) who had worked for more than one year in the maternity units of the selected facilities, and those who consented to participate in the study.

Exclusion Criteria

The study excluded all the HCWs who were on leave during the study period and those who did not consent to participate.

Data Collection

An interviewer-administered structured questionnaire was used to collect data. The questionnaire was developed and pre-tested for validity and reliability test prior to the main study. An observation checklist was also used to assess the availability of drugs and supplies, and a list of equipment and their functionality. All the completed questionnaires were collected and stored in locked cabinets to prevent data loss.

Validity and Reliability of Data Collection Tools

The questionnaire was pretested in other Level 3 and Level 4 health facilities in one of the sub-counties which makes referrals to a Sub-County Hospital in the study area. A total of 16 questionnaires (10% of the estimated sample size) were administered to HCWs as recommended by other studies [16]. The responses were used to adjust the questionnaires accordingly. However, this sample was not included in the final analysis of data. The pre-testing of the data collection tool was performed to ensure validity and reliability of the research

instruments. Construct validity, face validity, and content validity were used to validate the instrument. Content validity was performed by reviewing the questionnaires with experts to check whether it was relevant and measuring what was intended, including relevance and whether the respondents understood the questions. Reliability was tested using a test-retest approach to determine the internal consistency/accuracy using Cronbach's alpha on the questionnaire items related to referral process (communication and transport, $\alpha=0.7390$; and availability of supplies and equipment, $\alpha=0.8906$) to determine the questionnaire's reliability. Both variables had a Cronbach's value greater than 0.7, suggesting an acceptable level of internal consistency.

Data Analysis

Data was entered in SPSS version 25 for analysis using descriptive and inferential statistical analyses as applicable. Demographic data was presented in frequency tables, percentages and means. A linear regression model was used to determine the association between communication and transport and the quality of EmOC services during the referral of clients from the basic facilities. Chi-Square test was used to determine the availability of supplies and equipment in the provision of emergency obstetric services during referral in the basic facilities. Statistical significance was based at 95% Confidence interval, and a p-value of less than 0.05.

Findings: The response rate from the study was 100% (n=161).

Characteristics of the Study Participants

Most of the respondents were aged between 30 and 39 years (87, 54%), while 38 (23.9%) were aged 20 – 24 years and 36 (22.4%) were over 39 years. The majority of the healthcare workers had a diploma (142, 88.2%), while 13 (8.1%) were nurses/midwives. This data is summarized in Table 1.

Table 2: Characteristics of the Study Participants

Category	Variable	Frequency (n)	Percentage (%)
Age (years)	20–24	38	23.6
	25–29	0	0.0
	30–39	87	54.0
	Over 39	36	22.4
Education Level	Certificate	6	3.7
	Diploma	142	88.2
	Degree	13	8.1

Category	Variable	Frequency (n)	Percentage (%)
Professional Qualification	Nurse/Midwife	131	81.4
	Clinical Officer	30	18.6
Facility Type	Level 3	16	55.7
	Level 4	7	44.3
Total		161	100.0

Communication and Transportation during an Emergency Obstetric Referral

Over 98% (n=158) of the participants agreed that emergency obstetric referral was common in their working facilities. The distance from the referring facility to the referral hospital varied, with 64% (103) of participants reporting a distance of more than 10 km and 35.4% reporting a distance of 2 to 5 km. On the means of transport used, 96.9% (n=156) used an ambulance, while 1.9% (n=3) used motorcycles (popularly referred to as *Boda Boda*). Over 85% (n=137) of the referrals took one

hour to each referral facility, whereas 13.7% (n=22) took between 1 and 2 hours. All the interviewed HCWs made pre-referral phone calls, with 78.9% (n=127) using facility phones, 20.5% (n=33) using their personal phones, and 0.6% (n=1) using the client's phone.

Linear regression analysis showed a significant association between communication and transport and the quality of EmOC services, with a linear regression standardized coefficient of 0.641 (T = 3.24; p=0.001).

Table 3: Table 2: Communication and transportation during an emergency obstetric referral

<i>Is emergency obstetric care referral a common occurrence in your working facility?</i>	Yes 158 (98.1%)	No 3(1.9%)	Don't Know 0	-
<i>What is the average distance from your health facility to the referral hospital in kilometers?</i>	0-2km 1 (0.6%)	2-5km 57 (35.4%)	6-10km 0	More than 10km 103 (64%)
<i>Which means of transport do you use in the referral process?</i>	Ambulance 156 (96.9%)	Private Car 1 (0.6%)	Boda Boda (Commercial motorcycle) 3 (1.9%)	Bicycle 1 (0.6%)
<i>Approximately how long does it take to transport the mother to the referral facility?</i>	1 hr 137 (85.1%)	1-2hrs 22 (13.7%)	More than 2 hours 2 (1.2%)	-
<i>How do you make communication to the receiving facility in cases of obstetric emergency?</i>	Facility phone 127 (78.9%)	Personal phone 33 (20.5%)	Client phone 1 (0.6)	Other -

Assessment of the HCWs on communication and transportation during an emergency obstetric referral was analyzed in a Likert scale with values ranging from 1 to 5 (Table 3). Over 60% of the respondents strongly agreed that communication between referral-receiving hospitals is key for easy coordination of the referral process. Similarly, 51.3% of the respondents strongly agreed that formalized communication and transportation are part of the requisites for a successful maternal referral system and improve clinical outcomes.

Nearly forty-three percent (42.6%) of the participants strongly agreed that proper detailed

documentation of referral notes, including date, medical history, diagnosis and treatment given, is necessary and a key component in the continuum of care, while 40.2% of the respondents strongly agreed that good documentation during referral ensures satisfaction of the patient as well as ensuring protection of the HCWs from cases of negligence and/or malpractice. Further, 39.7% of respondents strongly agreed that communication is an important component of the referral process in an EmOC, and 30.2% strongly agreed that transportation costs and large travel distances affect the EmOC's referral process.

Table 4: Rating on Communication and Transportation

Statements	Response (%)					Mean (Std. Dev)
	SD	D	N	A	SA	
<i>Transportation affects emergency obstetric referral process</i>	2.1%	8.9%	7.4%	33.2%	48.4%	4.17(0.01)
<i>Transportation of emergency obstetric cases to the referral facility is effective</i>	0.1%	2.9%	7.1%	26.5%	63.6%	4.29(0.06)
<i>Communication is an important component of a referral process in an emergency obstetric care</i>	5.2%	13.6%	3.9%	37.5%	39.7%	4.31(0.04)
<i>Communication between referral- receiving hospitals is key for easy coordination of the referral process</i>	8.8%	12.3%	4.4%	12.6%	61.8%	4.47 (0.034)
<i>Communication improves the overall quality of care in the management of obstetric care</i>	7.8%	9.4%	3.6%	37.4%	41.7%	4.11(0.04)
<i>Proper detailed documentation of referral notes including date, little medical history diagnosis and treatment given is necessary and key component in the continuum of care</i>	6.8%	15.0%	8.4%	27.3%	42.6%	4.45(0.01)
<i>Proper documentation of the referral notes avoids potential for errors of omission</i>	4.4%	11.8%	5.0%	31.8%	37.1%	4.14(0.03)
<i>Good documentation during referral ensures satisfaction of the patient and protection of the HCWs</i>	5.5%	8.4%	8.4%	37.5%	40.2%	4.42(0.11)
<i>Feedback information about the client referral is part of the referral management</i>	8.6%	18.4%	2.9%	29.1%	41%	4.29(0.03)
<i>Use of ambulance in regards to accessibility and safety of the client in the continuity of care is important</i>	2.9%	17.1%	8.9%	31.4%	39.7%	4.09(0.081)
<i>Professional escort during referral is important for continued monitoring of parameters is vital and any other emergency can be handled by the HCW while on transit</i>	2.6%	13.4%	3.1%	41.8%	39.1%	4.16 (0.086)
<i>Cost of transport & long travel distance affects the referral process of the emergency obstetric care</i>	4.9%	29.9%	5.2%	29.7%	30.2%	3.41 (0.084)
<i>Formalized communication and transportation is part of requisites for successful maternal referral system and improves clinical outcomes</i>	3.1%	7.6%	2.3%	35.7%	51.3%	4.21 (0.0734)

Key: Strongly Disagree (SD)=1, Disagree (D)=2, Neutral (N)=3, Agree (A)=4 Strongly Agree (SA)=5

Availability of Drugs and Equipment during Emergency Obstetric Referral

The assessment of the availability of drugs and equipment in the provision of EmOC was analyzed on the Likert scale with values ranging from 1 to 5. More

than 61% of the respondents strongly agreed that HCWs face challenges such as inadequate supplies and equipment unavailability for the provision of EmOC. This data is summarized in Table 4.

Table 5: Rating on availability of drugs and equipment

Statements	Response					Mean (Std. Dev)
	SD	D	N	A	SA	
<i>Referrals of emergency obstetric cases can occur following lack of drugs and equipment</i>	0.1%	2.9%	7.1%	36.5%	53.6%	4.28 (0.067)
<i>Specific drugs, supplies and equipment are needed for effective obstetric care</i>	10.2%	13.6%	13.9%	37.5%	24.7%	4.41 (0.053)
<i>As HCWs, we face different challenges of inadequate supplies and equipment unavailability of equipment for provision of emergency obstetric care</i>	8.8%	22.3%	4.4%	2.6%	61.8%	4.37 (0.054)

Key: Strongly Disagree (SD)=1, Disagree (D)=2, Neutral (N)=3, Agree (A)=4 Strongly Agree (SA)=5

Availability of Drugs and Equipment

The study observed a varied availability of drugs and equipment for EmOC referral- uterotonics, parental antibiotics, blood pressure apparatus, newborn resuscitation (Ambu bag, penguin sucker), baby weighing scale, MVA kits, hand washing soap/water,

and disinfectant were available in all the 23 facilities. Conversely, anticonvulsant drugs (magnesium sulphate) and oxygen cylinders were missing in most of the facilities, with recorded availability in only 22% and 26% of the health facilities respectively.

Table 6: Descriptive summary of availability of drugs, supplies, and equipment in the provision of EmOC services

Description	Products	Number of Facilities Reporting Availability (N=23)	Number of Facilities Reporting Non-Availability	Percentage Availability
Essential medicine	Uterotonics	23	0	100%
	Antibiotics	23	0	100%
	Anticonvulsant-MgSo4	5	18	22%
	Antihypertensives	17	6	74%
Equipment	BP apparatus	23	0	100%
	Thermometers	22	1	96%
	Suction machine	18	5	78%
	Oxygen cylinder	6	17	26%
	Masks and tubes	17	6	74%
Labour room	Wall clock	18	5	78%
	Newborn Resuscitation kit	23	0	100%
	Sterilized delivery sets	18	5	78%
	Vacuum extractors	11	12	48%
	Baby weighing scale	23	0	100%
Infection Prevention	MVA kits	23	0	100%
	Hand washing soap/water	23	0	100%
	Disinfectant	23	0	100%

Association between availability of drugs and equipment and the provision of quality EmOC Services

Chi-square test on the association between the availability of drugs and equipment and the quality of EmOC Services showed a significant association [Pearson chi-square = 240.05; df = 180; p=0.002].

DISCUSSION

An efficient referral system facilitates the integration of activities at various levels of healthcare and is key to timely and better service delivery and outcomes, particularly at primary levels of healthcare. This is even more critical in maternal health whenever pregnancy and childbirth-related complications arise. In such incidences, effective referral interventions would reduce delays in reaching the health facility for Emergency Obstetric and Newborn Care (EmONC), thereby reducing chances of adverse pregnancy and birth outcomes, including prevention of maternal morbidities (Alaofe *et al.*, 2020). Thus, there is need to have an in-depth understanding of the functionality of the referral system at the basic levels of healthcare in low- and middle-income contexts. This study, therefore, sought to assess the referral system in public primary health facilities in western Kenya for emergency obstetric care. Referrals from Level 4 and Level 3 facilities constituted 56% and 44% of the total referrals, respectively.

Communication and transport had a positive influence on the quality of emergency obstetric care services, with the use of ambulance in referral the most prevalent mode of transportation. This highlights the importance of reliable means of transport in ensuring timely referral. Proper communication and good transport reduce maternal morbidity and deaths associated with delays in accessing and receiving timely and appropriate care (Alaofe *et al.*, 2020; Barnes *et al.*, 2024). Emergency transportation interventions are more

effective when integrated within an enhanced referral system, improving the overall quality of service (Avoka *et al.*, 2022).

Most of the participants considered transport and communication as essential components for an effective referral system and that they are associated with quality obstetric care. Similarly, a systematic review in Sub-Saharan Africa noted that integrated transport and communication systems are essential to overcome delays in seeking care (Avoka *et al.*, 2022). Further, many participants agreed that proper documentation was essential during referral, ensuring continuity of care and protecting healthcare workers, a finding corroborated by other studies (Mukuna *et al.*, 2025; Kasaye *et al.*, 2022; Demsash *et al.*, 2023). However, poor transport system has been cited as a common barrier to effective referral care, and that the availability of prompt vehicles helps to respond to emergency and referral cases at all levels of care (Antony *et al.*, 2024). Challenges associated with transport contribute to delays in receiving health care services, consequently impeding the efforts aimed at preventing maternal (and newborn) deaths associated with obstetric problems (Alaofe *et al.*, 2020; Saffa *et al.*, 2024).

Similarly, communication is a key factor in improving the provision of high-quality healthcare services that can satisfy the client's needs (Sharkiya, 2023). In the present study, all the participants reported making pre-referral phone calls to the referral facility, with over 78% using facility-provided phones. Prior notification allows the receiving facility to prepare necessary personnel and supplies, thus minimizing delays in the provision of emergency care (Mostafa & El-Atawi, 2024; Long *et al.*, 2025). To ensure emergency preparedness, the healthcare provider at the referring facility must communicate effectively and timely with the receiving facility. In such communication, the

receiving facility may also assist in patient care during the initial management and transfer before the patient arrives at the facility (Burns *et al.*, 2024). Importantly, this process is facilitated by the availability of hospital-based communication systems such as telephone hotlines or mobile phones which enhance timely and reliable communication between facilities (Al-Shorbaji & Al-Shorbaji, 2021).

While all facilities reported the availability of essential drugs such as uterotonics and parenteral antibiotics, only 22% had anticonvulsant medications such as magnesium sulfate which is a life-saving medication in severe pre-eclampsia/eclampsia, with only 26% of the facilities reporting having oxygen cylinders. This finding compares with a study in Nigeria which observed that the drug (magnesium sulfate) was out of stock in more than 38% of the facilities (Oguntunde *et al.*, 2015), yet the availability of essential medical supplies is important in addressing unexpected emergencies and improving the overall standards of care (Hunie *et al.*, 2020).

These findings are comparable to studies done in other low-and middle-income countries, which noted shortage of essential medicines, equipment, and supplies as the major barriers to the effective provision of EmOC and BemOC in lower-level facilities (Nguru & Ileri, 2022; Oguntunde *et al.*, 2015; Masaba *et al.*, 2022; Chauke, 2025).

CONCLUSION

Understanding the referral process and factors influencing emergency obstetric referrals is critical in identifying gaps that hinder timely access to quality care. Findings from the study suggest that although the referral of obstetric emergencies was supported by a fair means of transport and pre-referral communication, significant resource gaps still exist such as medications and oxygen cylinders. Further, the availability of hospital-provided phones enhanced the referral process, allowing HCWs to communicate timely with the receiving facility. Thus, strengthening transport and communication systems, ensuring consistent availability of essential supplies, and enhancing effective linkages between referring and receiving facilities are critical in improving efficiency in the referral process and maternal health outcomes.

Recommendations

Hospitals need to adopt innovative strategies and equip health facilities with telephone hotlines and/or mobile phones, including airtime and emergency vehicles (Ambulances) for timely and effective obstetric referrals. Further, standard obstetric referral forms should be developed, tested and used in the referral system to ensure thorough completeness, to facilitate effective communication and clinical decision making for timely action during referrals. Regular and consistent supply of essential drugs and functional equipment at primary level facilities is also warranted.

Future Research

A similar study may be replicated in other basic referral facilities across the country, preferably using a mixed-method design to gain further insights about emergency obstetric referral process, and to allow comparison of findings and generate broader evidence on the emergency obstetric referral process. This would support key stakeholders in devolved governments in streamlining referral systems, and strengthening the provision of quality EmOC services.

Strengths and Limitations

The study utilized primary data collected directly from healthcare workers involved in the referral of obstetric emergencies, enhancing the relevance of the findings. It provides valuable insights on the referral process for emergency obstetric care at primary level (Level 3 and Level 4 facilities) and identifies challenges contributing to suboptimal use.

The study's quantitative approach limits its ability to answer the 'why' and 'how' questions. Although the findings may not be generalisable across the country due to context-specific factors, most primary-level facilities across the country share similar experiences and levels of operations. Thus, parallel lessons can be drawn from the present study.

Ethical Approval

The study was approved by the relevant Institutional Research Ethics Committee of Moi Teaching & Referral Hospital /Moi University (Study Approval number: FAN 0004193). Permission to conduct the study was granted by the National Commission for Science, Technology, and Innovations [NACOSTI], and the health department of the county under study. Informed consent was obtained from the participants before data collection and password protection for all electronic data files was implemented to ensure the privacy and confidentiality of data.

Consent for Publication: Not applicable.

The Availability of Data and Material: All data generated or analyzed during this study are included in this published article.

Competing Interests: The authors declare that they have no competing interests

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Author Contributions

JW, EK and BM were involved in the conception and implementation of the study. JW collected and analyzed the data. JW drafted the initial manuscript and all authors reviewed and edited the manuscript for submission.

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