UTILIZATION OF CERVICAL CANCER SCREENING SERVICES AMONG WOMEN OF AGE 24-49 YEARS ATTENDING POST NATAL CARE AT MATERNAL-CHILD/ FAMILY PLANNING (FP) CLINIC AT MIGORI COUNTY REFERRALHOSPITAL, MIGORI COUNTY, KENYA.

BY

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DECLARATION

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Abstract.

Globally, epidemiological transition from communicable to non-communicable diseases is on the increase. Cervical cancer is among the leading causes of morbidity and mortality in women. Cervical cancer is preventable but many women especially in Africa seek healthcare late in advanced stages. Many women in Kenya have never been screened despite free services. Cervical cancer screening for all women aged18-69years in Kenya is at 3.2%% and at 13% in Migori County. This is unacceptable low compared to the National Cervical Cancer Prevention program target of 70%. Limited studies have been done in Kenya targeting the priority age cohort of 25-49 years. This study aimed at exploring the factors that influence utilization of cervical cancer screening services among women aged 25-49 years attending Post natal care services at the MCH/FP Clinic at Migori County Referral Hospital by determining the association between individual background factors and utilization, examining the uptake, establishing the association between awareness of screening and utilization, establishing the association between knowledge on cervical cancer disease and determining barriers to utilization. A cross-sectional analytical study design appropriate for fact finding and inquiries was used. A sample size of 272 was determined by Fisher's formula. The Data was collected from the 272 respondents selected through purposive sampling technique using structured questionnaires. Data was cleaned, coded and entered using SPSS version 25.0 and the analysis was done using descriptive and inferential statistical techniques. Data was presented using tables and charts. Results showed that majority of participants were aged between 25-29 years. There was a significant relationship between age and utilization of screening services. P=0.000, Education and utilization p=0.045, Employment p=0.000 but no relationship between marital status and utilization p=0.112. The study established that 37% of the participants had been screened for cervical cancer while 63% had not been screened. The Level of awareness was moderate with a significant relationship between awareness and screening (p=0.000). The correlation between knowledge of cervical cancer disease and utilization was statistically significant (p=0.001). However 73% had poor knowledge on signs and symptoms. Main barriers to utilization were; inadequate information on screening (96%) and Lack of the disease understanding (95%) The study concluded that the uptake of cervical cancer screening was low among the women attending PNC services and this showed that awareness of cervical cancer screening has not translated to an increase in utilization. Utilization of cervical cancer is influenced by individual background factors and knowledge of the cervical cancer disease. The study results will help the county managers in decision making and planning for cervical cancer screening as a priority for strengthening and improving service delivery.

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LIST OF ACRONYMS

ENT	Ear Nose and Throat
HPV	Human Papilloma virus
IARC	International Agency for Research on Cancer
KDHS	Kenya Demographic Health Survey
KHIS 2	Kenya Health Information Systems 2
KNBS	Kenya National Bureau of Statistics
LEEP	Loop electrosurgical excision procedure
LMIC	Low-and middle-income countries
MOH	Ministry of Health
MOPC	Medical Outpatient Clinic
NCD	Non-Communicable Diseases
PAP SMEAR	Papa Nikolaou Smear Test
POPC	Pediatric Out Patient Clinic
SOPC	Surgical Out Patient Clinic
SPSS	Statistical Package for Social Sciences
VIA/VILI	Visual Inspection with Acetic Acid/Visual Inspection with Lugols Iodine
WHO	World Health Organization

Definition of Operational Terms

Cervical cancer/Cancer of the cervix: Cancer that forms in tissues of the cervix (the organ connecting the uterus and vagina).

Screening: Screening refers to the use of simple tests across a healthy population in order to identify individuals who have disease, but do not yet have symptoms

Screening utilization: Refers to the proportion of persons eligible to be screened within a population who have ever been screened for cervical cancer.

knowledge about cancer of cervix; refers to ability to identify what is cancer of the cervix, at least six risk factors of cancer of the cervix and at least three benefits of cervical cancer screening.

Barriers; Refers to obstacles that prevent those eligible for cervical cancer screening from participating in the available cervical cancer screening programs.

Post-natal services; Refers to services available to women of Child Bearing Age from Birth of a baby up to 6-8 weeks post-delivery. The services include but not limited to post-natal counseling and Family planning services. The services are usually offered at the MCH/FP Clinic

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The United Nations Sustainable Development Goals (SDGs) target the reduction of premature mortality from non-communicable diseases, including cancer, by one-third by 2030 through prevention and treatment (United Nations, 2015).

Cervical cancer is a cancer of the cervix, the organ connecting the uterus and the vagina. Cervical cancer is associated with a sexually transmitted high-risk strain of Human papilloma Virus (HPV) especially type 16 and 18 (Wentzensen & Schiffman, 2018). Persistent infection with human papilloma virus (HPV) has been found a necessary factor to initiate the cancerous process (Reynoso-Noveron et al., 2017).

Symptoms may be absent until the cancer is in its advanced stages. Other risk factors associated with cervical cancer are; sexually transmitted diseases like chlamydia infection, age at inception of sexual activity and early pregnancies especially below the age of seventeen years, prolonged oral contraceptive usage and tobacco intake (Reynoso-Noveron et al., 2017). Infrequent cervical screening, immune suppression as a result of HIV infection, familial cervical cancer, multiple full-term pregnancies; obesity have also been linked to the condition. (American Cancer Society, 2015).

HIV- positive women can get cancer of the cervix earlier than non- infected at a peak of 35 years to 45 years. Primary prevention of cancer of the cervix can be achieved through sexual abstinence, delayed sexual rebut and use of condoms, vaccination of girls at the age of 9-11 year with HPV vaccine and male circumcision which promotes primary prevention. (Arbyn et al., 2020.)

Cervical cancer is a significant global public health problem. The World Health Organization (WHO) in 2018 reported that cervical cancer is ranked as the fourth most frequent cancer in women (World Health Organization, 2018). In developed nations such as the United States,

about 40% of women living with cervical cancer die from the disease, while the corresponding mortality rate for developing countries like Sub-Saharan Africa is 78% (Torre et al., 2015).

Sub-Saharan Africa has been identified as the region with the highest incidence of cervical cancer in the world with associated high mortality affecting women at their prime. This is a source of great concern considering the fact that cervical cancer is preventable and curable using currently available methods (Lim and Ojo, 2017). Furthermore, women from poorer communities are mostly affected by the disease, approximately 83% of the world's new cases and 85% of all cervical cancer deaths reported are from developing countries (WHO, 2018).

With an estimated 570,000 new cases in 2018, the vast majority (over 85%) of cases occur in low- and middle-income countries (LMIC) with sub-Saharan Africa carrying the highest burden globally (Ferlay et al., 2019).). New cases and mortality are expected to rise by 75% by 2025 in the absence of substantial scale interventions for screening and early treatment (IARC) GLOBOCAN Report 2018).

Several strategies have been employed to help curb the burden. In Simms et al., (2018), a call to action for the elimination of cervical cancer as a public health problem was announced by World Health Organization (WHO) with a Global Initiative to scale up vaccination, screening, and treatment of pre cancer, early detection and prompt treatment of early invasive cancers, and palliative care.

In 2020, WHO launched the global strategy to eliminate cervical cancer as a public health problem by 2030, with the following three targets, 1) Vaccinate 90% of eligible girls with Human Papilloma virus (HPV) vaccine by age 15 years; 2), Screen 70% of women with a high performance test at 35 years of age and again at 45 years of age and 3) 90% of women identified with cervical disease receive treatment and palliative care if needed, WHO (2020).

In East Africa cancer of the cervix still remains most common type of cancer among all other types of cancers (Bray, 2018). The region bears a high burden of mortality and morbidity rates according to a recent survey with Tanzania ranked 6th, Uganda 10th and Kenya 14th(Ugwu et al., 2014).

In Kenya, Cervical cancer is the second leading cause of cancer death with a prevalence of 16% among women of reproductive age contributing to 10% (3,266 deaths). It is also the leading cause of cancer-related deaths for women aged 15 to 44 years with an incidence of 20.5 per 100,000 women (Bruni et al., 2018).

Although cervical cancer is almost entirely preventable through vaccination and screening as the primary mechanism for cancer prevention, it continues to be responsible for unnecessary deaths among women around the world due to low uptake of screening services (Simms et al., 2019).

Studies have further revealed that developed countries with comprehensive cancer screening programs have significantly reduced cervical cancer incidence and mortality while upsurges have been reported in many developing countries in Sub-Saharan Africa with low coverage of screening uptake of 19% in low-income and middle-income countries (LMICs), compared with 63% in high-income regions (Major et al., 2018).

In Kenya, reports from the Health Ministry indicate that cervical cancer screening uptake stands at 16% among women aged 30-49 years and a coverage of between 4% and 2.6 % for women aged 15-49 years in urban and rural respectively (MOH 2016), (Nyangasi *et al*., 2018) which is disproportionate to the awareness on availability of the screening services which is 47% (STEPS survey, 2015; Ng'ang'a et al., 2018).

The program in Kenya recommends good screening testing criteria which include VIA, a cost-effective prevention strategy in low-resource settings (Black et al., 2019) ; pap-smear where cervical cells are examined in order to detect abnormal precancerous lesions in some specified circumstances (Orang'o, Wachira, et al., 2016; Orang'o, Liu, et al., 2016), and the recently introduced (HPV cytology) self-sampling or collected by a health care provider, for women aged 30 years and above with screening intervals of 5-10 years. HPV self-sampling was found to be

highly acceptable and feasible among hard-to-reach women across most studies (Torrado-García, Martínez-Vega and Rincon-Orozco, 2020).

The Kenyan Government has made tremendous efforts in trying to incorporate screening programs in the regular HIV care and also recently has come up with the National Cancer Control Strategy (NCCS) 2017-2022 developed by the Ministry of Health to provide a strategic framework for the prevention and control of cancer in Kenya. It is organized into five priority areas i.e. 1) prevention, early detection and screening, 2) diagnosis, registration and surveillance 3) treatment, palliative care and survivorship, 4) coordination, partnership and financing, 5) monitoring, evaluation and research. It also provided guidance to existing and future actions to control cancer (MOH 2017). The cervical cancer program in Kenya is in a bid to realize the priority on prevention, early diagnosis and screening targets interventions for women aged 25 49 years. (MOH, 2017).

Despite the emphasis placed on screening as an effective measure to diagnose cervical cancer at an early stage, below 10% of the women in the developing countries have been screened for cancer of the cervix (WHO, 2018). Measures to counter the ravaging effects of cervical cancer continue to face several challenges in various contexts. . Low screening coverage has been attributed to several factors, including limited access to and availability of screening services, screening cost, lack of trained service providers, inadequate equipment and supplies, inadequate monitoring and evaluation of screening program, and a health service system that is overwhelmed by health demands (Korir et al.,2015*).* Late-stage presentation when cure is difficult to achieve is a common problem here in Kenya as is the case in many LMICs (WHO, 2018b), where diagnostic and treatment services are inadequate or non-existent (WHO, 2017).

1.2 Problem Statement

Cervical cancer is almost entirely preventable through vaccination and screening, but continues to be responsible for unnecessary deaths among women around the world. In developed nations such as the United States, about 40% of women living with cervical cancer die from the disease, while the corresponding mortality rate for developing countries like Sub-Saharan Africa is 78% (Torre *et al*., 2015).

In Kenya, Cervical cancer is the second most common form of cancer among women aged 15-69 years after breast cancer with a population of 10.32 million women aged 15 years and older who are at risk of getting HPV infections and developing cervical cancer (WHO, 2018b). Current estimates indicate that every year, 2,454 women are diagnosed with cervical cancer with 1,676 deaths resulting from it (ICO/IARC Information Centre on HPV and Cancer, 2018).

Despite the emphasis placed on screening as an effective measure to diagnose cervical cancer at an early stage, below 10% of the women in the developing countries have been screened for cancer of the cervix (WHO, 2018). Many women seek healthcare late in advanced stages when treatment is costly and ineffective (WHO, 2018b).

The uptake of cervical cancer screening remains poor despite screening through both VIA/VILI being available in most health facilities at no cost. Nyangasi et al., (2018) in a nested case-control study to determine the predictors of cervical cancer screening among kenyan women found the that uptake was at 16% among women aged 30-49 years and between 4% and 2.6 % for women aged 15-49 years in urban and Rural areas respectively (MOH 2016), (Nyangasi et al., 2018). This coverage is way below the National target of 75%.

In Migori County, only 13% of the women attending post-natal services in health facilities undergo screening for cervical cancer annually (KDHS 2014). There has been disparities in facilities offering this service with some facilities offering the service only in the Comprehensive Care Clinics (CCC) .Data for Migori County Referral Hospital between 2016 to 2019 shows that among the women aged between 25-49 years attending post-natal care, cervical cancer screening uptake was low averaging 3% (KHIS 2 2019) . Data on screening for all women aged 25-49 years, excluding those that HIV positive showed an increase in disease burden. Out of the 1321

that underwent cervical cancer screening, 320(24%) showed positive lesions for cervical cancer (KHIS 2 2019). From the above statistics, there is need to optimize screening at the county Referral Hospital to enhance early diagnosis and treatment. Additionally, limited studies have been conducted in Migori as per the cervical cancer program whose priority on prevention, early diagnosis and screening targets interventions for women aged 25- 49 years.

It is against this background that this study aimed to explore the factors associated with utilization of cervical cancer services among women aged 25-49 years attending postnatal care services at Migori County Referral Hospital, Migori. Kenya.

1.3 Justification

Cervical cancer is a major cause of morbidity and mortality in women. The burden can be significantly reduced through early detection and management of pre -cancerous condition. The uptake of cervical cancer screening has remained low. The cervical cancer screening coverage for women attending post natal services stands at 13% for Migori County (KHIS 2019).

The Kenyan Government has made tremendous efforts in trying to incorporate screening programs in the regular HIV care and also recently has come up with the national cervical cancer prevention plan focusing on primary prevention, screening and early detection and treatment (National cervical cancer prevention plan 2012-2015). Available are also the Kenya National Cancer Screening Guidelines which are in line with the implementation of the National Cancer Control Strategy 2017-2022 Pillar 1, which also focuses on Prevention, Early Detection and Cancer Screening (MOH, 2018).

The cervical cancer program in Kenya in a bid to realize the priority on prevention, early diagnosis and screening targets interventions for women aged 25- 49 years. Women outside this age group who request or for whom screening is recommended are also eligible for testing. The recommended screening cycle for the Kenya program is every five years, except for HIV positive women aged between 18-65 years old who are eligible for screening every six months or annually as part of their comprehensive HIV care (MOH, 2018).

Limited studies have been conducted in Kenya as per the cervical cancer program whose priority on prevention, early diagnosis and screening targets interventions for women aged 25- 49 years. In Migori no study has been conducted for this age cohort. Oketch *et al*., (2019) in a study on perspectives of women in cervical cancer screening in Migori was community- based HPV self-testing and targeted women of age 30 years and above.

The study by Mbaka et al., (2018) at Mama Lucy Kibaki Hospital, Nairobi, Kenya on factors affecting the Uptake of Cervical Cancer though purposefully selected women attending services at MCH/FP Clinic, targeted age cohort of 15- 49 years. Gatumo., et al., (2018) in a study on Women's knowledge and attitudes related to cervical cancer and cervical cancer screening in Isiolo and Tharaka Nithi counties, Kenya, also targeted women of 18 years and above.

Allan, I.M. (2015) on Factors Influencing Uptake of Screening Cervical Cancer in Vihiga County had a study population of Women of Child Bearing Age of 15-49 years.

These studies present a contextual gap since the findings cannot be generalized. Therefore, based on the above gaps, the current study finds it justifiable to fill in the gaps and address the problem by investigating the factors that may be associated with utilization of cervical cancer screening services among women age 25-49 years. The recommendation not to initiate screening until age 25 is based on several factors. Less than 1% of cervical cancers are diagnosed in patients younger than 25 years, and early screening does not prevent these cancers. Many abnormal findings in patients 21 to 24 years of age would regress without intervention because HPV infections in this group are commonly transient. Large observational studies suggest that screening younger patients offers little benefit in reducing cervical cancer, and treatment can increase risks of preterm birth (American Cancer Society)

The scientific knowledge generated from this study will foster a commitment and accountability to the population in that other researches can be done to build on the recommendations provided and also provide data for literature review for future researchers

1.4 Objectives

1.4.1 Broad Objective

To explore the factors associated with the utilization of cervical cancer screening services among women of Age (25-49years) attending postnatal care services at Migori County Referral Hospital, Migori, Kenya.

1.4.2 Specific Objectives

1. To determine the association between individual background factors and utilization of cervical cancer screening services.

2. To examine the utilization of cervical cancer screening services among women aged 25-49 years.

3. To establish the association between awareness of cervical cancer screening and utilization.
4. To establish the association between knowledge on cervical cancer disease and utilization of cervical Cancer screening services.
5. To determine barriers to utilization of cervical cancer screening services.

1.5 Research Questions

1. How do individual background factors influence utilization of cervical cancer screening services by women aged 25-49 years attending Post-natal care services at Migori hospital?
2. What is the uptake of cervical cancer screening services among women aged 25-49 years at Migori County Referral Hospital?
3. How does the level of awareness of cervical cancer screening among women influence utilization of cervical cancer screening services?
4. To what extent does knowledge about cervical cancer disease influence utilization of cervical

   Cancer screening services by women aged 25-49 years attending post-natal care services at Migori County Referral Hospital?
5. What are the barriers to utilization of cervical cancer screening services?

1.6 Significance of the study

The study seeks to explore the factors associated with utilization of cervical cancer screening services among women of Age (25-49years) attending Post natal care services at Migori County Referral Hospital.

The study findings will inform the county on how to scale-up cervical cancer screening services, aligning to the Kenya cervical cancer program that aims to realize the priority on prevention, early diagnosis and screening targets interventions for women aged 25- 49 years with women outside this age group who request or for whom screening is recommended being eligible for testing. (MOH 2018).

The County Health Authorities will use the findings of this study to develop strategies to create awareness on the importance and benefits of cervical examination done via screening tests. This will help dispel myths, misconceptions or factors present among women that hinder them from undergoing the cervical cancer screening.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section focuses on the literature on cervical cancer screening in various settings. The literature was drawn from journals, published articles, books and reports. The thematic areas are organized as per the study objectives. The review provides evidence on what other researchers have done on a similar subject.

2.2 Influence of Social demographics on utilization of cervical cancer screening services.

Social demographic factors such as age, marital status, educational level, religion, occupation and income could influence the utilization of screening services. Research findings have shown that younger women tend to seek cervical screening services more than the older women (Ifemelumma, 2019). Other studies have shown that there is no statistical relationship between the respondents age and utilization cancer of the cervix screening services.

In a study done in Korea, results showed that age did not influence intention to seek for cervical screening services (Park et al., 2015).

In Ethiopia, (Woldetsadik et al., 2020) examined the impact of socio-demographic features on cancer of the cervix screening for female clients attending St. Paul's Teaching and Referral Hospital. This examination demonstrated that there was a poor adoption in cervical disease screening. This was evidenced by the fact that women between the age of 40 and 49 years old were bound to be screened than those in the range of 18 and 29 years old.

In a research conducted by Ebu (2018) at central region of Ghana on social demographic factors affecting cancer of the cervix screening among HIV positive women in 2018, study findings showed that those respondents who had high level of education utilized screening services could evaluate risk factors and influence decision making for a health service positively including cancer of cervix screening services more than the ones with formal education (Ebu, 2018).

Education gives more understanding of health related issues and therefore can be attributed to a better utilization of screening services for cervical cancer. In other studies, lower screening results have been distinguished among women with higher level of education than for those

without formal education, (Nyangasi et al., 2018). This study found no relationship between level of education and utilization of screening services.

Research findings by Ajibula, 2015 showed that respondents marital status did not influence screening for cancer of the cervix, this could have been due to the study inclusive criteria whereby those cohabitating respondents were termed as married and those who had been divorced were added to the singles as well as the windowed respondents were termed as un married (Ajibula et al., 2015).

A study conducted in Nigeria revealed that the low uptake of cervical cancer screening could be attributable to the low socio-economic status of study participants. Educational and occupational status of people often determines their awareness level about particular health condition and their financial capability to access healthcare services (Idowu et al., 2016)

Occupational status of a person enables him/her to afford the direct and indirect costs associated with seeking for the services. However, research findings have shown that cancer of the cervix screening is not significantly affected by employment status. Employment provides a high self-esteem however issues of stigma, fears, and uncertainty cannot be resolved by employment. (Matejic et al., 2011).

A study in Kenya revealed that age, level of education, occupation, cost were associated with screening uptake (Abdikarim et al., 2017). Studies further indicate that economically disadvantaged women seldom pay attention to their symptoms or are unable to use preventive measures as a result of paying attention to the constraints faced by their families due to focus on the curative rather than preventive care, poor health knowledge and poor access to health care (Black et al., 2019).

2.3 Utilization of cervical cancer screening services.

Although cervical cancer is almost entirely preventable through vaccination and screening, it continues to be responsible for unnecessary deaths among women around the world. Many women have never been screened because they seek healthcare late in advanced stages when treatment is more difficult and more expensive to obtain (WHO, 2019b).

The high mortality rate from cervical cancer globally could be reduced through a comprehensive approach that includes prevention, early diagnosis, effective screening and treatment program

including vaccination against the common cancer-causing types of human papilloma (WHO, 2018).

Underutilization of screening and vaccination services results from lapses in service availability by the health facilities, lack of demand creation for screening services, low level of knowledge about cervical cancer disease and screening and negative perception by women (Swanson et al., 2018).

Australia and New- Zealand, put in place strategies for cervical cancer screening leading to a drastic reduction in cervical cancer incidence and mortality However, the overall national uptake of 47.3% is still below the required adequate uptake of 70 to 80% for a successful screening prevention program (Nwabichie et al., 2017).

In developing countries, the uptake of cervical cancer screening was 5.1% among women aged 20-49 years who had been done Pap smear (Wright *et al.*, 2014). Non screening for cancer of the cervix was attributed to the respondents' assumption that they were not at risk of contracting cancer of the cervix hence poor perception on cancer of the cervix screening services by most women who were not screened (Ajibola et al., 2016).

A study on the use of cancer of cervix screening services for women in Vhembe District, South Africa by Vhuromu in 2018 indicated that screening for cancer of the cervix was still very low, given the free provision and high awareness levels. In particular, majority of the women would not have been tested for cervical cancer, primarily due to lack of resources, phobia of discomfort, and humiliation. According to the women, the Pap test included scratching the cervix to identify suspected cancer cells, and about a third of them did not have a Pap test (Vhuromu et al., 2018). Cancer of the cervix screening health talks should be intensified and improved to provide additional, affordable alternatives for screening women in the rural area

In Ethiopia, cervical cancer screening utilization is still wanting. Examination by Assefa et al., (2019) on the utilization of cervical cancer screening by HIV-positive women visiting ART centers in Hawassa, indicated that only 40.1 per cent of them had been screened.

Recently in Northwest Ethiopia, Aynalem, Anteneh and Enyew (2020) corroborated that there was low magnitude of uptake of cancer of the cervix screening services. Contributing factors included marital status, multiple sexual partners, and history of sexually transmitted infections, attitude and low knowledge levels among the respondents.

In Nigeria , screening for cancer of the cervix is sporadic among women visiting certain clinics since there are no policy guidelines for screening . Other factors resulting in high burden of cancer of the cervix in Nigeria include poor knowledge, Negative seeking behavior and lack of effective screening program has caused low utilization of screening services, Ifemelumma et al., 2019). Among those surveyed by Ifemelumma *et al.* (2019) in Abakaliki, Nigeria, it was noted that the uptake of cancer of the cervix screening services was poor with only 20.6% having been screened.

The situation of low levels of screening has been replicated within the East African Region
A survey by Kileo et al., 2015 on utilization of cancer of cervix screening services and related factors among primary school teachers in Ilala Municipality, Dar es- Salaam, Tanzania, revealed poor uptake of the services. The utilization was 28% for women who were aged 20–29 years, 22% for those married and 24% for those of higher education (Kileo et al., 2015).
Ndejjo *et al.*'s study exploring the uptake of cervical cancer screening among 900 women in Eastern Uganda reveals low screening rates and several challenges to screening (Ndejjo et al., 2017). Despite participants having a high level of knowledge about cervical cancer and its risk factors, only 43 (4.8%) reported ever being screened.
In Kenya, although screening services are available many women do not go for screening and mortality rate due to cervical cancer is still high. Uptake of cervical cancer screening was at 16% among women aged 30-49 years, which is disproportionate to the awareness on availability of the screening services at 47% among women (STEPS survey, 2015; Ng'ang'a et al., 2018).

The Kenya cancer prevention strategic plan (2017 – 2022), points at creation of awareness as one factor of improving uptake of cancer screening services which is in agreement with the finding (MOH, Kenya, 2017).
In another study in Kenya, it was reported that only 12.3% Kenyan women went for cervical cancer screening. The low percentage of attendance was due to low perception of risk, fear of abnormal cervical cancer screening results, lack of finance for the services and lack of awareness. (Oche et al., 2013).

In Migori County, out of the targeted population of women aged 25 - 49 years attending PNC services expected to be screened for cervical cancer, only 13% undergo screening for cervical annually.

Data for Migori County Referral Hospital between 2016 to 2019 shows that women are counseled during post-natal care attendance for screening but only a few get screened for cervical cancer. (KHIS2). Over the 4 years, the uptake among women aged 25-49 years attending PNC services at the Referral hospital was 2. 9%. (KHIS 2).

2.4 Influence of awareness of cervical cancer screening services on utilization of cervical cancer screening.

Awareness creation on cervical cancer screening to women would enhance early detection and treatment. A study by Mbaka et al., 2018 on factors affecting uptake of Cervical cancer screening at Mama Lucy Hospital, Nairobi reported that in spite of high awareness of cervical cancer, the practice of screening was only at 5%. The study also that 83.6% comprised of those who were aware of cancer of the cervix screening and 23.1% had ever gone for screening for cancer of the cervix prior to the study. This shows that although advanced education and employment can impact on the awareness of cervical screening; it does not translate to increased uptake of screening (Siddharthar et al., 2014).

Findings from a study by Gatumo et al., 2017 posited that improving cervical cancer awareness and addressing negative attitudes around cervical cancer screening are crucial components of an effective cervical cancer prevention program. Data from a Kenyan cohort study supports the potential role of increased awareness on cervical cancer screening uptake (Vermandere et al.,2016).

Information given by health providers to the patients on accessibility of cervical cancer screening services significantly influenced women's decisions to get screened. This calls for further campaigns to create awareness and increase knowledge to influence screening. The important role of health care workers in influencing screening was reported by a previous study in Uganda (Ndejjo et al., 2016).

A study by Kimani et al., 2019 in Webuye, Western-Kenya on factors influencing uptake of cervical cancer screening, posited that most of the respondents did not know any of the available tests for screening at 87.7%. This is an essential finding in the understanding of the women's knowledge of the screening process. Approximately 70.40% of the participants did not understand which age females were encouraged to seek screening services. This may explain why uptake is low. The Government of Kenya argues that any woman who has ever had sexual intercourse is eligible for cervical cancer screening but puts more emphasis for screening among women aged 25 to 49 years which is their target population (Kenya National strategy 2017-2022)

In a study by Mwangi et al., (2017) dissecting the impact of socio-demographic, social-economic and socio-cultural factors on the uptake of cervical cancer screening in low socio- economic settings in Nairobi, demonstrated that the degree of awareness on cervical cancer prevention through screening is still low and this among different components lead to low VIA screening. This study demonstrated statistically a relationship between use of VIA cervical screening and the degree of training of community members (Mwangi. et al 2017).

Nyangasi et al., (2018) studied the factors influencing the utilization of cancer of the cervix screening among Kenyan women and noted that the uptake of cervical cancer screening is low despite high awareness in Kenya. It was discovered that 16.4 percent were recently screened and 67.9 percent of those not screened were educated regarding cervical disease screening (Nyangasi et al., 2018).

2.5 Influence of Knowledge of Cervical Cancer Disease on Cervical cancer Screening.

When individuals understand the severity of a disease like cervical cancer including its causes, risk factors, signs and symptoms, preventive measures, treatment options and where to seek help, there is a high likelihood that their health seeking behavior will improve. Women's knowledge on cervical cancer and its risk factors has been listed as a key influencing factor in the uptake of screening. Those with low levels of knowledge about cervical cancer and its prevention are unlikely to access screening services (Allan., 2015). Wongwatcharanukul et al., (2014), found out in their study that majority of women were screened as a result of knowledge received through cervical cancer screening campaign they had attended.

A study by Lyimo & Beran, 2012 in Moshi, Tanzania on factors related to the uptake of screening among 354 women aged between 18 and 69 years posited that, more than half (59.6%) of the participants had a low level of knowledge of cervical cancer and its prevention. The study revealed that only 80 (22.3%) women reported having been screened. The study also showed that those with the highest level of knowledge about cervical cancer and its prevention were more likely to be screened than those with low or medium level of knowledge (Lyimo and Beran, 2012).

In Ghana, a study by Kokuro (2017) found a significant relationship between knowledge and utilization of cervical cancer screening respectively.

In Botswana a similar study revealed that inadequate knowledge of cancer risk factors was an impediment to its utilization. This evidence suggests that more information about the benefits of screening should be disseminated among women. (Abdikarim et al., 2017).

Study done in Zimbabwe showed that about 79% of study respondents had knowledge of cervical cancer however; there was limited specific knowledge of its causes, risk factors, prevention and treatment. This lack of knowledge coupled with misconceptions about the disease and its treatment leads to low levels of screening. (Kuguyo et al., 2017).

A study done to assess knowledge and perception of women towards cervical cancer screening in Meru County, demonstrated low knowledge and awareness of cervical cancer and screening. Though respondents had heard about cervical cancer, 86.89% of them never knew the cause of the disease, predisposing factors and signs and symptoms. Inadequacy in knowledge significantly explained non-utilization of cervical cancer screening services. It showed that as knowledge and awareness of cervical cancer and screening increases among women in Meru County, uptake of screening increased proportionately (Kandie et al., 2019).

A study by Gatumo et al., 2018 to assess the knowledge and attitudes about cervical cancer among women in Isiolo and Tharaka Nithi counties Kenya, posited low overall knowledge of risk factors for cervical cancer hence low uptake of screening services.

2.6 Barriers to utilization of cervical cancer screening

Data from qualitative and health-facility based research has provided insights into reasons for cervical cancer screening practices in Kenya. Low screening coverage has been attributed to several factors, including limited access to and availability of screening services, inadequate screening uptake due to female patients' limited knowledge or fears about cervical cancer screening (WHO 2016), screening cost, lack of trained service providers, inadequate equipment and supplies, inadequate monitoring and evaluation of screening program, and a health service system that is overwhelmed by health demands (Rosser et al., 2015).

A study conducted among women in Bangladesh on cancer screening attitude on women showed that knowledge level of the respondent on cancer of the cervix was 12%. (Ferdous et al., 2014).

A review of literature on barriers to cervical cancer screening in sub-Saharan Africa found that women were concerned about the screening procedure and potential negative outcome, low level of awareness about services, embarrassment and possible violation of privacy, lack of spousal support, societal stigmatization, cost of accessing services and health service factors like proximity to facility, waiting time and negative health care personnel attitude (Lim &Ojo, 2017).

In a study conducted in rural Senegal on decentralized cervical screening, Rahman et al., 2019 noted that lack of understanding of personal risk or insufficient cervical cancer education may lead to a decreased sense of urgency to seek cervical cancer screening.(Abiodum et al., *2019).* Mis perceptions about known services can also lead to unwarranted fears such as assumptions that the procedures used to screen or treat cervical cancer are uncomfortable or that instrument cleanliness is substandard. Additionally, misunderstandings about screening and treatment may lead to myths and misinformation further impacting on screening uptake. (Winkler,Bartolin, *et al.*, 2018 ????). USE APA 7TH EDITION

In the study reviewed by CDC in 2014 on black women posited that disease trend was largely associated with poor knowledge, inaccessible health facilities, cost factors in follow up of confirmed cases, and discomfort during examination (Allan, 2015). The same results were recorded in Ethiopia and similar findings concurred with the research done in Zimbabwe (Aweke, 2017). In Zimbabwe for example, many women had not been screened because of the belief that Pap smear test was frightening and painful (Mutambara et al., 2017).

A study in Nigeria cites husband refusal and fear of being tagged promiscuous as barriers to cervical cancer screening uptake. Nigeria being a country with strong cultural values and family ties, husbands are the key decision makers in most homes and women are often careful about Services requested from health care workers to avoid offending the social norms (Idowu et al., 2017.

A study conducted in Somali revealed socio-cultural prejudices among Pakistani and Somali women that prevented them from participating in cervical cancer screening. These barriers included stigma about the disease, female circumcision (for Somalis only), being unmarried, religious belief of being Muslim and not at risk for the disease. This was in addition to reluctance in discussing issues related to their sexual life with their families and their hatred for the disease because of its fatality and not wishing to discover if they had it (Gele et al., 2017).

Community awareness of cervical cancer may have grown because of the introduction of the cervical cancer screening program however low levels of knowledge and awareness, fears relating to speculum examination, discomfort with male health workers, and limited spousal approval, have been identified as additional factors contributing to sub optimal screening rates (Buchanan et al., 2017). Over half of the women in a study in Kenya responded that cervical cancer would threaten
the relationship with the husband, boyfriend or partner (Gatumo et al., 2018). However, most Respondents (88.9%) were willing to undergo cervical cancer screening, though about (70%) would require the consent of their spouse (Olubodun, 2019).

Perception on cervical cancer and screening is a major hindrance to screening. Women in Meru County, Kenya never perceived themselves to be at risk of having cervical cancer. Fear of results was probably due to perception that if the respondent tested positive after screening, they would be stigmatized by the society. Knowing an individual's screening results is a cause of fear to screen among the respondents. (Kandie et al., 2019).

A study done in Webuye, western Kenya on factors influencing uptake of cervical cancer screening among rural women found out there were various obstacles to accessing cervical cancer screening, 37.8% explained that they needed more information pertaining the disease,

13.5% were concerned about their privacy which they considered as an intrusion, while 10.3% thought the test was too expensive (Kimani et al., 2015).

A Study on integration of cervical cancer screening revealed that distance from facilities, embarrassment during examination, long waiting time before being attended are associated with low uptake of cervical cancer screening services (Munoru et al., 2019).

A study by Opore (2016) at Mbagathi Hospital, Kenya on factors contributing to underutilization of cervical cancer screening services in Kenya identified negative beliefs and attitudes towards the concept of screening and prevention as a barrier contributing to low uptake of screening services.

In Migori County, Kenya, Oketch et al., (2019) reported that women indicated to have a positive experience with the HPV self-sampling strategy. Influence on uptake of cancer of the cervix screening services included knowledge, prior awareness of human papilloma virus, perception of cervical cancer by individuals and partner and peer encouragement. However, most of them pointed out that they were paranoid about death associated with cancer of the cervix and the examination.

Research has also suggested that a lack of male involvement may be an overlooked obstacle to cervical cancer screening (IARC 2014).

2.7 Summary of Literature Review

The literature review includes a review of the background of cervical cancer disease and screening, Influence of socio- demographic factors, Utilization of cervical cancer screening services, Influence of awareness about screening on utilization, Influence of knowledge about the cancer disease, signs and symptoms and risk factors on utilization, and the Barriers that influence utilization of cervical cancer screening services globally.

The literature reviewed posited that cervical cancer is considered an important public health problem both in developing and developed countries. Despite the availability of screening tools, majority of the women do not seek these services. Multiple studies have assessed the factors affecting the utilization of cervical screening programs across the globe. These factors have been

synthesized collectively and appraised in this literature review. The literature review found different knowledge related factors, Awareness about screening services, uptake of services and barriers affecting the utilization of cervical screening program among women.

From the reviewed studies, it is noted that the selected variables play a significant part in influencing the performance. However, some studies have presented weaknesses and limitations in various aspects. These form the basis of argument of the current study to fill them. For instance, the

Ebu (2018) conducted a research on the influence of socio-demographic characteristics on cervical cancer screening intention of HIV-positive women in the central region of Ghana. The study was based on HIV-positive women and thus neglected the influence the uptake has on other women hence a conceptual gap.

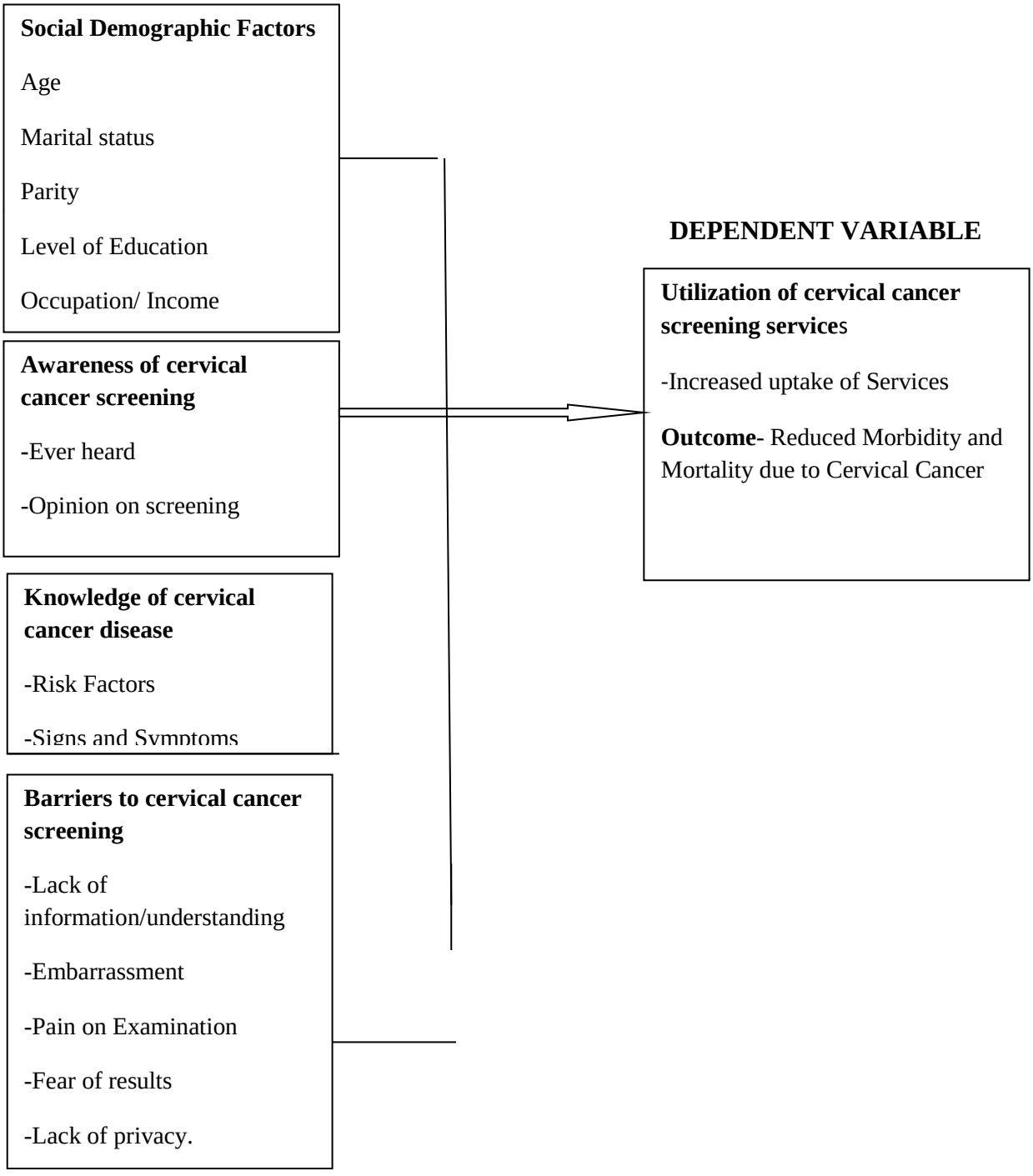
Woldetsadik et al., 2020 examined the impact of socio-demographic features on cervical cancer screening for women attending St. Paul's Teaching and Referral Hospital. The study presented a contextual and conceptual gap since the focus was only on socio-demographic features leaving out the influence, knowledge, altitude and practices have on the uptake of cancer of the cervix screening services.

Despite the implementation of such interventions in the county, there is scanty data on the influence of these strategies on utilization of cancer of the cervix screening services in Migori County. This, therefore, calls for the need to carry out this study on the utilization of cervical cancer screening services.

A review of literature on barriers to cervical cancer screening generally found that women were concerned about the screening procedure and potential negative outcome, low level of awareness about services, embarrassment and possible violation of privacy, lack of spousal support, societal stigmatization, cost of accessing services and health service factors like proximity to facility, waiting time and negative health care personnel attitude

2.8 Conceptual Framework

INDEPENDENT VARIABLES



Figiure 2.1: Conceptual Framework Source: Adopted and modified from the literature review (2020)

CHAPTER THREE

METHODOLOGY

This chapter sets out the research methodology used to meet the research objectives. research design, Population of interest, sampling procedures, and data collection methods and instruments and data analysis techniques are outlined here.

3.1 Background of study Area

The Migori County Referral Hospital acts as a referral point to a multi-ethnic population of approximately 50,623 persons within its catchment area but serves a larger population spread out in the eight sub counties in Migori as per 2019 population census. The hospital is located within urban area of Suna-East sub-county, Suna-Central ward, Wasweta-I sub location in Migori county. It lies at a latitude of -1.063132 and longitude 34.477354. The facility started as a dispensary and was later upgraded to a health centre and eventually to a district hospital in 1992 with gazettement done in 1995.

The facility was later upgraded to a Referral Hospital in 2013 during devolution. The hospital has a Bed capacity of 500. The health seeking behavior of this population is determined by several factors ranging from affordability, availability of essential commodities, knowledge and awareness of available services among others. Half of the population is below the age of 15 years 42.3% (KNBS, 2019).

The community is not spared from the viscous cycle of poverty and ill health. The poverty index is high at 43% (KNBS 2019). There is high disease burden from communicable diseases (Malaria, Respiratory conditions Tuberculosis, Diarrhea and HIV/AIDS with a prevalence of 13%), Non-communicable diseases like Hypertension, Diabetes Mellitus and Cervical Cancer are on the rise and are the major causes of morbidity and mortality.

The institution offers Curative, Preventive, Promotive and Rehabilitative services. It has 3 main units; The out-patient department which houses the Laboratory, MCH/FP clinic, Pharmacy, Dental, Casualty, Comprehensive care centre, Eye care clinic, ENT clinic, Radiology, Orthopedic, General outpatient clinics such as; MOPC,SOPC,OBS/GYN,POPC, Physiotherapy and occupational therapy departments which also extend their services to in patient. The in-patient comprise Maternity Unit, Obs/Gyne, NBU, HDU, Surgical Wards, Male and Female Wards, Operating Theatres and Renal Unit, Lastly the Administrative unit under which there is the Accounts, Transport and Human resource management.

3.2 Study Design

A cross-sectional analytical study design was used to generate data through administered questionnaires. This was appropriate for this study because it involves fact finding and inquiries.

3.3 Sampling procedure and sample size determination.

3.3.1 Sampling procedure

The target population for this study comprised of women of age 25-49 years attending post-natal care services at the Migori County Referral Hospital. Purposive sampling method was used to select the subjects who would provide the required information. These women were identified on arrival at the facility until the required sample was achieved.

Any woman aged 25-29 years who had delivered or had a miscarriage between 6-8 weeks earlier (Puerperium) visiting the clinic and who accepted to participate met the criteria until the designated sample size for the study was reached.

During this visit, all women are counseled and are expected to undergo post-natal care which includes cervical cancer screening among other services. These women therefore had at least some information in respect to the objectives of the study.

3.3.2 Sample Size determination.

The appropriate sample size was calculated using Fisher's formula (Mugenda and Mugenda 2003) based on 95% confidence interval and assuming the uptake of cervical cancer screening of 23% based on data from a previous study on a similar population in Homabay, Kenya (Mayaka,et al *2018).*

Formula:

$$n = \frac{Z^2 ([P (1 - P)}{d^2}$$

n = the required sample size (Target population>10,000)

Z = the critical value associated with the level of significance (Standard Deviation)

Z = 1.96 for 95% level of confidence

P = Proportion of Target population with common observable characteristics =(23%)

q = 1-P

d = 0.05 degree of precision (Error of Margin)

$$n = \frac{1.96^2 [(0.230 (1 – 0.230)]}{0.05^2}$$

Therefore, the desired sample size was 272.

10% questionnaires were added for non response, making a total of 299 questionnaires. A total of 274 questionnaires were completed.

3.4 Data Collection Methods and Materials

Primary data was collected through individual semi-structured interviews, through a face-to-face interaction between interviewer and interviewee (Mays & Pope, 2000). This is preferred to bring out detailed information about a person's thoughts and behaviors or to help explore new issues in detail (Kuper *et al.,* 2008).

The interviews allowed all women, irrespective of their literacy levels, to participate in the study. Based on literature review, the reviews contained both open and closed-ended questions, enabling the collection of biographic data, women's Awareness of screening services, knowledge of cervical cancer disease, and barriers to cervical cancer screening. The questionnaires were translated to local dialects (Dholuo and Kiswahili) to enhance understanding during data collection and the responses were back translated to English.

The study purpose was explained to each respondent and an informed consent obtained. After each interview, the interviewee got the opportunity to ask questions.

3.4.1 Selection and training of the research assistants.

The 6 research assistants were recruited from service providers because they had a better understanding of cervical cancer screening and were therefore better placed to interpret and clarify the questions to interviewees. They were trained for two days on the data collection tools

3.4.2 Pretesting

The instrument was pre-tested by interviewing 15 women with similar characteristics visiting the MCH/FP Clinic at the neighboring St. Joseph's Hospital to check for feasibility and reliability. The information collected during the pre-test was not included in the study.

3.4.3 Validity and Reliability

The structured interview schedule was based on literature review and pre-tested by conducting interviews with 15 women with similar characteristics who were excluded from the actual study. The questionnaire was well structured to ensure that the questions remained focused, accurate and consistent. Peer proof reading was used to ensure both face and content validity of the

instruments. This helped in assessing the appropriateness, the meaningfulness and usefulness of the instrument in meeting the purpose of the study. Conducting structured interviews helped prevent selection bias based on literacy and ensured structural coherence throughout all interviews. The questionnaire was in English. However, this could easily be translated in Kiswahili or the local language during the interview.

3.4.4 Quality control

To ensure quality of data the tools were counter checked and approved by the supervisor. The research assistants were trained on the data collection tools and data quality assurance. Data collected was checked daily to ensure completeness, clarity and correct translation of the information. The researcher used different research approaches, themes and probing questions for clarity.

3.5 Data Management and Analysis.

The data was processed in steps; Data cleaning and sorting was done to eliminate inaccuracies and omissions. Validation involved checking the completeness of the data collected by the research assistants while in the field; the information was coded into the respective categories illustrating the various themes. Data editing included examining ranges of responses for each individual variable through frequency distribution.

Analysis was done using Statistical Package for Social Sciences (SPSS) version 25.0. Likert scale was used to determine respondents' perception on risk factors for cervical cancer, general opinion on cervical cancer and Barriers to screening where mean scores of each statement was used to rate the respondents' response to the statements. Bivariate analysis was conducted to examine possible associations between utilization of cervical cancer screening and the predictor variables (socio-demographic characteristics, awareness of cervical cancer screening and knowledge on cervical cancer disease. This was done using Pearson's Chi Square. Association was considered significant when p-value was equal or greater than 0.005

3.6 Results presentation

Frequency distributions and tables were used to describe the social demographic characteristics of the study participants and to summarize key study variables. Initial analyses involved generating frequency tables and graphs and pie charts as appropriate. Likert analysis was used to summarize the respondents' opinion on cervical cancer and knowledge of cervical cancer disease, risk factors, signs and symptoms and barriers to utilization. Secondary analysis explored statistical association between the variables.

3.7 Ethical Considerations

Authorization was obtained from the Ethical clearance from the ethical research Committee of Great Lakes University of Kisumu (GLUK)-Ref GREC/626/12/11/2020 and the National Council for Science Technology and Innovation (NACOSTI)-Ref 129992 prior to conducting the research. Permission was sought from Migori County Referral Hospital Medical Superintendent-Ref MIG/CDH/TR/VOL H/94, before initiating the actual research data collection. Respondents were assured that data collected from them would be used with strict confidentiality and for the sole purpose of meeting the objectives of this study. They signed an informed written consent and participation was voluntary. Anonymity and confidentiality was assured by assigning questionnaires unique identifiers/codes.

3.8 Inclusion and Exclusion criteria.

3.8.1 Inclusion Criteria

i) All woman aged 25-29 years who had lived in Migori County for more than 3 months

ii) delivered or had a miscarriage between 6-8 weeks earlier (Puerperium) visiting the clinic

iii) Women who consented

3.8.2 Exclusion Criteria

i) Those who did not give consent to participate in the study

3.9 Study Limitations and Delimitation

Potential weaknesses in a study which are out of the researcher's control are limitations while actions taken by the researcher in order to take care of the limitations that arise from the research are delimitations (Simon, 2011). The study was limited to women of ages 25 years to 49 years attending post natal services at the County Referral Hospital, Migori County. Limiting the study to only these women may not represent the whole County. In addition, the study findings were generalized to the entire population. This study experienced a number of limiting factors. For instance, the researcher anticipated unwillingness from respondent to give information. This was addressed by reassuring the respondents of confidentiality.

Missed opportunities presented due to time constraint for the women hurrying to receive the service before the clinic ended and to rush home to prepare lunch for their school going children. The research assistants were timely and this helped address the limitation of time. The tool was not translated to the local language. This may have led to some misinterpretation of some of the questions or words by the research team. To mitigate this, local research assistants were used who understood the local language and were trained on how to ask the questions and probe where necessary. The uptake of screening was self reported by the respondents and this was not verifiable. To mitigate this, a follow up question was asked as to when the last time screening had been done. The respondents were also asked to be truthful as the data would be used to plan future interventions in the study site. There was financial constraint which the researcher addressed through personal savings and support from family members.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter provides the presentation and interpretation of analyzed data collected from respondents. The chapter also provides the major findings as well as results of the research.

4.2 Response Rate

A total of 299 questionnaires administered, out of which, 274 questionnaires were completed translating to a 91.6% response rate. However, out of the 274 questionnaires completed, 272 questionnaires were considered to be useful which further translates to a 99.3% response rate which was considered sufficient for analysis. The response rate was excellent, representative and conforms with Mugenda and Mugenda (1999) stipulation that a response rate of over 70% is excellent.

4.3 Demographic Characteristics of the Respondents

Table 4.1 shows the social demographic characteristics of the respondents. The Study findings show that most participants were aged were aged between 25-29 years, 193(71%) while 51(19%) were between 30-34 years. Proportions of participants in different age groups varied across the sample. Study findings revealed that majority of the respondents 191(70%) were married, 61(23%) single, 15(6%) had separated, 2(1%) , divorced and 3(1%) widowed. Majority of the respondents had between 1-2 children 180(66%).

Respondents level of education depicted that 116(43%) had tertiary education as their highest level of education, 108(40%) had attained secondary education and 48(17%) primary level.

On religion, it was established that 141(56%) were Protestants, Catholics were 96(38%) , Muslims 7(3%) with 6(2%) forming other religions.

On occupational status, the study revealed that below half 104(39%) of the respondents were self employed while 99(38%) were unemployed. This is an indication of the escalating

unemployment rate which makes most of the respondents depend on self employment. Only 24(9%) were employed full-time .The results further showed that 71(35%) of the respondents had a monthly income of between Ksh.1,000 and Ksh.5,000, 64(28%) earned less than Ksh.1,000, 50(22%) earned between Ksh.5,000 - Ksh.10,000, 24(9%) had a monthly income of between Ksh.10,000- Ksh.20,000 and 24(9%) had a monthly income of more than Ksh.20,000. The results were presented in the table 4.1

Table 4.1: Socio-demographic characteristics of the respondents (n= 272)

Variable	Characteristic	Frequency	Percent
Age	**25-29**	193	71
	30-34	51	19
	35-39	18	7
	40-44	9	3
	45-49	1	1
Parity(Deliveries)	**0+(Miscariages)**	6	2
	1-2	180	66
	3-4	64	24
	5+	22	8
Marital Status	**Married(with Partner)**	191	70
	Single	61	22
	Married(Separated)	15	6
	Divorced	2	1
	Widowed	3	1
Education Level	**Primary**	48	17
	Secondary	108	40
	Tertiary	116	43
Religion	**Catholic**	100	37
	Protestant	141	52
	Muslim	10	4
	Others	21	7
Employment status	**Employed Full-time**	24	8
	Employed part time	16	6
	Unemployed	99	38
	Self-employed	104	39
	Full time home maker(house wife)	29	10
Monthly Income	**< 1000**	142	52
	1000-5000	49	18
	5000-10000	33	12
	10000-20000	24	9
	>20000	24	9

4.3.1 Relationship between socio-demographic factors and utilization of cervical cancer screening service.

The study sought to determine the influence of socio-demographic factors on utilization of cervical cancer screening services. Results showed that slightly above a half, 55 (55%) of the respondents who had utilized cervical cancer screening services were aged between 25- 29 years. There was a relationship between age of the respondent and utilization of cervical cancer screening services (p=0.000).

Majority of the respondents 66 (66%) who had utilized cervical cancer screening services were married living with partner. However, there was no statistical relationship between cervical cancer screening services and marital status (p=0.112). On parity and cervical cancer screening, 51(51%) of those who had utilized the services had between 1-2 children. There was a significant relationship between parity and utilization of cervical cancer screening services (p=0.001)

The study found out that slightly above half of the respondents 52 (52%) who had utilized cervical cancer screening services had tertiary education as their highest level of education. There was a significant relationship between level of education and cervical cancer screening services (p=0.046).

Regarding religion, most of the respondents 59 (59%) who reported to have utilized cervical cancer screening services were Protestants. However, there was no relationship between religion and utilization of cervical cancer screening services (p=0.150).

On employment status, the results showed that slightly less than half 40 (40%) of the respondents who utilized cervical cancer screening services were self-employed. There was a relationship between employment and cervical cancer screening services (p=0.000).

Concerning income, the results further revealed that, below half 32 (32%) of the respondents who utilized cervical cancer screening services earned between Kshs 1000- 5000. There was a statistical relationship between level of income and utilization of cervical cancer screening services (p=0.000)

Table 4.2: Cross tabulation between Demographic factors and the utilization of cervical cancer screening services

	Dependent variable and Utilization of cervical cancer screening			
Variable	**Characteristic**	**Yes(n=100)**	**No(n=172)**	**Statistical inference**
Age	**25-29**	55	136	df=4
	30-34	24	19	
	35-39	13	5	$\chi 2$ =23.9
	40-44	7	2	
	45-49	1	2	p=0.000
Parity(Deliveries)	**0+(Miscarriages)**	2	4	df=7
	1-2	51	129	
	3-4	30	34	$\chi 2$ =24.37
	5+	17	5	p=0.001
Marital Status	**Married(with Partner)**	66	125	df=4
	Single	24	37	$\chi 2$ =7.5
	Married(Separated)	6	9	p=0.112
	Divorced	2	0	
	Widowed	2	0	
Education Level	**Primary**	18	29	df=2
	Secondary	30	77	$\chi 2$ =6.14
	Tertiary	52	66	p=0.046
Religion	**Catholic**	29	71	df=3
	Protestant	59	82	$\chi 2$ =5.31
	Muslim	7	3	p=0.150
	Others	5	16	
Employment status	**Employed Full-time**	16	8	df=4
	Employed part time	11	4	
	Unemployed	26	73	$\chi 2$ =23.9
	Self-employed	40	64	
	Full time home maker(house wife)	7	23	p=0.000
Monthly Income	**< 1000**	23	119	df=4
	1000-5000	32	17	
	5000-10000	26	7	$\chi 2$ =21.038
	10000-20000	5	19	
	>20000	14	10	p=0.000

4.4 Utilization of Cancer screening services

The study findings revealed that majority of the respondents 172(63%) have not been screened of cervical cancer while 100(37%) have been screened of cervical cancer as shown in figure 4.1 below.

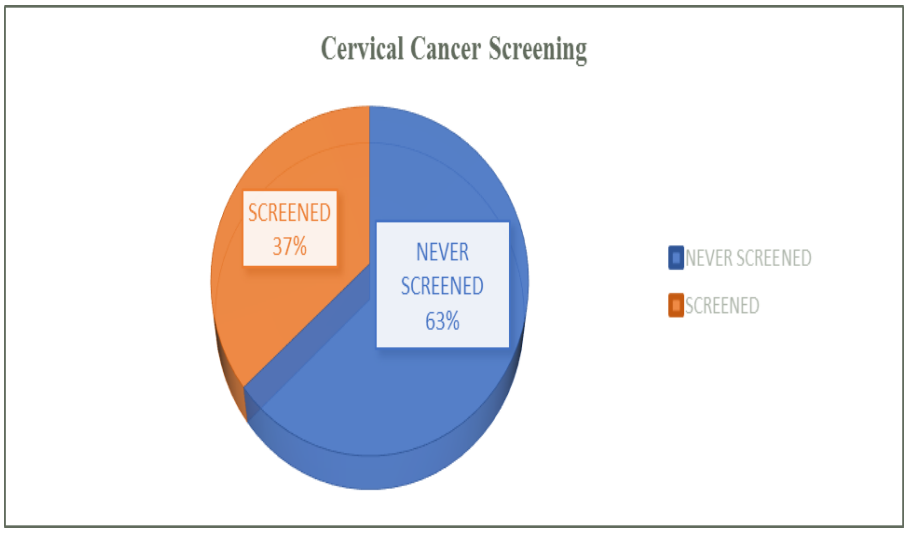


Figure 4.1 Respondent's Cervical Cancer Screening Uptake

4.5: Awareness of Cervical Cancer screening services.

According to the study findings, majority of the respondents, 227(83%), had heard about cervical cancer screening services, while 45(17%) had not heard about the services as shown in Figure 4.2.

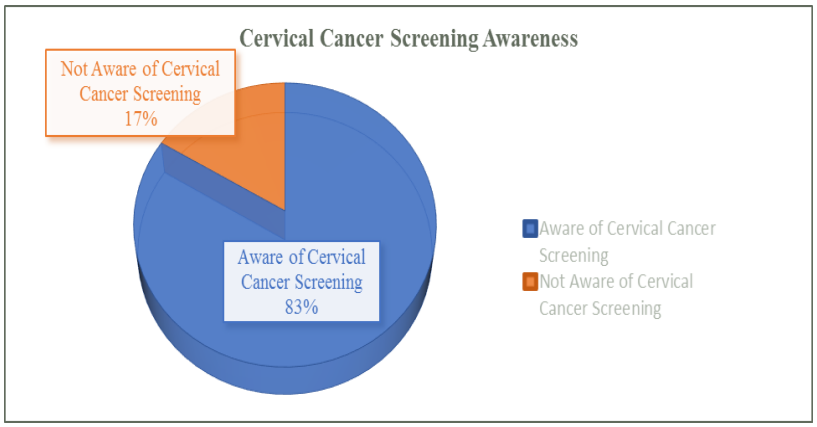


Figure 4.2: Respondents' Awareness of Cervical Cancer Screening

4.5.1 Source of Information on Cervical Cancer Screening

The study findings further revealed that, of the 227(83%) respondents who had heard of cervical cancer screening services, 124(53%) got information from a health worker (doctor, nurse, community health worker), 37(16%) friends, 36(15%) media (newspaper, radio, TV and poster),18 (8%) religious groups, 13(6%) family member and 6(3%) women groups as shown in figure 4.3 below.

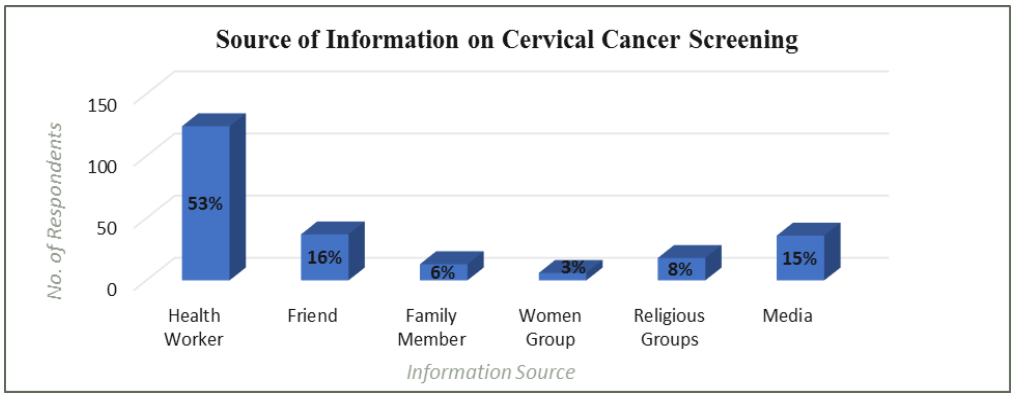


Figure4.3: Respondents' Source of Information on Cervical Cancer Screening

4.5.2 Knowledge of Cervical Cancer Prevention

According to the research findings, majority of the respondents 196 (75%) reported that cervical cancer can be prevented, 11(4%) felt there was no prevention and 56(21%) had no idea whether cervical cancer could be prevented or not as shown in the figure 4.4 below

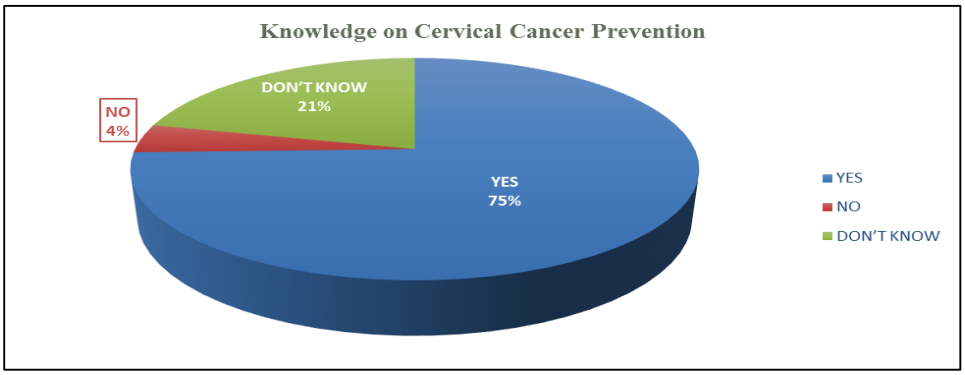


Figure 4.4: Knowledge of Cervical Cancer Prevention

4.5.3 Cervical Cancer Prevention Methods

From the possible cervical cancer prevention measures, 186(68%) of the respondents reported that routine screening could prevent cervical cancer ,160(59%) reported vaccination with HPV vaccine as a measure, 91(33%) follow up on screening results, 85(31%) reported that limiting the number of sexual partners could prevent cervical cancer, 80(29%) reported that using condoms consistently and correctly during intercourse could prevent cervical cancer and 55(20%) reported not smoking and avoiding second hand smoke as a cervical cancer prevention measure as shown on Table 4..3

Table 4.3 cervical cancer preventive methods

Mode of Cervical Cancer Prevention	Frequency	Percentage
Routine Screening	186	68
Vaccination with HPV Vaccine	160	59
Following up on abnormal screening results	91	33
Limiting the Number of Sexual Partners	85	31
Using a Condom if one is sexually active	80	29
Not Smoking and avoiding second hand smoke	55	20

4.5.4 Awareness of Factors for Screening

The Table 4.4 below shows questions seeking the respondent's opinion on cervical cancer screening. The respondents were required to indicate True or False to the 10 listed indicators. Six of the indicators listed required TRUE for an answer while the remaining 4 are FALSE.

Tables 4.4 below shows, majority of the respondents believe that;

- Cervical cancer screening is painful
- A woman can ask to be screened of cervical cancer even if she feels healthy
- A positive cervical cancer screening test means a woman has cancer
- A woman should be screened of cervical whenever she wants
- Cervical cancer screening should be routine
- A woman should be screened of cervical cancer when advised by a health worker
- Cervical cancer screening helps a woman know if she has a problem with her cervix
- Cervical cancer screening is not a cervical cancer vaccine
- Cervical cancer screening does not tell a woman she has a fatal condition with no cure
- A woman should be screened of cervical cancer more than once in her life

Table 4.4 Awareness of factors for cervical cancer screening.

	STATEMENT		TRUE	FALSE
Q1	It is like a vaccine, once a woman gets it, she will not get cervical cancer	Frequency	98	174
		Percentage	**36%**	**64%**
Q2	It is painful	Frequency	151	121
		Percentage	**56%**	**44%**
Q3	A woman can ask to be screened even if she feels healthy	Frequency	232	40
		Percentage	**85%**	**15%**
Q4	It tells a woman she has a fatal condition that there is no cure	Frequency	62	210
		Percentage	**23%**	**77%**
Q5	A positive test means a woman has cancer	Frequency	184	88
		Percentage	**68%**	**32%**
Q6	A woman should be screened only once in her life	Frequency	4	268
		Percentage	**1%**	**99%**
Q7	A woman should be screened whenever she wants	Frequency	230	42
		Percentage	**84%**	**16%**
Q8	Cervical cancer screening should be routine	Frequency	228	24
		Percentage	**90%**	**10%**
Q9	A woman should be screened when advised by a health worker	Frequency	190	82
		Percentage	**70%**	**30%**
Q10	It helps a woman know if she has a problem with her cervix	Frequency	268	4
		Percentage	**99%**	**1%**

4.6 Influence of Awareness of cervical cancer screening on utilization of screening services, Majority of the participants had awareness on cancer of cervix screening. The study found a statistically significant relationship between awareness of screening among women aged 25 years to 49 years and utilization of cervical cancer screening services as shown on Table 4.5

Table 4.5: Cross tabulation between Awareness of cervical cancer screening and the utilization of cervical cancer screening services,

		Utilization of Cervical Cancer Screening Services		Total	
		Utilized	**Never Utilized**		
Awareness of Cervical Cancer Screening	Ever Heard	97	130	**227**	df=1
	Not Heard	3	42	**45**	$\chi 2$ =21.184
Total		**100**	**172**	**272**	P=0.000

4.7 Knowledge on Cervical Cancer, signs and symptoms and Risk Factors

4.7.1 Ever heard of Cervical Cancer

According to the study findings, majority of the respondents, 233 (86%), had heard of cervical cancer, while 39 (14%) had not heard of cervical cancer as shown in Figure 4.5 below

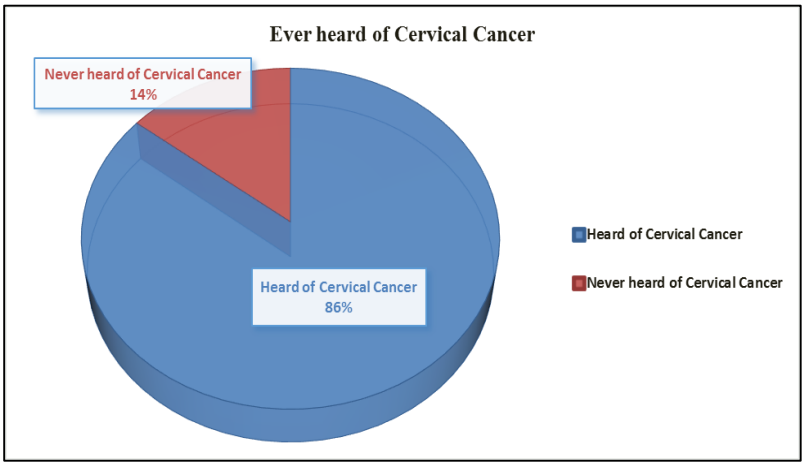


Figure 4.5: Ever heard of Cervical Cancer/Not Heard

4.7.2 Source of Knowledge on Cervical Cancer

From the findings, of the 233 (86%) respondents who had heard of cervical cancer, 109 (44%) had received information from a health worker (doctor, nurse, community health worker), 56 (25%) became knowleagable through a friend, 32 (14%) through the media (newspaper, radio, TV and poster) and 25 (11%) through a family member as shown in Figure 4.6 below.

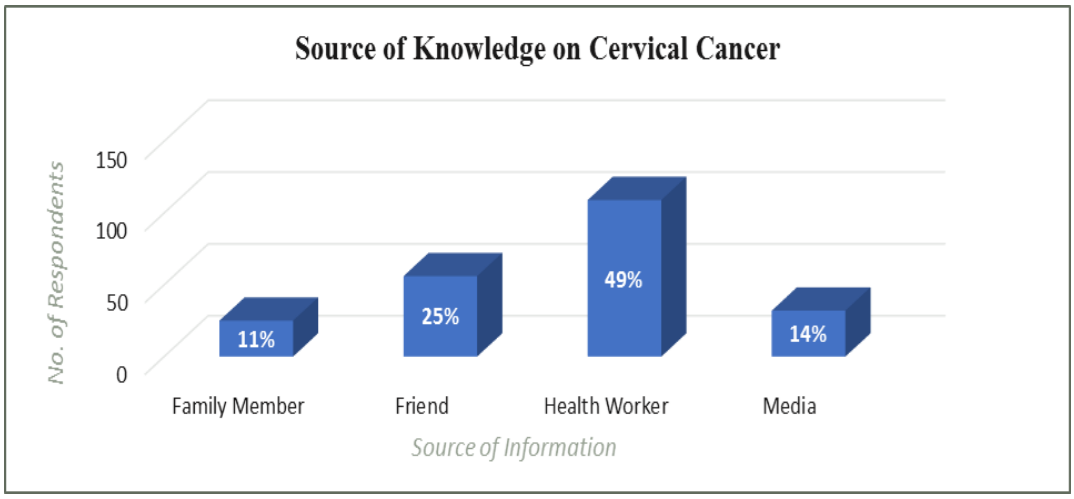


Figure 4.6: Respondents' Source of Knowledge in Cervical Cancer

4.7.3: Influence of Knowledge on cervical cancer disease on Utilization of Cervical Cancer Screening.

Study findings show that knowledge on cervical cancer disease is high among the respondents, however findings show that above half of the respondents' partners are not aware of cervical cancer. There is good knowledge on disease progression but about 60% of the respondents lack knowledge on appropriate age for cervical cancer screening. There is poor knowledge on the risk factors and on signs and symptoms of the disease. The study findings suggest that there exists an association between knowledge on cervical cancer and the utilization of cervical cancer screening services as shown on Table 4.7 below

Table 4.6: Cross tabulation of Knowledge on cervical cancer disease and Utilization of Cervical Cancer Screening.

		Utilization of Cervical Cancer Screening Services		Total	Statistical Inference
		Utilized	Never Utilized		
Knowledge on Cervical Cancer	Have Heard	95	138	**233**	df=2
	Have not Heard	5	34	**39**	$\chi 2$ =11.345
Total		**100**	**172**	**272**	P=0.001

4.7.4 Partner Awareness of Cervical Cancer

According to the study findings, of the 191(70%) respondents who are married, partners to 107(56%) are not aware of cervical cancer, while the partners to the remaining 84(44%) are aware of cervical cancer as shown in figure 4.7 below.

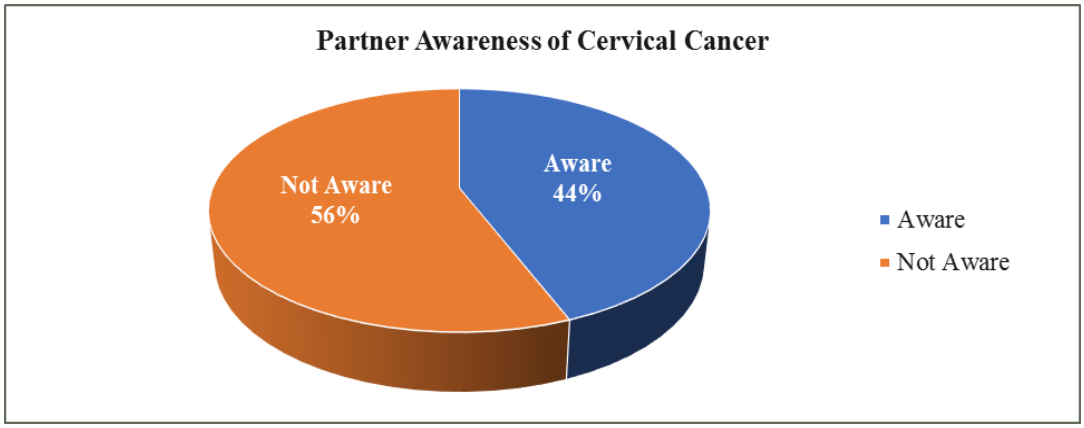


Figure 4.7: Partner Awareness on Cervical Cancer

4.7.5 Respondents' Opinion on Cervical Cancer

The study findings on Table 4.7 below revealed that a majority of the respondents strongly agreed that cervical cancer could be prevented through good health practices. Majority agreed on the following; that cervical cancer develops slowly and is preventable, cervical cancer screening can detect treatable, precancerous lesions before they progress to cancer, screening procedure is relatively simple, quick, and is not painful and that a positive test is not a death sentence. However majority of the respondents disagreed on the following; women aged 30 and older are more likely to develop cervical cancer than younger women, a few of the respondents thought women in their 30s and 40s should be screened at least once, quite a number disagreed and majority was not sure.

Table 4.7: Respondents' Opinion on Cervical Cancer

	Statement	Strongly Agree(1)	Agree (2)	Disagree (3)	Strongly Disagree (4)	Not Sure (5)	Mean	Std. Deviation
1	Good health practices can help prevent cancer	66%	30%	0%	0%	4%	1.46	0.862
2	Cervical cancer develops slowly and is preventable	52%	37%	0%	0%	12%	1.83	1.241
3	Screening can detect treatable, precancerous lesions before they progress to cancer	50%	39%	1%	0%	10%	1.80	1.162
4	Women aged 30 and older are more likely to develop cervical cancer than younger women	18%	9%	41%	1%	30%	3.16	1.424
5	Women in their 30s and 40s should be screened at least once	15%	20%	27%	1%	37%	3.24	1.498
6	The screening procedure is relatively simple, quick, and is not painful	44%	20%	3%	1%	32%	2.56	1.756
7	A screening test that is positive is not a death sentence	25%	60%	3%	1%	11%	2.12	1.157
Average							**2.31**	**1.300**

4.7.6 Knowledge on signs and symptoms of cervical cancer

The study findings show that majority of the respondents agreed that;

- A persistent vaginal discharge that smells unpleasant could be a sign of cervical cancer
- Discomfort or pain during sex could be a sign of cervical cancer
- Vaginal bleeding after menopause could be a sign of cervical cancer
- Menstrual periods that are heavier or longer than usual cannot be a sign of cervical cancer
- Persistent diarrhea cannot be a sign of cervical cancer
- Unexplained weight loss cannot be a sign of cervical cancer

However, majority of the respondents admitted not knowing whether;

- Vaginal bleeding between periods could be a sign of cervical cancer
- Persistent lower back pain could be a sign of cervical cancer
- Blood in the stool or urine could be a sign of cervical cancer

As shown in the Table 4.8 below.

Table 4.8: Signs and Symptoms of cervical cancer

	Knowledge on Signs and Symptoms /Warning signs		YES	NO	DON'T KNOW
Q1	Do you think vaginal bleeding between periods could be a sign of cervical cancer?	Frequency	64	96	112
		Percentage	**24%**	**36%**	**41%**
Q2	Do you think persistent lower back pain could be a sign of cervical cancer?	Frequency	58	93	121
		Percentage	**22%**	**35%**	**43%**
Q3	Do you think a persistent vaginal discharge that smells unpleasant could be a sign of cervical cancer?	Frequency	175	40	57
		Percentage	**65%**	**13%**	**21%**
Q4	Do you think discomfort or pain during sex could be a sign of cervical cancer?	Frequency	146	48	78
		Percentage	**55%**	**17%**	**28%**
Q5	Do you think menstrual periods that are heavier or longer than usual could be a sign of cervical cancer?	Frequency	43	131	98
		Percentage	**11%**	**51%**	**38%**
Q6	Do you think persistent diarrhea could be a sign of cervical cancer?	Frequency	27	164	81
		Percentage	**4%**	**64%**	**32%**
Q7	Do you think blood in the stool or urine could be a sign of cervical cancer?	Frequency	92	82	98
		Percentage	**34%**	**29%**	**37%**
Q8	Do you think unexplained weight loss could be a sign of cervical cancer?	Frequency	88	101	83
		Percentage	**32%**	**37%**	**31%**
Q9	Do you think vaginal bleeding after menopause could be a sign of cervical cancer?	Frequency	154	36	82
		Percentage	**57%**	**13%**	**30%**

4.7.7: Knowledge on Risk factors for Cervical Cancer.

The respondents were asked how much they agreed or disagreed to various factors that may increase a woman's chance of developing cervical cancer. The respondents were given a list of risk factors of cervical cancer from which they were to identify what is known to them in Table 4.9 below.

Findings from Table 4.9 below reveal that majority agreed that the following were risk factors for cervical cancer; smoking cigarettes, having a weakened immune system (e.g. Having HIV, Cancer) infection with sexually transmitted infections and having many sexual partners . However, majority of the respondents disagreed that the following were risk factors for cervical cancer; infection with Human Papilloma virus (HPV), long-term use of contraceptive pill, not going for regular smears having a sexual partner who is not circumcised and early sexual debut (before 17years). Majority of the respondents strongly disagreed and that having many children (>5) may increase a woman's chance of developing cervical cancer. Generally majority were in disagreement with most of the risk factors.

Table 4.9: Risk Factors for Cervical cancer

	Statement	Strongly Agree (1)	Agree (2)	Disagree (3)	Strongly Disagree (4)	Not Sure (5)	Mean	Std. Deviation
1	Infection with Human Papillomavirus (HPV)	31%	25%	1%	0%	43%	2.99	1.799
2	Smoking cigarettes	8%	61%	16%	6%	10%	2.49	1.061
3	Having a weakened immune system (e.g. Having HIV, Cancer)	27%	57%	0%	1%	15%	2.21	1.284
4	Long-term use of contraceptive pill	21%	40%	6%	10%	23%	2.74	1.482
5	Infection with sexually transmitted infections	4%	68%	9%	1%	18%	2.59	1.185
6	Having a sexual partner who is not circumcised	12%	30%	15%	13%	30%	3.18	1.450
7	Starting to have sex at young age (before 17years)	18%	25%	19%	2%	36%	3.13	1.554
8	Having many sexual partners	24%	42%	12%	5%	18%	2.52	1.384
9	Having many children (>5)	6%	1%	47%	15%	31%	3.64	1.117
10	Not going for regular smears	3%	52%	19%	5%	22%	2.90	1.242
Average							**2.83**	**1.355**

4.8: Barriers to Cervical Cancer Screening

The study respondents were given an opportunity to identify barriers to cervical cancer screening from Table 4.10 below

Table 4.10 below show that majority of the respondents strongly agree that lack of information about cervical cancer screening procedures and not knowing where to go for cervical cancer screening is a barrier to cervical cancer screening. Majority of the respondents agree that the following are barriers to cervical cancer screening; little understanding of cervical cancer , it is too embarrassing to do cervical cancer screening, lack of convenient clinic time, cervical cancer screening will only make one worry, the attitudes of health workers can discourage one from going for cervical cancer, the assumption among women that cancer screening services are offered at the big hospitals which are far and expensive, lack of husband/partner approval, fear of a vaginal exam among women, lack of designated rooms for screening at health facility (privacy) and long distances to a health facility. However majority of the respondents disagreed with the following as barriers to cervical cancer screening; the assumption among women that cervical cancer screening is painful, cervical cancer examination is for the sick persons, lack of female health care workers in health facilities, religion/culture beliefs and not suggested by the health care workers

Table 4.10: Barriers to Cervical Cancer Screening.

	Statements	Strongly Agree (1)	Agree (2)	Disagree (3)	Strongly Disagree (4)	Mean	Std. Deviation
1	Lack of information about cervical cancer screening procedures	46%	54%	0%	0%	1.54	0.499
2	Little understanding of cervical cancer	20%	75%	5%	0%	1.85	0.473
3	It is too embarrassing to do cervical cancer screening	14%	23%	61%	1%	2.49	0.753
4	Cervical cancer screening is painful	1%	41%	53%	5%	2.63	0.593
5	The exam is for the sick persons	0%	30%	52%	18%	2.88	0.685
6	Doing cervical cancer screening will only make one worry	9%	46%	38%	7%	2.43	0.755
7	Lack of convenient clinic time	20%	57%	17%	7%	2.10	0.789
8	Not knowing where to go for cervical cancer screening	25%	62%	12%	0%	1.88	0.615
9	Lack of female Health care workers in health facilities	16%	30%	35%	18%	2.55	0.973
10	Attitudes of health workers can discourage one from going for cervical cancer screening	27%	53%	5%	14%	2.07	0.947
11	Services are offered at the big hospitals which are far and expensive	23%	45%	19%	14%	2.23	0.952
12	Lack of husband/partner approval	6%	51%	32%	12%	2.49	0.777
13	The tests are very expensive	0%	61%	33%	6%	2.44	0.610
14	Fear of a vaginal exam	25%	63%	8%	5%	1.93	0.714
15	Not allowed by religion/culture	11%	36%	39%	15%	2.58	0.871
16	Not suggested by the health care workers	1%	41%	51%	7%	2.64	0.627
17	Lack of designated rooms for screening at health facility (privacy)	14%	43%	34%	10%	2.39	0.842
18	Long distances to a health facility	26%	59%	7%	8%	1.97	0.806
Average						**2.28**	**0.737**

CHAPTER FIVE
DISCUSSION

5.1 Socio-demographic factors and utilization of cervical cancer screening services

The study sought to determine the influence of socio-demographic factors on utilization of cervical cancer screening services. Results showed that majority of the respondents who had utilized cervical cancer screening services were aged between 25- 29 years.

The younger women were utilizing screening service more than the older ones. This can be attributed to the fact that younger women have higher self-vulnerability perception than older ones and also more knowledgeable hence they tend to take precautions more. This study found statistical relationship between age of the respondent and utilization of cervical cancer screening services(P-value 0.000). These findings are consistent with a study conducted in Nigeria which showed that young women were more acceptable to cervical cancer screening than older women (Ifemelumma et al., 2019).

However, other studies have shown that there is no statistical relationship between the respondents age and utilization cancer of the cervix screening services. A study done in Korea, posited that age did not influence intention to seek for cervical screening services (Park *et al*, 2015).

The study findings showed that majority of the respondents were married. There was however, no statistically significant relationship between utilization of cancer of cervix screening services and marital status of the respondents(P-Value 0.112). These results conform to research findings by Ebu (2018) which showed that marital status did not influence screening for cancer of the cervix.

These results however are contrary to a study by Ajibola et al., (2016) which revealed that married women sought for screening services more because they received moral support and encouragement from their husbands or partners.

Regarding educational status of respondents, the study revealed that majority of respondents had secondary level of education. Majority of the respondents who had utilized cervical cancer screening services had tertiary education as their highest level of education. There was a statistically significant relationship between utilization of cancer of the cervix screening services and the level of education of the respondents(P-Value 0.046). This implies that education is an

enabling factor to a positive health seeking behavior. The results are in agreement with those of a study done in Ghana which revealed that high educational level of the respondent can be a facilitating factor for screening more than those with low or no formal education (Ebu, 2017). However, lower screening results have been distinguished among women with higher level of education than for those without formal education in a study by Nyangasi et al., (2018) whose findings showed no relationship between level of Education and utilization of screening services.

Regarding religion, most of the respondents were Protestants. However, there was no relationship between religion and utilization of cervical cancer screening services(P-Value 0.1500).

On employment status, the results showed that majority of the respondents were self-employed. There was a significant relationship between employment and cervical cancer screening services in this study(P-Value 0.000). This is attributed to the fact that the employed can be able to afford the direct and indirect costs associated with seeking for cervical cancer screening services. This is in conformity with Mbaluka's study on utilization of cervical cancer screening in Kitui county that found a statistically significant relationship between utilization of cancer of the cervix screening services and occupation of the respondents (Mbaluka, 2020). The results are contrary to a study by Hoque et al. (2014) which revealed that there was no significant relationship between utilization of cancer of the cervix screening services and employment status of the respondent

Concerning income, the results further revealed that, majority of the respondents earned between Kshs 1000- 5000. There was a statistical relationship between level of income and utilization of cervical cancer screening services(P-Value 0.000). These study results conform to a study in Kenya which revealed that cost was associated with screening uptake (Abdikarim et al., 2017). Other Studies further indicate that economically disadvantaged women seldom pay attention to their symptoms or are unable to use preventive measures as a result of paying attention to the constraints faced by their families due to focus on the curative rather than preventive care (Black et al., 2019).

5.2 Utilization of Cervical cancer screening

According to this study, the rate of utilization of cervical cancer screening services in the County is still low at 34%. Several studies among women reveal similar low uptake of screening despite services being available up to the lower-level facilities. The study findings are consistent with other studies done across the world.

Australia and New- Zealand, despite having put in place strategies for cervical cancer screening leading to a drastic reduction in cervical cancer incidence and mortality, the overall national uptake of 47.3% is still below the required adequate uptake of 70 to 80% for a successful screening prevention program (Nwabichie et al., 2017).

In developing countries, the uptake of cervical cancer screening was 5.1% among women aged 20-49 years who had been done Pap smear (Wright *et al.*, 2014). In 2018, overall screening uptake was reported to be 19% in low-income and middle-income countries (LMICs), compared with 63% in high-income regions (Simms et al., 2018).

A study on utilization of cancer of cervix screening services and related factors among primary school teachers in Ilala Municipality, Dar es- Salaam, Tanzania, revealed poor uptake of the services. The utilization was 28% for women who were aged 20–29 years, 22% for those married and 24% for those of higher education (Kileo et al., 2015).

A Study exploring the uptake of cervical cancer screening among 900 women in Eastern Uganda reveals low screening rates despite participants having a high level of knowledge about cervical cancer and its risk factors, only 43 (4.8%) reported ever being screened(Ndejjo et al., 2017).

In Kenya, although screening services are available many women do not go for screening and mortality rate due to cervical cancer is still high. Uptake of cervical cancer screening was at 16% among women aged 30-49 years, which is disproportionate to the awareness on availability of the screening services at 47% among women (STEPS survey, 2015; Ng'ang'a et al., 2018).

5.3 Awareness of cervical cancer screening and utilization of screening services

According to the study findings, majority of the respondents are awareness of cancer of cervix screening with many obtaining information from a health worker. The research findings show that majority reported that cervical cancer can be prevented. Findings reveal moderate level of awareness on factors of screening. There is a statistically significant relationship between awareness the cervical cancer screening service among women aged 25 years to 49 years and utilization of the services(P-Value 0.000).

Study findings from Nyangasi et al., (2018) on the factors influencing the utilization of cancer of the cervix screening among Kenyan women and posited that the uptake of cervical cancer screening is low despite high awareness in Kenya. It was discovered that 16.4 percent were recently screened and 67.9 percent of those not screened were educated regarding cervical disease screening (Nyangasi et al., 2018). This conforms to this study where despite moderate level of awareness, uptake remained low.

This study results is also supported by a study by Mbaka *et al.*, 2018 on factors affecting uptake of Cervical cancer screening at Mama Lucy Hospital, Nairobi reported that in spite of high awareness of cervical cancer, the practice of screening was only at 5%. This shows that although advanced education and employment can impact on the awareness of cervical screening; it does not translate to increased uptake of screening (Siddharthar et al., 2014).

Awareness creation on cervical cancer screening to women would enhance early detection and treatment. (Wongwatcharanukul et al., (2014), found out in their study that majority of women were screened as a result of knowledge received through cervical cancer screening campaign they had attended.

Data from a Kenyan cohort study supports the potential role of increased awareness on cervical cancer screening uptake .Information given by health providers to the patients on accessibility of cervical cancer screening services significantly influenced women’s decisions to get screened (Vermandere et al.,2016)..

Mwangi et al., (2017) in their study on the impact of socio-demographic, social-economic and socio-cultural factors on the uptake of cervical cancer screening in low socio- economic settings in Nairobi, demonstrated statistically a relationship between use of VIA cervical screening and the degree of awareness among community members (Mwangi.et al*;* 2017). The results however depicted a low degree of awareness on cervical cancer prevention through screening was and this among different components led to low VIA screening.

5.4 Knowledge of cervical cancer Disease, Risk factors and utilization of screening services

Findings from this study suggest that there exists an association between knowledge on cervical cancer and the utilization of cervical cancer screening services(P-Value 0.001). The results are in agreement with a study done in Ghana, by Kokuro in 2017 that found a significant relationship between knowledge and utilization of cervical cancer screening respectively (Kokuro, 2017).

Similar results were given by Harsha *et al.,* (2014) who argued that knowledge about cervical cancer and screening can influence the uptake of screening.

A study among women seeking reproductive health services in Kisumu County, Kenya also indicated a significant association between respondent's knowledge of cervical cancer and screening uptake. (Sudenga et al, 2013).

A study by Kandie in Meru County showed that though respondents had heard about cervical cancer, majority of them did not know the cause of the disease. Inadequacy in knowledge significantly explained non-utilization of cervical cancer screening services. It shows that as knowledge and awareness of cervical cancer screening increased among women in Meru County, uptake of screening increased proportionately (Kandie et al., 2019).

A study conducted in Kibera, Kenya, revealed that the women lacked knowledge on cervical cancer, and were unable to go for timely screening because they could not identify signs and symptoms which is notable on the low utilization of screening services (Seng et al., 2018).

In a study done in Kisumu among women seeking services at the Jaramogi Oginga Odinga hospital, knowledge level on the signs and symptoms of cervical cancer was an important determinant for being screened for cervical cancer (Morema et al., 2014). When women are knowledgeable about the disease, its symptoms and how to prevent it, they are more likely to seek screening (Morema et al., 2014).

5.5 Barriers to cervical cancer screening

The study findings showed that majority of the respondents strongly agreed that lack of information about cervical cancer screening procedures and not knowing where to go for cervical cancer screening is a barrier to cervical cancer screening. Other barriers to cervical cancer screening as cited by majority are ; little understanding of cervical cancer , it is too embarrassing to do cervical cancer screening, lack of convenient clinic time, cervical cancer screening will only make one worry, the attitudes of health workers can discourage one from going for cervical cancer, the assumption among women that cancer screening services are offered at the big hospitals which are far and expensive, lack of husband/partner approval, fear of a vaginal exam among women, lack of designated rooms for screening at health facility (privacy) and long distances to a health facility. However majority of the respondents disagreed with the following as barriers to cervical cancer screening; the assumption among women that cervical cancer screening is painful, cervical cancer examination is for the sick persons, lack of female health care workers in health facilities, religion/culture beliefs and not suggested by the health care workers. These findings are supported by various studies;

In Brazil, a study on barriers to cervical cancer screening in women attending the Family Medical Program found that embarrassment was the greatest barrier to seeking professional services by women regardless of level of educational attainment. (Augusto et al., 2013).

A review of literature on barriers to cervical cancer screening in sub-Saharan Africa found that women were concerned about the screening procedure and potential negative outcome, low level of awareness about services, embarrassment and possible violation of privacy, lack of spousal support, societal stigmatization, cost of accessing services and health service factors like

proximity to facility, facility navigation, waiting time and negative health care personnel attitude (Lim &Ojo, 2017).

Other results that correlate with this study findings are; In Zimbabwe for example, many women had not been screened because of the belief that Pap smear test was frightening and painful (Mutambara et al., 2017).

A study done in Webuye, western Kenya on factors influencing uptake of cervical cancer screening among rural women found out there were various obstacles to accessing cervical cancer screening, they needed more information pertaining the disease, there was concern about their privacy which they considered as an intrusion (Kimani et al., 2015).

Munoru's study on integration of cervical cancer screening revealed that distance from facilities, embarrassment during examination, long waiting time before being attended are causes associated with low uptake of cervical cancer screening services (Munoru ,et al 2019).

CHAPTER 6
CONCLUSION AND RECOMMENDATION

6.1 CONCLUSION.

The study concludes that socio-demographic factors influence the utilization of cervical cancer screening. Age, Parity, Education, Employment and level of income, had a significant statistical relationship with utilization of cervical screening services while there was no statistical relationship for marital status and Religion. This implies that the likelihood to utilize cervical cancer screening services increases with those women who are employed, educated and younger women aged between 25 and 29 years.

Based on the findings, majority of the respondents were aware of cervical cancer screening services. There is a statistically significant relationship between awareness of the cervical cancer screening services among women aged 25 to 49 years and utilization of the services. Ironically, cervical cancer screening rates have remained low among the women despite the levels of awareness.

Study findings show that knowledge on cervical cancer disease is high among the respondent with good knowledge on disease progression. The findings suggest an association between knowledge on cervical cancer disease and the utilization of cervical cancer screening services. However respondents lack knowledge on appropriate age for cervical cancer screening and above half of the respondents' partners are not aware of cervical cancer. There is poor knowledge on the risk factors and on signs and symptoms of the disease.

The study findings show that majority of the respondents strongly agreed that lack of information about cervical cancer screening procedures and not knowing where to go for cervical cancer screening is a barrier to cervical cancer screening. This implies that inadequate information and little understanding of factors of screening has contributed to low uptake of cervical cancer screening services.

6.2 RECOMMENDATIONS BASED ON STUDY FINDINGS

Based on the findings of this study, the following recommendations are suggested:

1. The County Director should ensure there is intensified awareness on availability of screening services and importance of undergoing screening, cervical cancer disease, signs and symptoms and risk factors and management to all eligible women.
2. The Medical superintendent of the County Referral Hospital should mobilize resources for outreaches in order to take the services closer to the community other than waiting for the clients to come for the services at the hospitals.
3. The Medical superintendent of the County Referral Hospital should plan to extend the integration of cervical cancer screening to other service delivery points as; Out Patient Department (OPD) services including patient escorts and the comprehensive care centre as an opportunity for more women to be screened.

6.3 RECOMMENDATION FOR FURTHER RESEARCH.

1. Researchers should conduct a research exploring the Health system related factors affecting uptake of cervical cancer screening services.

6.4 OTHER OBSERVATIONS NOTED DURING THE STUDY.

1. The Health Department needs to mobilize resources to train additional staff within the county health facilities to ensure delivery of quality services. These staff should be regularly mentored and supervised regularly for sustained quality services.
2. Women attending post-natal clinic should be accompanied by their spouses where possible to foster male involvement as an important aspect in cervical cancer screening program. The study identified lack of awareness among the spouses.

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APPENDICES

1. QUESTIONNAIRE FOR RESPONDENTS

Utilization of Cervical Cancer screening services among women attending post natal care at the Maternal-child/ FP clinic at Migori county Referral Hospital, Migori county, kenya.

Respondent Consent

The nature and kind of study has been explained to me by the researcher. I understand the information I give shall be accorded the necessary confidentiality to benefit the study purpose. I will answer the questions as honestly as possible.

Signed……. Date……

Instructions: tick or fill the appropriate response(s)

Questionnaire ID: _____ Date: ___/___/_____ Sub-Location:_____

A. DEMOGRAPHIC INFORMATION

1. What is your age? _____

2. Date of birth_____

3. Parity (Number of previous deliveries)_____

4. What is your marital status?

a) Single (never married) b) Married (Living with partner)

c) Married (separated) d) Divorced

e) Widowed

5. What is the highest level of education you have obtained?

a) Primary b) Secondary

c) Technical college d) University

e) Other (specify)

6. What is your religion?

a) Catholic b) Muslim

c) Protestant d) Other (specify)

7. How long have you lived in this area?

a) Less than 3 months b) 3-6 months

c) 6-9months d) 9-12months

e) >1year

8. Are you currently?

a) Employed full time b) Employed part-time

c) Unemployed

d) Self employed e) Full time home maker (house wife)

f) Others (specify)

9. How much do you earn in a month?

a) Less than Ksh 1000 b) Ksh1000-5000

c) Ksh 5000-10,000 d) Ksh 10,000-20000

e) More than Ksh 20,000

B. QUESTIONS ABOUT HEALTH CARE

10.a) Is this the nearest facility to your home?

(1) Yes

(2) No

11.How far is this health facility from your home?

a) Less than 1 Kilometers (Km) b) 1Km to 2 Km

c) 2-3Km d) 3-4Km

e) More than 4Km (specify distance in Kilometers……

12) Do you usually come here for medical care when you are sick?

(1) Yes

(2) No

13) How long did it take you to reach here from home? Hours__ __ Minutes __ __

14) What mode of transport did you use?

15) How much does it cost to do travel to this health facility?

C. CERVICAL CANCER SCREENING AWARENESS

16. Have you ever heard of cervical cancer screening? If yes go to 17, if no skip to 18.

a) Yes

b) No

17. If yes, how did you know about the screening? Tick all that apply

a) Family members b) Friends

c) Nurse d) Doctor

e) Community health worker

f) Others (specify)……

18. Can cervical cancer be prevented? If yes go to question 19. If no skip to question 20.

a) Yes

b) No

c) Don’t Know

19. Cervical cancer can be prevented through the following methods. Please tick all that apply

a) Vaccination with HPV vaccine

b) Routine Screening

c) Limiting the number of sexual partners

d) Not smoking and avoiding secondhand smoke.

e) using a condom if one is sexually active

f) Following up on abnormal screening results

20. Have you ever been screened for cervical cancer before? if yes go to 21, if no skip to 22

a) Yes

b) No

21. When was the last time screening was done?

a) Less than 1 month ago

b) 3 months ago

c) Six months ago

d) 1 year ago-

e) 3 years ago

f) Over 5 years ago

22) a)Were you screened for cervical cancer today? (If ‘No’ go to question 25) (1) Yes (2) No
 Confirmed from clients file by interviewer.

b) Before being offered screening, was the procedure explained to you? (1)Yes (2)No (3)Not sure

23) How much does it cost to docervical cancer screening (specify)…….

24) How long does it take before one receives thecervical cancer screening results?

a) Hours (specify)…….

b) Days (specify)…….

c) Weeks (specify)…….

25) Would you tell your relatives or friends about cervical cancer screening? (1) Yes (2) No

26. What do you think of the following about cervical cancer screening (Indicate True or False)?

	TRUE	FALSE
(1) It is like a vaccine, once a woman gets it she will not get cervical cancer		
(2) It is painful		
(3) A woman can ask to be screened even if she feels healthy		
(4) It tells a woman she has a fatal condition that there is no cure		
(5) A positive test means a woman has cancer		
(6) A woman should be screened only once in her life		
(7) A woman should be screened whenever she wants		
(8) Cervical cancer screening should be routine		
(9) A woman should be screened when advised by a health worker		
(10) It helps a woman know if she has a problem with her cervix		

D) KNOWLEDGE ON CERVICAL CANCER AND RISKS

27. a) Have you heard about cervical cancer? (If 'No' proceed to question 29)

(1) Yes (2) No

If yes, from which of the following did you get that information from: (Check appropriate boxes)

(1) Health workers(specify type e.g. Doctor, Nurse etc.) (2) Friends,

(3) Family, (4) Women group meetings

(5) Religious groups(6) Media(specify-radio,TV,Newspapers,Posters)

(7) Others (specify)

28. **What is your opinion on the statements below**

	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	NOT SURE
a)Good health practices can help prevent cancer.					
b) Cervical cancer develops slowly and is preventable.					
c) Screening can detect treatable, precancerous lesions before they progress to cancer.					
d) Women aged 30 and older are more likely to develop cervical cancer than younger women.					
e) Women in their 30s and 40s should be screened at least once.					
f) The screening procedure is relatively simple, quick, and is not painful.					
g) A screening test that is positive is not a death sentence!					

29. What would be the best place to reach women with cervical cancer screening messages? Tick all appropriate.

a) Local women's groups

b) Places of worship (church/mosque)

c) Health facilities

d) At home / Family

e) Markets

f) Others (Specify)……

30. The following may be warning signs for cervical cancer. I am interested in your opinion

	YES	**NO**	**DON'T KNOW**
a) Do you think vaginal bleeding between periods could be a sign of cervical cancer?			
b) Do you think persistent lower back pain could be a sign of cervical cancer?			
c) Do you think a persistent vaginal discharge that smells unpleasant could be a sign of cervical cancer			
d) Do you think discomfort or pain during sex could be a sign of cervical cancer?			
e) Do you think menstrual periods that are heavier or longer than usual could be a sign of cervical cancer?			
f) Do you think persistent diarrhoea could be a sign of cervical cancer?			
g) Do you think blood in the stool or urine could be a sign of cervical cancer?			
h) Do you think unexplained weight loss could be a sign of cervical cancer?			

i) Do you think vaginal bleeding after the menopause could be a sign of cervical cancer?			

31. If you had a symptom that you thought might be a sign of cervical cancer, would you visit a health center?

a) Yes

b) No

c) Don't Know

RISK FACTORS FOR CERVICAL CANCER

32. The following may increase a woman's chance of developing cervical cancer. How much do you agree?

	STRONGLY AGREE	**AGREE**	**DISAGREE**	**STRONGLY DISAGREE**	**NOT SURE**
a) Infection with Human Papillomavirus (HPV)					
b) Smoking cigarettes					
c) Having a weakened immune system (e.g. Having HIV, Cancer)					
d) Long-term use of contraceptive pill					
e) Infection with sexually transmitted infections					
f) Having a sexual partner who is not circumcised					

g) Starting to have sex at young age (before 17years)					
h) Having many sexual partners					
i)Having many children (>5)					
j) Not going for regular smears .					

33. Does your partner/ husband know about cervical cancer? (1) Yes (2) No

34. What would you say your risk of getting cancer in the future is? (1) Low (2) Medium (3) High.

E) BARRIERS TO CERVICAL CANCER SCREENING

35) What's your opinion on the the following statements about what prevents women from seeking Cervical Cancer screening.

	STRONGLY AGREE	**AGREE**	**DISADREE**	**STRONGLY DISAGREE**
a) Lack of information about cervical cancer screening procedures				
b) Little understanding of cervical cancer				
c) It is too embarrassing to do cervical cancer screening.				
d) Cervical cancer screening is painful.				
e) The exam is for the sick				

persons				
f) Doing cervical cancer screening will only make one worry.				
g) Lack of convenient clinic time.				
h) Not knowing where to go for cervical cancer screening.				
i) Lack of female Health care workers in health facilities.				
j) Attitudes of health workers can discourage one from going for cervical cancer screening				
k) Services are offered at the big hospitals which are far and expensive.				
l).Lack of husband/partner approval				
m) The tests are very expensive.				
n)Fear of a vaginal exam				
o) Not allowed by religion/culture				
p)Not suggested by the health care workers				
q)Lack of designated rooms for screening at health facility (privacy)				
r) Long distances to a health facility				

36. Is there any other information you would be willing to share about cervical cancer screening in your community?

END

2. GREC

GREAT LAKES UNIVERSITY OF KISUMU

...your Community Partner...

GREAT LAKES UNIVERSITY OF KISUMU (GLUK)RESEARCH AND ETHICS COMITEE

(GREC)

P.O Box 2224-40100 KISUMU Tel. 0712054623/0736550505
Email: grec@gluk.ac.ke or researchcenter@gluk.ac.ke

Re: **Ref: GREC/626/12/11/2020** 10th December, 2020

TO: Ms. Alice A. Muga (Principal investigator)

Dear Madam,

RE: UTILIZATION OF CERVICAL CANCER SCREENING SERVICES AMONG WOMEN ATTENDING POST-NATAL CARE AT MERTERNAL CHILD /FP CLINIC AT MIGORI COUNTY REFERRAL HOSPITAL,MIGORI COUNTY KENYA

This is to inform you that *GREC* has reviewed and approved your above research proposal. Your application approval number is *626*. The approval period is *10th Dec, 2020-9th Dec 2021.*

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by *GREC*.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to *GREC* within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to *GREC* within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to *GREC*.

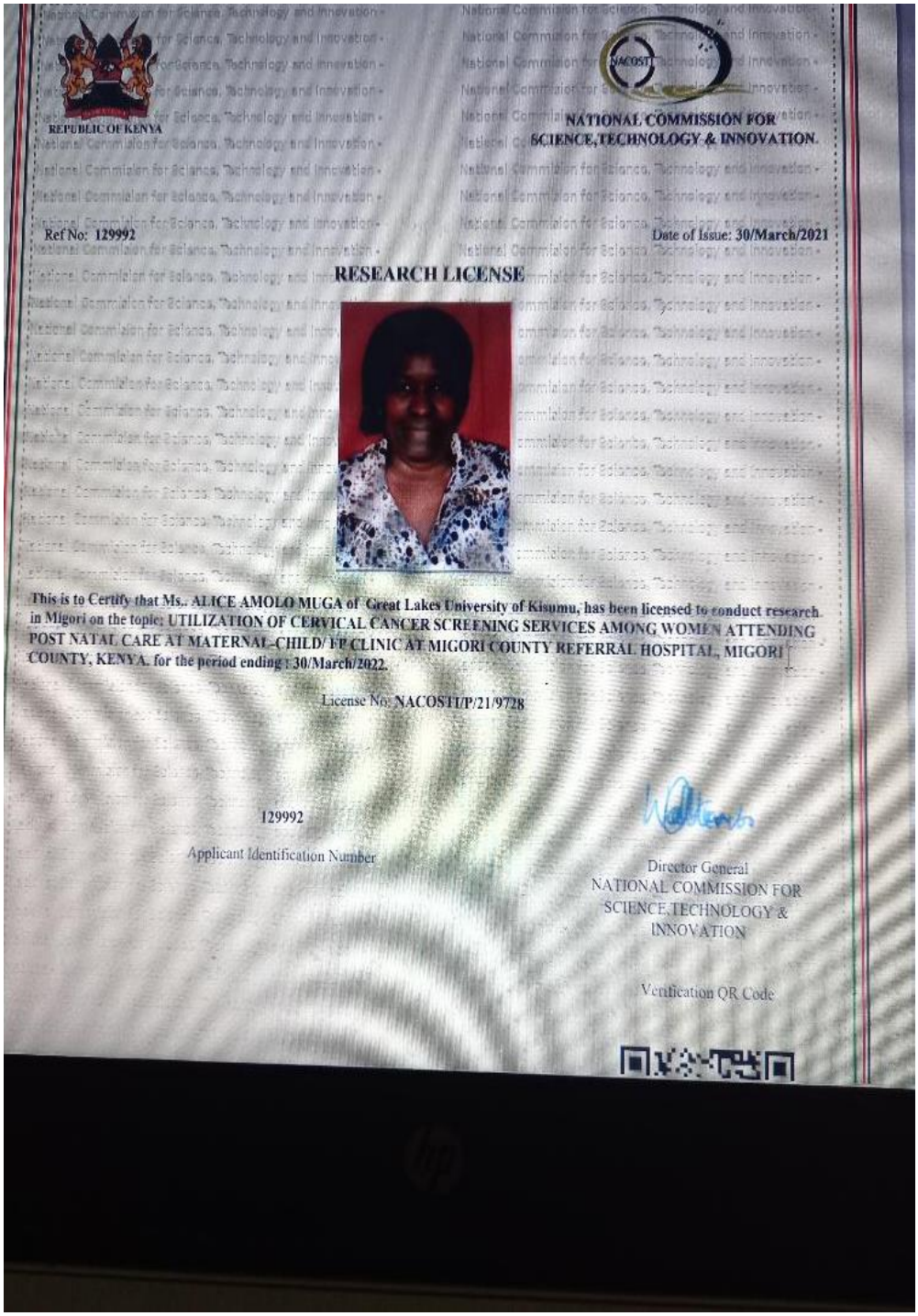
Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances nec

GLUK RESEARCH ETHICS COMMITTEE * GREC 10 DEC 2020

Yours sincerely

JKOLA

3. NACOSTI LETTER



REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION.

Ref No: 129992

Date of Issue: 30/March/2021

RESEARCH LICENSE

This is to Certify that Ms.. ALICE AMOLO MUGA of Great Lakes University of Kisumu, has been licensed to conduct research in Migori on the topic: UTILIZATION OF CERVICAL CANCER SCREENING SERVICES AMONG WOMEN ATTENDING POST NATAL CARE AT MATERNAL-CHILD/ FP CLINIC AT MIGORI COUNTY REFERRAL HOSPITAL, MIGORI COUNTY, KENYA. for the period ending : 30/March/2022.

License No: NACOSTI/P/21/9728

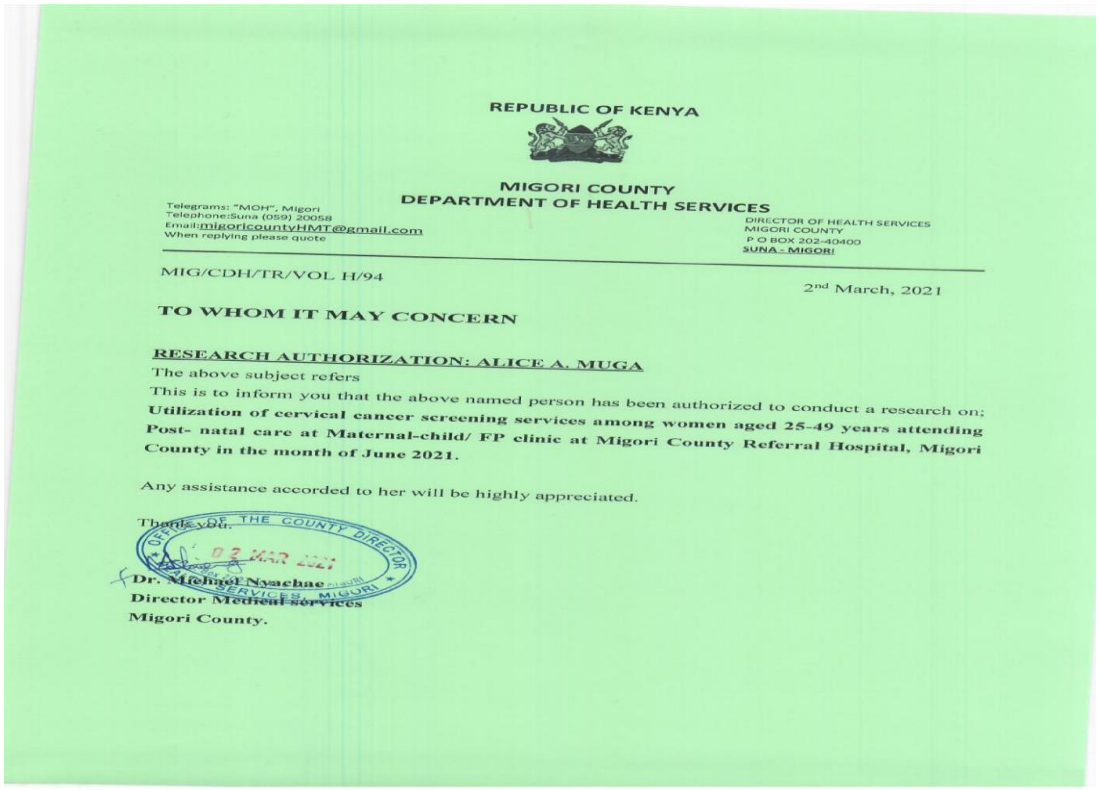
129992

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

4. REARCH AUTHORIZATION LETTER



REPUBLIC OF KENYA

MIGORI COUNTY
DEPARTMENT OF HEALTH SERVICES

Telegrams: "MOH", Migori
Telephone:Suna (059) 20058
Email:migoricountyHMT@gmail.com
When replying please quote

DIRECTOR OF HEALTH SERVICES
MIGORI COUNTY
P O BOX 202-40400
SUNA - MIGORI

MIG/CDH/TR/VOL H/94

2nd March, 2021

TO WHOM IT MAY CONCERN

RESEARCH AUTHORIZATION: ALICE A. MUGA

The above subject refers

This is to inform you that the above named person has been authorized to conduct a research on; **Utilization of cervical cancer screening services among women aged 25-49 years attending Post- natal care at Maternal-child/ FP clinic at Migori County Referral Hospital, Migori County in the month of June 2021.**

Any assistance accorded to her will be highly appreciated.

Thank you.

OFFICE OF THE COUNTY DIRECTOR
02 MAR 2021
SERVICES, MIGORI

Dr. Michael Nyachae
Director Medical services
Migori County.

5. MAP OF THE STUDY AREA