

**INTERPERSONAL COMMUNICATION AS A TOOL FOR ENHANCING
WOMEN'S UPTAKE OF CERVICAL CANCER SCREENING IN UASIN
GISHU COUNTY, KENYA**

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**A Thesis Submitted in Fulfilment of the Requirements for the Award of Doctor
of Philosophy Degree in Communication Studies of Masinde Muliro University
of Science and Technology, Kenya**

November, 2023

DECLARATION

Declaration by the Candidate

This thesis is my original work prepared with no other than the indicated sources and support and has not been presented elsewhere for a degree or any other award.

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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance of Masinde Muliro University of Science and Technology this thesis entitled: **“Interpersonal Communication as a Tool for Enhancing Women’s Uptake of Cervical Cancer Screening in Uasin Gishu County, Kenya”.**

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DEDICATION

This work is dedicated to my husband, Obed Limo, and our sons: Jesse and Jason, for their love, prayers and support through the entire process of this study.

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I thank the Lord for giving me good health, wisdom, and knowledge to be able to pursue my PhD studies. Thanks to my supportive, prayerful mother and my family for their prodding when the task appeared too daunting to me. I am immensely grateful to Dr. Anyonje Lydia and Prof. Kiptoo Michael for their great contribution. I sincerely thank them for their guidance, mentorship, wise counsel and invaluable input in coming up with this work.

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ABSTRACT

This study assessed interpersonal communication as tool for enhancing uptake of cervical cancer screening among women seeking healthcare services at Maternal and Child Health and Family Planning (MCH/FP) clinic in Moi Teaching and Referral Hospital (MTRH) in Uasin Gishu County, Kenya. Specifically, it determined women's awareness and knowledge levels of cervical cancer in relation to uptake of screening; examined interpersonal communication channels utilized and their effectiveness in the uptake of cervical cancer screening; determined the role of interpersonal communication channels in the uptake of cervical cancer screening, and established interpersonal communication barriers in relation to uptake of cervical cancer screening. The study was guided by the Diffusion of Innovations Theory. The study used pragmatic paradigm, descriptive cross-sectional research design and employed mixed methods approach. Data was collected from MCH/FP clinic at MTRH. From the target population, a sample of 308 women was selected using systematic random sampling method. Quantitative data was collected using semi-structured questionnaires while qualitative data was collected using two focused group discussions (FGDs) and six key informant interviews (KIIs). Quantitative data was analyzed with the aid of Statistical Package for Social Sciences (SPSS), version 29, while qualitative data was analyzed using thematic content analysis with the aid of NVivo, version 12 software. The results were presented using a combination of narrative explanations, tables, charts and graphs. Inferential statistics were performed using Pearson's correlation coefficient analysis and regression analysis. The findings indicated that: there were low levels of knowledge about cervical cancer on the risk factors, causes and symptoms, healthcare workers were frequently used channels and they play crucial roles in educating women on cervical cancer risk factors and motivating them to seek screening during clinic visits, friends provide advice about the purpose of cervical cancer tests and the benefits of screening. The barriers to interpersonal communication that affected uptake of screening were low levels of knowledge, inadequate information about screening, myths and misconceptions, fear of finding positive results and the screening procedure. The study recommends regular health education on cervical cancer in health facilities in order to increase women's knowledge on cervical cancer, provision of requisite training to health care workers on best ways to disseminate cervical cancer information because they were found to be the frequently used and the most effective channels, curriculum review in health training institutions order to incorporate interpersonal communication aspects to equip learners on dissemination of health messages. Integrating interpersonal communication channels with mass media channels will reduce the stated barriers and enhance uptake of cervical screening. Lastly, policies in the Kenyan health care sector should be broken down into actionable points through interpersonal communication to the public in order to increase the likelihood of the suggested interventions being adopted right from county to national levels.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACCP	Alliance for Cervical Cancer Prevention
ACS	American Cancer Society
AIDS	Acquired Immune Deficiency Syndrome
CCC	Comprehensive Care Clinics
CDC	Centre for Disease Control
CHW(s)	Community Health Worker(s)
CRC	Colorectal Cancer
CVI	Content Validity Index
CVI (I-CVI)	Content Validity Index computed at item-level
CVI(S-CVI)	Content Validity Index at scale level
DNA	Deoxyribonucleic Acid
DOI	Diffusion of Innovations
FGDs	Focused Group Discussions
GOK	Government of Kenya
HIV	Human Immunodeficiency Virus
HPV	Human Papillomavirus
ICO	Institute Catala Oncologia
IPC	Interpersonal Communication
IREC	Institutional Research and Ethics Committee
MCH-FP	Maternal Child Health services and Family Planning
MMS	Ministry of Medical Services
MMUST	Masinde Muliro University of Science of Technology
MPHS	Ministry of Public Health and Sanitation

MTRH	Moi Teaching and Referral Hospital
NACOSTI	National Commission of Science, Technology and Innovation
NCI	National Cancer Institute
NCST	National Council for Science and Technology
PhD	Doctor of Philosophy
PPMC	Pearson's Product Moment Correlation
RCN	Royal College of Nursing
REG	Registration
SPSS	Statistical Package for Social Sciences
TV	Television
VIA	Visual Inspection with Acetic-acid
VILI	Visual Inspection with Lugol's Iodine
WHO	World Health Organization
WMA	World Medical Association

OPERATIONAL DEFINITION OF TERMS

- Awareness level:** The extent to which the respondent has common knowledge or understanding about cervical cancer.
- Communication:** The dissemination of information on cervical cancer by the government to women with the aim of establishing an understanding of how susceptible every woman is to getting cervical cancer, thus encouraging them to seek cervical cancer screening.
- Interpersonal communication:** A face-to-face, verbal, or non-verbal exchange of information between two or more people. The people interacting are considered trustworthy and are, therefore, likely to influence one another's decisions regarding health. It is abbreviated as IPC in the study.
- Mass communication:** The linear process of relaying information that makes use of electronic and print media to address large, unseen and diverse audiences.
- Health communication:** The study and use of different communication methods, ranging from mass media communication to interpersonal communication, to inform and influence individual and community decisions that enhance health.
- Communication source:** The party that formulates and sends messages (for instance Ministry of Public Health and Sanitation through the various healthcare facilities).
- Communication channel:** The medium between source and receiver through which

messages pass. In face-to-face communication, messages are conveyed through voice as well as gestures (for example a healthcare provider talking to a woman about cervical cancer). Although the two terms are distinct, the source and channel are used interchangeably in this dissertation since some women may consider channels as sources because they have not heard the message from an original source (like Ministry of Public Health and Sanitation) but from their relations like friends or healthcare workers.

Cancer: A disease caused by abnormal growth of cells in the body.

Pre-cancer: A state in which cells associated with an increased risk of cancer are present in the body and, if left untreated, the condition may lead to cancer.

Cervical cancer: The presence of an atypical proliferation of cells in the lower region of the uterus resulting from a prolonged infection with Human Papillomavirus (HPV). Prevention can be achieved by the implementation of routine screening tests and subsequent follow-up measures. Early detection and timely treatment significantly enhance the chances of successful recovery.

Cervical cancer A test of exfoliated cells from the cervix to determine

screening:	the presence or absence of cancer cells. It is carried out among the general population of women to identify individuals at risk of developing cervical cancer and with the intention of preventing the disease early before it develops into cancer. Cervical screening, Pap smear test, Pap test and Pap smear are used interchangeably throughout this work to mean the same test.
Cancer diagnosis:	The process of identifying the nature of an illness as cancer through cervical cancer screening.
Health behaviour:	Any activity undertaken by an individual for improving his/her wellbeing and for the purpose of preventing or detecting a disease.
Health care providers:	A term used in the study to refer to the wide range of formal and informal caregivers who deliver health care and those who promote health through education efforts and information dissemination.
Health seeking behaviour:	Refers to any deliberate action taken by an individual in reaction to a sickness, with the intention of seeking a remedy or treatment.
Innovation:	The introduction of a new concept, idea, service, process, or product aimed at improving prevention, treatment, diagnosis, education, and research. In this study, health innovation refers to adoption of cervical

cancer screening.

- Knowledge level:** The extent of familiarity and deep understanding that the respondents (women) have on issues of cervical cancer.
- Screening uptake:** Taking part in a test for cervical cancer. Uptake is an important determinant of the effectiveness of population-based screening. The study focused on improving the number of women who consistently take part in cervical cancer screening.
- Social networks:** Social relationships with other people who share similar personal and/or career interests, activities, backgrounds (social, economic, academic) or real-life connections (family and relatives).
- Stigma:** A mark of shame or discredit associated with social unacceptability in society.
- Women of reproductive age:** Women who are still in need of reproductive health treatments and are between the ages of 18 and 65.
- Women chamas:** Groups of women that have come together to raise funds for personal economic empowerment/development.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This section covers the background of the study, statement of the problem, research objectives, research hypotheses, significance, scope and limitations of the study.

1.2 Background of the Study

Interpersonal communication involves face-to-face exchange between two or more individuals (Rogers, 2003); it is a two-way, verbal and non-verbal interaction that includes the sharing of information and feelings between individuals or small groups, and which establishes trusting relationships (Hubble, 1994). Behaviour change communication scholars recognise interpersonal communication (IPC) as an important component in fostering attitude and behaviour change or adoption (Rogers, 2003). IPC is considered a central pillar of health communication owing to its unique features, which enable it to engender compliance with key behaviour adaptation elements as well as deal with issues of cultural conflicts, discrimination and stigma (Schiavo, 2014).

De Negri *et al.* (1997) have highlighted the steps followed in the process of effective interpersonal communication in healthcare management which include encouraging a two-way dialogue, establishing a partnership between patient and provider, creating an atmosphere of caring, bridging any social gaps between provider and client, accounting for social influences, effectively using verbal and non-verbal communication, and allowing patients ample time to tell their story.

Effective IPC in health management will therefore lead to a number of things: positive rapport between client and provider; disclosure by the client of sufficient information necessary for accurate diagnosis; an appropriate and acceptable treatment or action; an understanding by the client of his or her condition and prescribed course of action; and the commitment by both parties to fulfil their responsibilities during treatment and follow-up care (De Negri *et al.*, 1997). Duggan (2006) adds that IPC interventions help participants break through the silence and improve the ability to discuss sensitive health issues with others through dilemma-based role playing, dialogue, and communication skills building.

Cervical cancer is a significant health concern that takes a heavy toll on women's lives. The disease ranks as the fourth most prevalent form of cancer among women on a global scale, with approximately 604,000 new cases reported in the year 2020, according to the World Health Organization (WHO, 2022).

The low uptake of cervical cancer screening exacerbates the problem, as many women are diagnosed at advanced stages, leading to high mortality rates. According to the findings derived from the records of Kenyatta National Hospital (KNH), it was observed that over the period spanning from 2014 to 2016, an estimated 64% of individuals afflicted with cancer were identified as having stage three or four cancer (MPHS, 2018). This would have been arrested early by screening women of reproductive age.

The process of screening has the capability to identify cancer during its first stages, thereby facilitating timely treatment for women, when the chances of successful intervention are significantly higher (World Health Organization, 2014). The

screening uptake rates among women aged 18-69 years in Kenya are reported to be only 3.2% (MPHS, 2012a). If prompt measures are not taken, there will be a continued increase in the mortality rate associated with cervical cancer.

To address this issue, interpersonal communication plays a pivotal role as a powerful tool in increasing women's participation in cervical cancer screening (Rogers, 2003). According to Kreps (2003), the dissemination of information through communication serves as the principal means of teaching individuals about the dangers associated with cancer and encouraging them to undergo screening for the timely diagnosis of the disease.

In the year 2020, it was anticipated that over 342,000 deaths attributed to cervical cancer occurred globally and notably, a substantial majority of these fatalities, approximately 90%, were concentrated in nations classified as low and middle-income economies (Sung *et al.*, 2021). According to the Ministry of Public Health and Sanitation (MPHS, 2018), cervical cancer constitutes 13.1% of the total incidence of female malignancies worldwide.

The estimated age-standardized incidence and death rates for cervical cancer in Eastern Africa are 40.1 and 30.0 per 100,000, respectively (International Agency for Research on Cancer [IARC], 2018). In Kenya, 5,250 new instances of cervical cancer are diagnosed annually, which is equivalent to 12.9% of the country's total annual cancer cases and contributes to 3,286 deaths per year, which equates to 11.84% of the overall yearly cancer-related mortality (Globocan, 2018). Incidence rates for women aged 15 to 24 years are predicted to exponentially increase by 50% by 2034 (Kivuti-Bitok *et al.*, 2015).

According to the Ministry of Public Health and Sanitation (MPHS, 2017), the daily fatality rate due to cervical cancer among women in their twenties in Kenya is nine. The International Agency for Research on Cancer (IARC, 2018) reports that it is the second most common type of cancer in women and the leading cause of cancer-related deaths in Kenya. According to the World Health Organization and the International Agency for Research on Cancer (WHO/ICO, 2017), the Republic of Kenya is home to a population of approximately 13.45 million women who are 15 years of age or older and face the potential risk of acquiring cervical cancer.

Report from Kenya's Ministry of Public Health and Sanitation (MPHS, 2020), show that the daily mortality rate due to cervical cancer among women in their twenties is nine. The incidence of cervical cancer in Nairobi is estimated to be between 10 and 15 new cases each week (MPHS, 2018). Data obtained from the Eldoret Cancer Registry (2016), revealed that cervical cancer is the prevailing form of cancer documented in Uasin Gishu County. According to a study conducted by Were, Nyaberi and Buziba (2011), a significant proportion of cervical cancer cases observed at the MTRH exhibit advanced stages of the illness, specifically stages three and four. This observation highlights the severity of the disease among women in the specific location and within the broader context of Kenya.

According to Kreps (2011), the promotion of screening programs in various healthcare and organizational settings, as well as the monitoring of cancer trends, plays a crucial role in facilitating the establishment and implementation of such programs. This enables the identification of optimal chances for screening and detection. Nyambane (2016) asserts that inadequate knowledge regarding key aspects

related to cervical cancer, limited availability of screening resources, cultural attitudes, and prevalent misunderstandings act as barriers to the adoption of screening practices. Hence, it is unsurprising that in Africa, where rates of screening are significantly low, most women seek medical attention at advanced stages of disease progression, characterized by invasiveness and advancement (MPHS, 2012b). Despite the presence of over 100 cervical cancer screening locations in Kenya (Rositch *et al.*, 2012), the condition persists inside the country.

Targeting women who are most at risk of cervical cancer with appropriate information on screening options and benefits has a direct influence on their confidence to take Pap tests (Rositch *et al.*, 2012). This partly justifies the need for a paradigm shift towards enhanced interpersonal communication on cervical cancer. Therefore, this study sought to determine the use of interpersonal communication channels in enhancing the uptake of cervical cancer screening among women in Uasin Gishu County, Kenya.

1.3 Statement of the Problem

The Government of Kenya continually disseminates information on cervical cancer screening mainly using mass media channels and health policy guidelines such as national cervical cancer prevention strategic plans (MPHS, 2011, 2012a, 2012b, 2017). Despite these efforts, cervical cancer remains a major health threat, pointing to little success in terms of screening uptake. Without immediate action, the number of deaths from cervical cancer will continue to rise since the majority of the women turn up at the MTRH hospital with late-stage disease (Were *et al.*, 2011). This means that by the time they are seen, they can no longer benefit from screening and treatment

leading to deaths that would have been avoided. There is therefore a need to determine women's awareness and knowledge levels about cervical cancer and whether they understand the need for early screening. It is also important to establish interpersonal communication-related barriers that hinder the uptake of screening. Although there is an intensification of mass media campaigns on cervical cancer by the government, this is done only during cervical cancer awareness month in January, with little follow-up thereafter. Many people tend to rely on mass media to learn about new ideas but they depend on interpersonal networks to move from awareness level to trial and continued practice of a new behaviour. Health communication studies done so far in Kenya have focused on the role of mass media in the uptake of cervical cancer screening, relatively few studies have focused on interpersonal communication and uptake of screening. Therefore, this study sought to bridge these knowledge gaps by investigating the use of interpersonal communication to enhance the uptake of cervical cancer screening among women in Uasin Gishu County, Kenya.

1.4 Research Objectives

1.4.1 Main Objective

The purpose of this study was to assess the use of interpersonal communication in enhancing the uptake of cervical cancer screening among women seeking healthcare services at MCH/FP clinic at the Moi Teaching and Referral Hospital in Uasin Gishu County, Kenya.

1.4.2 Specific Objectives

Specifically, this study sought to:

- i) Determine the awareness and knowledge levels of cervical cancer in relation to uptake of screening among women seeking healthcare services at MTRH, Kenya
- ii) Examine interpersonal communication channels utilized and their effectiveness in promoting uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya
- iii) Determine the role of interpersonal communication channels in the uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya
- iv) Establish interpersonal communication barriers that hinder the uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya

1.4.3 Research Hypotheses

H₀₁: There is no significant relationship between level of cervical cancer awareness and knowledge and uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya.

H₀₂: There is no significant difference between interpersonal communication channels used to obtain information about cervical cancer and their effectiveness in promoting uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya.

H₀₃: There is no significant role that interpersonal communication channels play in the uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya.

H₀₄: There is no significant relationship between interpersonal communication barriers in relation to the uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya.

1.5 Significance of the Study

This study assessed the use of interpersonal communication in enhancing the uptake of cervical cancer screening among women. It has established the women's awareness and knowledge levels about cervical cancer, the communication related barriers that hinder the uptake of screening and has shed light on interpersonal communication avenues through which cervical cancer information can be disseminated so that screening uptake may be enhanced. It has shed more light on the significant roles played by interpersonal communication channels in enhancing the uptake of screening.

Furthermore, the findings of the study have provided insightful data to enable health policy makers and providers to design the most effective communication interventions for the region. Additionally, the study has provided recommendations on integrating communication channels in order to increase uptake of cervical cancer screening. It has added theoretical and empirical knowledge on health communication studies while acting as a basis for further research.

1.6 Scope of the Study

The present investigation was conducted at Moi Teaching and Referral Hospital (MTRH), one of the two primary national referral hospitals in Kenya. The Moi Teaching and Referral Hospital (MTRH) provides healthcare services to individuals

residing in Uasin Gishu County, as well as those in the surrounding areas. Additionally, the hospital accommodates patients who have been referred from lower-level healthcare facilities. The hospital is a publicly-funded institution that receives financial support from the government. Therefore, the expenses associated with medical treatment and healthcare services for women and children who seek assistance at MTRH are comparatively lower in comparison to the fees imposed by private healthcare establishments. For this reason, MTRH attract more clients than private hospitals in the region. For instance, at MTRH, cervical cancer screening services are offered at a subsidized fee of 150 Kenya shillings. Therefore, women can access these services when attending MCH-FP clinics or seek the services voluntarily. The research was restricted to MTRH, but the findings can be generalized to other hospitals with similar patient characteristics.

There are many media that are used to disseminate health-related information. However, the study focused only on interpersonal channels of communication. In particular, the researcher focused on the interpersonal communication channels that operate between two persons who have a prior established relationship, that is, people who are already 'connected'. This focus was based on the fact that such personal interactions influence individuals' attitudes and behaviours, including health-seeking decisions. Consequently, the interpersonal sources and channels examined in this study included health-care workers, friends, colleagues, family/relatives, neighbours, and religious gatherings. The research sought to find out the interpersonal communication channels that are most effective in enhancing decisions to undertake cervical cancer screening.

In terms of the respondents, women who were within the reproductive age of 18-65 years, seeking Maternal Child Health services and Family Planning (MCH-FP) at the Moi Teaching and Referral Hospital were selected to participate in the study. This age bracket represents the at-risk cohort for cervical cancer. Women in this age bracket are sexually active. Therefore, the fact that HPV infections acquired can take 10 to 20 years if not detected and treated before precancerous lesions develop into invasive cervical cancer puts these women at risk (WHO, 2006).

Furthermore, the study was limited to women respondents (except for key informants) since cervical cancer screening is undertaken by women. In addition, social relationships play an essential role in women's health in general and cancer prevention behaviours (Trinh, 2017). Women prefer acquiring health-related information via their family and friends in a face-to-face communication to impersonal forms of health seeking behaviours (Nyqvist *et al.*, 2013; Palmer, Newsom & Rook, 2016). Therefore, it was important to focus on how social network interactions can be utilized to encourage women to participate in cervical cancer screening.

1.7 Limitations of the Study

In the course of undertaking this study, some challenges were experienced, including reluctance among certain members of the target group to participate fully in the study, challenges stemming from the fact that the study area was an MCH-FP facility and time constraints.

Some of the respondents were unwilling to speak freely and fill the questionnaires because of the sensitive nature of the topic of cervical cancer. For some, the mere

mention of screening made them think the aim of the study was to have them screened. As such, the researcher clarified to them that the study intended to ascertain women's knowledge levels on cervical cancer and reasons for not taking up the screening. During FGDs, some women were also afraid to share views arguing that cervical cancer was a taboo topic; this view was rooted in the myths and misconceptions associated with cervical cancer. To overcome this challenge, the researcher explained to the respondents that the study was meant for purely academic purposes and assured them that their views would be kept confidential.

Another hurdle was further experienced when trying to obtain the requisite number of participants for the study. Filling of the questionnaires required an average of 20 to 30 minutes. Some of the target respondents were busy nursing young babies, others were expectant while some were visiting for brief checkup. As such, most of these women groups found it difficult to spare sufficient time to complete the questionnaire. To mitigate this limitation, the researcher and research assistant guided them to better understand the items and fill the questionnaire faster. Where necessary, the researcher helped to nurse the babies to allow mothers of newborns time to fill the questionnaire.

Another challenge was experienced during interviews with the key informants. Interviews were administered at the height of Covid-19 pandemic. Therefore, due to interruptions and need for greater health caution needed, the administration of interviews took longer than expected (2 months). The researcher often had to reschedule the time and venue for interviews.

The clearance to conduct research at MTRH also took long. It took seven months to receive clearance from the MTRH and Moi University Institutional Research and

Ethics Committee (IREC) since face-to-face meetings were hampered by COVID-19 containment measures. Specifically, the IREC had limited the number of times it could sit in a month. The researcher thus had to wait patiently since data collection could not commence without the clearance.

The uptake of cervical cancer screening was based on self-reports, with possible social desirability bias or recall bias. This was overcome by triangulation of data collection, as the study relied on a questionnaire, focus group discussions and key informant interviews.

1.8 Chapter Summary

This chapter has presented the background to the study on interpersonal communication channels used in promotion of cervical cancer screening uptake in Kenya and Uasin Gishu in particular. The study is premised on the fact that cervical cancer screening can help more women to overcome the adverse outcomes of cervical cancer through early diagnosis and treatment. In the statement of the problem, the chapter has shown how limited studies have examined the role of interpersonal communication in promoting women's health choices about cervical cancer in Uasin Gishu County. The chapter has also presented the research objectives and hypotheses. The chapter has also shown how the women, government and other health care stakeholders can benefit from the findings of the study. The last section of the chapter presents the scope and limitations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter undertakes a review of literature on the relationship between interpersonal communication and uptake of cervical cancer screening services by women. It opens with an overview of literature on cervical cancer, cervical cancer awareness and knowledge levels in relation to utilization of screening services. Next, the chapter reviews literature on sources of information on cervical cancer and their effectiveness in uptake of cervical cancer screening. The chapter then discusses the role of interpersonal communication channels in enhancing uptake of cervical cancer screening. Lastly, the chapter examines literature on interpersonal communication barriers that hinder uptake of cervical cancer screening.

2.2 Overview of Cervical Cancer

Cervical cancer refers to the development of anomalous cells within the cervix of a female individual, which is primarily attributed to prolonged infection with human papillomavirus (HPV) that is transferred through sexual contact (World Health Organization [WHO], 2017). Cancers can be differentiated based on the distinct cellular composition and anatomical site of occurrence (ACS, 2014). The development of cervical cancer occurs when there is uncontrolled growth of cells in the cervix, which is the lower and narrower part of the uterus (Centres for Disease Control and Prevention [CDC], 2012). The etiology of cervical cancer involves the proliferation of highly aberrant cells within the cervix, which serves as the gateway to the uterus or womb, as stated in the Cancer Report published by the World Health

Organization in 2014. The key etiological factor is human papillomavirus (HPV), which is the prevailing sexually transmitted infection on a global scale (Population Reference Bureau, 2004). According to the CDC (2015), the incidence of cervical cancer can be mitigated through the utilization of human papillomavirus (HPV) vaccine, as well as the implementation of routine screening examinations and subsequent therapeutic interventions.

The CDC (2012) further posits that cervical cancer can be effectively prevented with routine screening tests and subsequent follow-ups. Furthermore, early detection and prompt treatment of cervical cancer can lead to successful cure. The Papanicolaou (Pap) smear cytology screening approach, which is employed to detect precancerous lesions, has played a significant role in significantly reducing the incidence of cervical cancer, particularly in developed nations (World Health Organization, 2006). Additional minimally invasive methods that have been devised for expeditious detection of cervical cancer encompass Visual Inspection with Acetic Acid (VIA) and Visual Inspection with Lugol's Iodine (VILI) (World Health Organization, 2006). In Kenya, the Ministry of Public Health and Sanitation (MPHS) recommends the use of VIA/VILI, Pap, and HPV as screening methods (MPHS, 2012b). These screening methods are accessible in both government hospitals and private facilities. However, the World Health Organization (WHO) suggests that countries without a well-established and widely accessible Pap-based screening programme should consider adopting HPV-based screening tests (WHO, 2015).

According to the CDC (2015), screening tests can detect abnormal cells so they can be treated before they become cancerous. The Pap smear test is conducted to detect cellular alterations on the cervix that possess the potential to develop into cancerous conditions if not addressed promptly. The human papillomavirus is responsible for generating cellular changes, and the HPV test is meant to detect its existence. Human papillomavirus (HPV) is the most common cause of cervical cancer and is spread mostly through sexual contact (CDC, 2015). After adolescence, HPV infection rates skyrocket. Over the subsequent years, the vast majority of women will naturally shed the virus, but a small percentage will have persistent infections that can cause aberrant cell growth (WHO, 2006b). If the infection is left untreated for 10-20 years, it will progress into aggressive cervical cancer (WHO, 2006b).

Cervical cancer arises due to specific high-risk strains of the human papillomavirus (HPV), a sexually transmitted virus that is acquired by direct skin-to-skin contact with an infected partner (Munoz *et al.*, 2006). According to previous studies conducted by Cuzick *et al.* (2006) and Parkin and Bray (2006), it has been estimated that there exists a range of 12 to 18 carcinogenic strains of the human papillomavirus (HPV) that specifically target the cervical epithelium. According to Munoz *et al.* (2006), women who engage in sexual activity are susceptible to human papillomavirus (HPV), which can lead to alterations in cervical cells and increase their vulnerability to cervical cancer. According to Saslow *et al.* (2002), the five-year survival rate for women with early-stage cervical cancer is roughly 92%. However, for women diagnosed at a regional stage, the five-year survival rate drops to 55.7%, and for those identified at a distant stage, the five-year survival rate is only 16%. According to the

National Cancer Institute (NCI, 2006), a majority of cervical cancers, specifically 51%, are detected at an early stage when the malignancy is localized to the original location.

The Pap smear test has maintained its popularity as a cancer screening method since the 1950s and has demonstrated its efficacy in identifying early-stage cervical lesions prior to their progression into cancer (Munoz *et al.*, 2006). According to Munoz *et al.*, the progression of precursor lesions to invasive cervical cancer can span a period of up to 10 years. According to Saslow *et al.* (2002), the prognosis for women identified with a pre-invasive lesion indicates a nearly 100% survival rate. Regrettably, there is a lack of universal adherence among women to regular cervical cancer screening, resulting in missed opportunities for the detection of precursor lesions (Ackerson, 2010). Consequently, it is imperative to educate women with accurate and dependable information regarding the significance of early screening as a means to preserve their lives.

Screening is a public intervention that is implemented on a population at risk or a specific target population, as stated by MPHS in 2012. A cervical sample is obtained by the use of a spatula or a little brush, after which the collected cells are subsequently examined for the presence of any irregularities. The purpose of this procedure is not for diagnostic purposes, but rather for the identification of individuals who have a heightened likelihood of possessing or acquiring a particular ailment.

According to the guidelines provided by the Kenya Ministry of Public Health and Sanitation, it is recommended that the initial service entrance points should

encompass various healthcare facilities such as Maternal Child Health (MCH)/FP clinics, Comprehensive Care Clinics (CCCs), Obstetrics and gynecology wards/clinic, as well as outreach/in reach programs for conducting mass screening campaigns (MPHS, 2012b). Cervical cancer screening is conducted at specific locations, primarily level 4 hospitals. The primary health care level, which serves approximately 80% of the population (MPHS, 2012a), experiences limited accessibility to cervical cancer screening services. The elevated incidence of cervical cancer can be ascribed to a multitude of factors, encompassing insufficient awareness within communities regarding the importance of screening, inadequate proficiency among healthcare providers, limited availability of necessary equipment and supplies, restricted accessibility to treatment facilities, inadequate practices for monitoring and evaluation, and a diminished level of emphasis on cervical cancer by policy makers and influential figures (MPHS, 2012b).

2.3 Interpersonal Communication in Health

Interpersonal communication happens at the individual level. According to DeVito (2019), while interpersonal communication occurs at the individual level, it is also bound by both the personal and social context. DeVito discusses the defining features of interpersonal communication, such as it being transactional, relational, multipurpose, ambiguous and unrepeatable, among others. He also examines contexts in which interpersonal communication occurs, including the cultures involved and the features of perception of both self and others involved in the communication process. The work of DeVito offers a framework for understanding how interpersonal communication can work in the health sector. In relation to this study, the sources,

channels, processes and content of interpersonal communication must integrate the unique features of the communication system, the women involved and the context of health care, especially cervical cancer related issues.

Chichirez and Purcărea (2018) examine interpersonal communication in health care. The study specifically focused on the role of interpersonal communication in clinical practice. They note that interpersonal communication skills can help health care workers to create a bond with clients or patients, which can then influence health-seeking behaviours. They also examine other benefits of such skills, including good workplace culture being established due to good communication. Ultimately, they argue that good interpersonal communication can enhance the overall performance and quality of services, leading to competitive advantage for hospitals. While the reviewed study offers insight on the role of interpersonal communication in the health sector, it does not specifically address the issue of how it contributes to cancer awareness and screening behaviours among women, a gap that the present study sought to fill.

In their study, Ju *et al.* (2023) assessed the influence of interpersonal communication on health-protective habits during COVID-19 pandemic. The study focused on the health implications of COVID-19 on public health and how interpersonal communication offers avenues for navigating health challenges and influencing health-seeking behaviour among family, friends, colleagues, and health practitioners. According to Ju *et al.*, interpersonal communication often motivates individuals to question or affirm other sources of health information, which can affect their attitudes and behaviours. The study shed light on how people engage in preventive health

behaviours to safeguard themselves in the COVID-19 context and underlines the role of interpersonal communication in motivating such behaviours. The present study explores the influence of interpersonal communication on women's uptake of cervical cancer screening.

Kornhaber *et al.* (2016) explore how interpersonal relationships and communication can enhance patients' response to therapy in a hospital context. They note that interpersonal relationships and communication enhance patient-health worker interactions. In this way, it becomes easy for health workers to persuade patients to embrace health services. The study underscores the importance of features of interpersonal communication such as therapeutic listening, responding to patient emotions and unmet needs, and patient-centeredness as critical features for enhancing therapeutic interpersonal relationships and uptake of positive health behaviours.

Archiopoli *et al.* (2016) undertook a study to explore the role of interpersonal communication in encouraging people with HIV to adhere to their medications. The study found that communication factors, such as patient-clinician interpersonal relationship and family support influence patients' adherence to medication. Family was found to be both the source of support and potential barrier to adherence. Other associated factors noted in the study were depression and alcoholism, which mediated the relationship between interpersonal communication and adherence to HIV medication. The reviewed study underscores the role of interpersonal communication, coupled with other contextual factors, in influencing health seeking behaviours. However, it focused on HIV medication adherence while the present study examined

the influence of interpersonal communication in promoting uptake of cervical cancer screening services.

Mhaidly *et al.* (2020) investigated the effect of face masks on interpersonal communication during the COVID-19 pandemic. They argue that protective strategies, including social distancing and face masks, are essential to control the spread of the pandemic, but pose challenges on everyday personal communication. They note that face masks, specifically, muffle voices and conceal facial expressions and subsequently render comprehension during personal communication difficult. The reviewed study provides an angle to the topic of this study, namely the influence of disease factors on interpersonal communication. It gave insight to the researcher to explore the features of cervical cancer that could hinder the effectiveness of communication of screening services. As such, the present study examined the barriers to interpersonal communication of cervical cancer messages in relation to uptake of screening services.

2.4 Awareness and Knowledge Levels of Cervical Cancer in relation to Women's Utilization of Cervical Cancer Screening Services

2.4.1 Awareness and Knowledge of Cervical Cancer among Women

Cervical cancer awareness is typically deficient on a global scale, with a particularly dire state prevailing in underdeveloped nations, which coincides with a high prevalence of the disease. A study was undertaken in Nigeria to evaluate the level of information of cervical cancer among a sample of 254 randomly selected women (Ayayi & Adewole, 1998). A mere 15% of individuals possessed prior knowledge of

cervical cancer, and an even smaller proportion, namely 10%, were aware of cervical screening. Previous research conducted in several countries has demonstrated that a significant proportion of women lack awareness regarding cervical cancer and are unfamiliar with the concept of cervical screening (Wong, 2009; Kidanto, Kilewo & Moshiro, 2002). In their study, Ubajaka *et al.* (2015) assessed the level of understanding regarding cervical cancer and the utilization of Pap smear testing among secondary school educators in the southeastern region of Nigeria. The research findings revealed a considerable degree (74.6%) of knowledge regarding cervical cancer within the surveyed population. Additionally, it is worth noting that a mere 41.5% of the participants exhibited awareness regarding the Pap smear test. The results of this study indicate a growing recognition of cervical cancer among women residing in underdeveloped nations. Nevertheless, there remains a dearth of understanding regarding cervical cancer screening. Hence, the current study aimed to investigate the utilization of interpersonal communication as a means to enhance knowledge about cervical cancer and encourage women in Kenya to get cervical cancer screening.

Research conducted in Kenya has also revealed limited levels of awareness and information regarding cervical cancer. In a survey conducted in 2016 by the Lancet Group of Laboratories in Nairobi, Kisumu, and Mombasa counties, it was shown that a mere 3% of women residing in these three counties have accurate knowledge regarding the etiology of cervical cancer (Odhiambo, 2017). A significant majority of women, including 97% of the sample, lacked awareness on the causal relationship between the human papillomavirus (HPV) and cervical cancer. Out of the entire sample size of 327 women, the majority were found to be married, indicating their

engagement in sexual activity and thus their vulnerability to cervical cancer. The study under consideration has revealed a significant lack of awareness regarding cervical cancer and its etiology in various regions of Kenya. This observation indicates a requirement for programs aimed at enhancing women's knowledge levels on cervical cancer in Kenya. Therefore, the primary objective of this study was to assess the awareness levels regarding cervical cancer as a determinant of women's participation in screening at Moi Teaching and Referral Hospital (MTRH) in Uasin Gishu County, Kenya.

2.4.2 Awareness and Knowledge of Cervical Cancer in Relation to Uptake of Screening among Women

Numerous academic investigations have assessed the level of knowledge among women on cervical cancer and their adherence to screening protocols on a global scale. The aforementioned research demonstrates regional disparities in the levels of awareness and utilization of cervical cancer screening. Several studies have demonstrated a beneficial correlation between heightened knowledge of cervical cancer and the likelihood of individuals undergoing screening. In previous research, no significant correlation was found between levels of awareness and the likelihood of undergoing screening. Several studies have indicated that there is no significant correlation between awareness of cervical cancer and Pap testing and the likelihood of individuals utilizing cervical cancer screening programs. The aforementioned findings were supported by the research conducted by Coughlin and Uhler (2002) on Hispanic women residing in the United States and Puerto Rico. Additionally, Idestrom, Milsom and Andersson-Ellstrom (2002) conducted a study in Sweden to assess the level of

knowledge regarding the Pap-smear screening program among women. A survey conducted among women in Jordan revealed that around 80% of the participants possessed knowledge on the detectability of cervical cancer and identified the Pap test as a preventive measure. However, it is noteworthy that a majority of these women reported not having undergone screening (Amarin, Badria & Obeidat, 2008). Based on the aforementioned findings, the current study investigates the influence of interpersonal communication elements on the association between women's awareness levels on cervical cancer and their utilization of cervical cancer screening services in Uasin Gishu County, Kenya.

A study was undertaken by Hyacinth *et al.* (2012) in Nigeria to examine the levels of awareness regarding cervical cancer and Pap smear. The study revealed that a significant proportion of the participants, specifically 50.9%, demonstrated awareness of cervical cancer. Furthermore, 38% of the respondents showed familiarity with the Pap smear test, while 27.0% acknowledged the potential of frequent screening with the Pap smear test in preventing cervical cancer. Out of these, just a mere 10.2% had availed themselves of the test. In a descriptive cross-sectional study conducted in South-east Nigeria, Eze *et al.* (2012) reported that the overall awareness of cervical cancer was found to be 37.5%. The study also revealed that 31.9% of the participants were aware of the preventable nature of cervical cancer. Furthermore, the uptake of cervical screening was found to be just 0.6%. Based on the aforementioned studies, it is apparent that while awareness can play a crucial role in influencing health-seeking behavior pertaining to cervical cancer, there are instances where even highly knowledgeable women may choose not to pursue screening. Therefore, it is plausible to suggest that the presence of knowledge, in conjunction with other variables, could

potentially enhance the adoption of cervical cancer screening services among women. This observation also indicates that possessing knowledge alone does not necessarily result in the adoption of screening practices within populations. This study aimed to investigate the impact of interpersonal communication on the utilization of cervical cancer screening among women in Uasin Gishu County, Kenya, based on the findings of previous research.

Extensive research has demonstrated that having knowledge of cervical cancer, including its risk factors and symptoms, can lead to higher participation in cervical screening and promote early detection of potential cervical cancer symptoms (World Health Organization, 2006; Kahesa, 2012). The aforementioned perspective is supported by Coronado *et al.* (2016) in their research aimed at identifying strategies for enhancing awareness and screening of cervical cancer in Jamaica. The results of the study indicate that women who have access to health-related information are more inclined to pursue cervical cancer screening. On the other hand, women who possess limited awareness and understanding regarding cervical cancer and its preventive measures are less inclined to seek screening services. The literature reviews indicate that the provision of information about cervical cancer to women has been shown to enhance their likelihood of engaging in screening activities. This subsequently prompts a significant inquiry into the correlation between interpersonal communication and women's participation in cervical cancer screening, which constituted the focal point of the current investigation.

Women should have easy access to the most crucial information regarding cervical cancer, such as risk factors, symptoms, and locations of health facilities offering

screening services (Wong *et al.*, 2009) in order to improve screening and early detection rates. Several studies have demonstrated that a lack of knowledge regarding cervical cancer may hinder individuals from taking preventive measures (Sudenga *et al.*, 2013; Lyimo *et al.*, 2012) and seeking early medical attention (Pillay, 2002; Sudenga *et al.*, 2012). The basic argument of the present study posits that credible and trustworthy sources, as well as dependable channels, are vital for obtaining correct and valuable information pertaining to cervical cancer. The present study investigated the primary sources and communication channels through which women participating in the study obtained credible information about cervical cancer. Additionally, the study explored the influence of this information on the women's decision to undergo cervical cancer screening.

2.4.3 Awareness and Knowledge of Cervical Cancer in Relation to Uptake of Screening among Women in Kenya

The findings of a study conducted in Kenya indicate that a significant proportion of women in various areas of the country face limited availability of accurate and dependable information pertaining to cervical cancer. Due to this rationale, the rates of participation in cervical cancer screening are generally low across various regions of Kenya. In contrast, in several other geographical areas, despite the presence of awareness and information, there has not been a corresponding rise in the adoption of screening practices. In a study conducted by Gichogo (2012) at Central Provincial General Hospital in Nyeri, it was discovered that the utilization rate of cervical cancer screening services was relatively low, standing at 24.7%. Notably, the study group consisted of women who possessed a high level of education, enjoyed decision-

making autonomy, and received substantial support from their families. A minority of women, specifically less than 20%, possessed knowledge regarding the significance of cervical cancer testing. Furthermore, a significant majority, amounting to 80%, were able to identify merely one or two risk factors associated with cervical cancer. Gichogo additionally noted that despite possessing knowledge regarding cervical cancer, Pap smear screenings, risk perception, and educational attainment, individuals did not consistently transform this knowledge into practical action. This observation elucidates the reason behind the elevated proportion of untested women in Kenya, despite the concurrent rise in reported incidences of cancer within the nation (MPHS, 2012b). Motivated by the discoveries made by Githongo, the present research was formulated with the objective of investigating the potential of interpersonal communication in improving women's awareness of cervical cancer and their subsequent participation in cervical cancer screening in Uasin Gishu County, Kenya.

A separate research conducted in Kenya aimed to assess the level of awareness and utilization of cervical cancer screening services in Kasarani, Nairobi (Ombechi, 2012). The survey revealed that a significant majority of participants, specifically 80%, demonstrated awareness of Pap smear screenings and cervical cancer. Nevertheless, a mere 21% of the aforementioned individuals had undergone a Pap smear examination. This study once again raises the question regarding the discrepancy between the level of knowledge about Pap smears and the actual utilization of screening services. What are the factors that contribute to the lack of correlation between knowledge acquisition and the practical implementation of screening measures? In a study conducted in a mother and child health clinic in Nairobi's Kayole Sub-District Hospital, it was found that a significant number of

women exhibited limited awareness regarding the advantages of undergoing a Pap smear test (Kihara, 2009). Fifty percent of the participants in Kihara's study were found to be unfamiliar with the concept of Pap smear. Furthermore, individuals who possessed knowledge of the Pap smear procedure had not undergone it, unless specifically advised to do so by a healthcare professional. The observed variations in outcomes indicate that while the level of awareness plays a significant role in the utilization of cervical cancer screening services, there appear to be additional underlying elements that exert an influence on screening uptake. The primary objective of this study was to investigate the influence of interpersonal communication elements on the relationship between knowledge of cervical cancer and the utilization of screening services among women residing in Uasin Gishu County, Kenya.

Bor *et al.* (2016) conducted a study to examine the utilization of cervical cancer screening services at Uasin Gishu Sub-County Hospital. The results indicated that there was a high degree of information and awareness regarding cervical cancer through mass media platforms. However, there was a very low rate of participation in screening activities at the healthcare institution. According to the findings of the study, a mere 8.8% of the participants said that they had undergone cervical cancer screening, while the overwhelming majority of 91.2% reported that they had not undergone such screening. These studies demonstrate that enhancing comprehension or knowledge of a particular matter, potentially through exclusive reliance on mass media, does not result in behavioral modifications. In addition, it is important to note that only superficial awareness is insufficient in attributing responsibility to individuals for their own health. However, a comprehensive comprehension and

profound knowledge about cervical cancer have the potential to facilitate the desired transformation. The study under evaluation explored the impact of mass media on women's understanding of cervical cancer, whereas the present study focused on the influence of interpersonal communication on knowledge of the disease and the decision to undergo screening. The present study builds upon the suggestion made by Bor *et al.* to investigate the potential of interpersonal communication sources and channels in facilitating a more comprehensive understanding of cervical cancer and motivating individuals to engage in screening activities.

According to Kessler (2017), a key strategy for primary prevention is the implementation of public health education. This approach aims to enhance public awareness on the various risk factors associated with cervical cancer, as well as provide education on effective measures to mitigate these risks. Behaviour change is a desired outcome that frequently transpires gradually over an extended duration. It is imperative to offer educational resources regarding the advantages of early diagnosis, as well as methods of detection and screening. The promotion of these preventive actions should be prioritized. The improvement in knowledge regarding the indications and manifestations of cancer, along with the timely responses from both the general population and healthcare professionals, has the potential to significantly improve the early detection of the disease and subsequently boost its treatment outcomes (Muecke *et al.*, 2012).

The aforementioned recommendation aligns with a study carried out by Gichangi *et al.* (2003) involving patients at the Kenyatta National Hospital in Nairobi. The findings of the study indicated a positive correlation between the knowledge and

awareness of cervical cancer, personal experience with the disease, educational background, age above 35 years, and the utilization of family planning methods and condoms with the increased adoption of Pap smear testing. The primary objective of this study was to investigate the influence of interpersonal communication sources and channels on the promotion of comprehensive comprehension of cervical cancer and subsequent adoption of screening.

2.5 Sources of Information Regarding Cervical Cancer

Women from different regions around the world employ diverse information sources pertaining to cervical cancer. According to a study conducted by Thorburn, Keon and Kue (2013), Hmong individuals, both women and men, exhibited a reliance on health care practitioners and the internet as primary sources of knowledge pertaining to breast and cervical cancer. Additional health information sources included in the study encompassed familial connections, social acquaintances, and various forms of mass media. The current study investigated if women in Uasin Gishu County, Kenya, also utilized similar sources.

Biobaku *et al.* (2015) conducted a study to evaluate the information sources utilized by female nurses in a tertiary health institution in Southwest Nigeria regarding cervical cancer. Based on the results, it was observed that formal lectures and trainings were the predominant sources, accounting for 73.8% of the total.

Dulla *et al.* (2017) conducted a study in Ethiopia to investigate the primary sources of knowledge pertaining to cervical cancer. The study revealed that a majority of the participants, namely 232 individuals (63.2%), depended on school or college as their primary source of knowledge. A significant proportion, 107 individuals (29.2%),

stated that they obtained information from news and media sources. A smaller percentage, 80 individuals (21.8%), reported sourcing information from friends or colleagues. A minority of participants, specifically 40 individuals (10.9%), relied on brochures or posters for information. Interestingly, a very small number of participants, specifically 6 individuals (1.6%), indicated that they obtained information from religious organizations. Building upon previous research undertaken in other locations, the current study aimed to investigate the impact of interpersonal communication sources on women's awareness of cervical cancer and their utilization of screening services in Uasin Gishu County, Kenya.

Research conducted in Kenya has revealed that women employ a combination of interpersonal sources and mass media as means to acquire knowledge pertaining to cervical cancer. In a research conducted by Mbatia (2016) focusing on the uptake of cervical cancer screening in Naivasha County, it was discovered that a majority of the participants (66.9%) demonstrated awareness of cervical cancer. The predominant sources of knowledge pertaining to cervical cancer were health personnel and media, accounting for 32.7% each. Nurses constituted the primary conduit of information within the cohort of health workers, accounting for 81% of the total. This was followed by radio, which served as a source of information for 51.2% of the respondents, and television (TV), which was relied upon by 25% of the participants. The present study assessed the interpersonal sources that are considered most effective in promoting the adoption of cervical cancer screening in Uasin Gishu County, drawing on the findings of Mbatia's research.

Gatune *et al.* (2005) conducted an ethnographic study focusing on rural women in Limuru, whereby it was discovered that around 40% of the participants have knowledge regarding cervical cancer. Most people turned to their social networks for information about health issues (73.4%), followed by the media (21.9%), print resources (20.3%), in-person meetings (18.8%), electronic media (7.8%), in-person meetings (6.3%), and seminars/conferences (6.3%). Gatune *et al.* found that about 70% of people surveyed agreed that educational campaigns aimed at preventing cervical cancer should be promoted in public spaces often frequented by women. The study that was reviewed highlights the significance of interpersonal communication sources and channels, particularly in the context of improving awareness and understanding of cervical cancer screening. Hence, the objective of this study was to determine the extent to which women in Uasin Gishu County utilize these communication channels.

Mugo (2018) looked into the variables that may affect how frequently pregnant women in Embu County use Pap tests for cervical cancer screening. The findings revealed that the main sources via which individuals acquired information on cervical cancer and Pap test screening were healthcare personnel at the clinic (43.3%), friends and relatives (25.6%), mass media (12.1%), and the internet (10%). Only a small proportion of the participants, specifically 9%, reported acquiring knowledge about cervical cancer through print media or books. Mugo did further study to investigate the most effective routes for disseminating information pertaining to cervical cancer and Pap test screening. The majority of participants indicated a preference for receiving education about cervical cancer in healthcare facilities. Some individuals expressed a preference for a site of religious gathering (such as a church), particularly

following the conclusion of a church service, as well as in markets and within their own residences. Other potential venues for acquiring knowledge about cervical cancer include educational institutions such as schools, as well as public campaigns or awareness gatherings. Mugo's research was carried out in Embu County, whereas the current study was conducted in Uasin Gishu County. Mugo's study also examined the broader sources of knowledge pertaining to cervical cancer, but the current study specifically investigated interpersonal communication channels and sources, and their impact on the adoption of cervical cancer screening.

2.6 Interpersonal Communication Sources of Cervical Cancer Health Informaton

Research has shown that interventions focusing on dialogue-based interpersonal communication (IPC) are effective in facilitating open and constructive discussions on sensitive, stigmatized, or revealing subjects within family, couple, and peer networks, thereby contributing to positive health outcomes (Duggan, 2006; Valente & Fosados, 2006). According to Arkin (2007), interpersonal sources have demonstrated significant efficacy in effectively conveying trustworthy messages that yield intended outcomes. According to Valente and Fosados (2006), interpersonal communication sources that are based on discussion can serve as significant platforms for community participation. In these platforms, members of dialogue groups play a crucial role in disseminating information to their personal and peer networks. The concept of communication for social change is founded on the premise that when a change agent introduces a new idea, viewpoint, behaviour, or invention through a mass-media platform, the dissemination of this information is facilitated in a highly credible

manner within communities through dialogue-based interpersonal communication (Rogers, 1995).

2.6.1 Use of Women's Social Networks for Health Behaviour Change

Numerous studies have demonstrated that the manner and individuals with whom individuals establish connections has a significant influence on their personal health behaviors and outcomes (Christakis & Fowler, 2008; Smith & Christakis, 2009). The influence of social networks and interpersonal interactions on individuals' physical health and psychological well-being is significant (Goldsmith, 2004; Goldsmith & Albrecht, 2011). Interpersonal networks have been identified as significant factors in the prevention of hazardous behaviors, facilitation of cessation endeavors, and promotion of screening visits (Dillard & Shen, 2013). This study aimed at investigating the role of interpersonal social networks on women's awareness of cervical cancer and their utilization of screening services in Uasin Gishu County, Kenya.

Social networks can be described as the establishment of links and interactions with individuals, facilitating the acquisition of emotional, informational, and instrumental assistance (Smith & Christakis, 2009). Informal networks, characterized by familial connections, relatives, and friendships, establish an emotional connection that influences the provision of mutual support and reciprocity (Smith & Christakis, 2009). Formal networks encompass community groups and organized civil society associations, wherein individuals demonstrate adherence to group consciousness through membership that entails commitments, guidelines, work rules, and a hierarchical structure that is collectively established by the members (Smith &

Christakis, 2009). Psychosocial mechanisms have been postulated as a means to elucidate the beneficial impact of social support networks on both physical and mental well-being. The constructs examined in the study include social influence/social comparison, social control (referring to behavioral guidance), purpose and meaning (referred to as mattering), self-esteem, sense of control or mastery, belonging and companionship, and perceived social support (Uchino *et al.*, 1996; Uchino, 2006). This study aimed to examine the impact of social networks on women's decision-making process in relation to the acceptance of cervical cancer screening in Uasin Gishu County.

Goldsmith (2004) suggests that positive forms of social network support have the potential to improve health behavior modification, but negative forms of social network impact may hinder health behavior change. Individuals experiencing health challenges may encounter instances where the support they receive from others is inaccurate, misdirected, or lacking in completeness (Helgeson & Gottlieb, 2000). This type of assistance has the potential to hinder their efforts to modify health-related behaviors. According to Berkman and Glass (2000), social networks have an impact on individuals' health by influencing social engagement, facilitating person-to-person interactions, and providing access to various resources such as financial support, employment opportunities, and knowledge.

According to Allen, Stoddard and Sorensen (2008), the presence of social support networks, such as family and friends, as well as the notion that screening is a common practice among peers, might serve as positive factors that motivate individuals to undergo screening. The impact of social networks on health beliefs and behaviors

among health care consumers in local communities is significant, as shown by Patrick, Intille and Zabinski (2005). The current study, similar to the prior studies, examined the role of social networks in facilitating or hindering women's participation in cervical cancer screening in Uasin Gishu County, Kenya.

The empirical research also indicates that women prefer obtaining health-related information through interpersonal connection with their family and friends, as opposed to impersonal methods of getting health information (Nyqvist *et al.*, 2013; Palmer, Newsom & Rook, 2016). The biological, psychological, and social characteristics unique to women contribute to the significant impact that social ties play in women's overall health and specifically in their adoption of cancer prevention behaviors (Trinh, 2017). To what degree has the involvement of family and friends, as well as the utilization of face-to-face communication, contributed to the enhancement of women's awareness of cervical cancer and their participation in cervical cancer screening inside Uasin Gishu County, Kenya? This question was relevant in the current investigation.

Numerous studies have provided evidence that various types of social support, including emotional, instrumental, informational, and appraisal support, exhibit a robust correlation with both physical and mental well-being (Honda & Kagawa-Singer, 2006). The study conducted by Gamarra, Paz and Griep (2009) aimed to investigate the potential impact of emotional social support on the utilization of cancer screening tests among female individuals in Argentina. The results of the study indicate that emotional social support significantly influenced the early identification of cervical cancer in women from Argentina. This support was particularly effective

in promoting the uptake of the Pap test. According to a study conducted in the United States that involved various Hispanic communities, there was a favorable correlation between the utilization of Pap tests and mammography and social integration (Suarez *et al.*, 2009). In a separate investigation, Tejeda *et al.* (2009) found that the daughters and female acquaintances of Latino women played significant roles in influencing their decision to undergo mammography. According to a study conducted by Suarez *et al.* (2009), the utilization of Pap tests and mammography among older, low-income Mexican-American women was found to be influenced by the number of close friends they had. Building upon previous research, this study aimed to examine the influence of several elements within social networks, including emotional social support, social integration, and demographic factors, on women's awareness of cervical cancer and their engagement in screening activities in Uasin Gishu County.

Previous research has indicated that social interactions have the potential to impact screening behaviors through multiple mechanisms. For example, the authors Allen, Stoddard and Sorensen (2008) suggest that healthcare professionals can offer information and guidance regarding the objectives of particular tests, the advantages of testing, and the importance of assessing symptoms. In addition, these interventions may offer encouragement to individuals who have previously refrained from undergoing screening, while also providing emotional support to those who experience apprehension around abnormal screening outcomes. Individuals may potentially communicate their personal experiences about screening, which could potentially have a greater impact on influencing behavior compared to sharing indirect knowledge about the tests. According to Rosenquist *et al.* (2010), social

connections can potentially facilitate an individual's ability to locate a healthcare provider or attend medical visits.

Multiple studies have provided evidence on the substantial influence of peer support on the uptake of cervical cancer screening (Byrd *et al.*, 2004; Agurto *et al.*, 2005; Logan & McIlfatrick, 2011). The goal of a study by Ncube *et al.* (2015) was to determine the elements that are associated with women in Jamaica using cervical cancer screening. The findings of the study indicated that women who had personal acquaintance with an individual diagnosed with cervical cancer were more inclined to have undergone screening within the previous year. This observation can be elucidated by the increased availability of knowledge regarding the disease and preventative strategies among individuals affected by cervical cancer.

Previous research conducted by Gan and Dahlui (2013) as well as Logan and McIlfatrick (2011) have similarly demonstrated that women who had personal acquaintances who underwent a Pap test exhibited a higher likelihood of having undergone screening themselves. Social networks have the potential to be employed for the goal of outreach, namely to promote the referral of five family members or acquaintances for screening among women who have already been screened (Alliance for Cervical Cancer Prevention [ACCP], 2004).

Furthermore, it is suggested that individuals from the immediate social network, such as family members, neighbors, and community members who have prior experience with the services, could provide support by accompanying women who may feel hesitant or scared about attending screening sessions alone (ACCP, 2004). The

present study aimed to examine the impact of various characteristics of social networks, including peer support and awareness of individuals with cervical cancer, on women's likelihood of undergoing screening in Uasin Gishu County.

Rogers (2003) supports the aforementioned conclusions by asserting that individuals who adopt innovations early on typically exhibit higher levels of social integration within networks that involve interpersonal contact, as well as a greater propensity for actively seeking knowledge about said innovation. In summary, social networks have the potential to serve as platforms for promoting screening programmes and facilitating the dissemination of knowledge and information. Additionally, they can provide emotional and instrumental support, enhance self-esteem, and foster a sense of control among users. The present investigation examined various types of social networks among women, including religious groups, neighborhood groups, workplace groups, community groups, and self-help groups (referred to as *chamas*). These routes are regarded as potentially effective means for facilitating dialogue-based interpersonal communication in order to engage a large number of women and promote their involvement in cervical cancer screening.

2.6.2 Family and Friends as Sources of Health Information on Cervical Cancer

The family serves as a fundamental cultural entity for health education in the majority of nations, contributing to the formation of culturally embedded perspectives on health and illness (Kreps, 1990). According to Kreps and Kunimoto (1994), individuals' family members and friends play a crucial role as influential sources of health information pertaining to cancer prevention, control, and care activities.

According to Kreps and Sivaram (2008), it is imperative for strategic health communication initiatives in countries with limited resources to incorporate the education of crucial family members and friends. This education aims to empower them to act as advocates and provide support for women's health information requirements.

Numerous studies have provided evidence indicating that women exhibit a preference for obtaining health-related information through interpersonal interactions with their family and friends, as opposed to relying on impersonal methods of accessing health information (Courtenay, 2000; Fuhrer & Stansfeld, 2002; Perz *et al.*, 2011).

Singh *et al.* (2012) conducted a study in India which found that older women and family members serve as the primary source of health knowledge within Indian society. The findings of a new study conducted by Madhivanan *et al.* (2016) provide confirmation about the impact of family and cultural factors on cervical cancer screening. The study highlights the significance of family support, particularly from female relatives, as a crucial factor in facilitating screening and treatment processes. This finding aligns with a previous investigation conducted by Mosavel and Ports (2015) regarding the transmission of information regarding cancer screening from a teenage daughter to her mother. The research revealed that daughters exhibited the capacity to effectively remember and convey a cancer appeal to their mothers, and women, in general, displayed a favorable disposition towards receiving such signals. Mothers not only shown receptiveness towards their daughters' pleas, but also had a notable enhancement in their understanding of cancer as a result of the chance to be educated by their younger female counterparts. Based on the analysis of the

aforementioned studies, the current study investigates the influence of familial factors on women's awareness of cervical cancer and their participation in screening activities within Uasin Gishu County, Kenya.

The investigation conducted by Dzouza *et al.* (2020) in India examined the obstacles encountered in the process of cervical cancer screening. The study's results indicated that both spouses and elderly family members exhibited a lack of support towards women who were receiving cervical screening. Additionally, these individuals generally demonstrated a lack of awareness regarding the need of conducting such screenings. The female participants expressed that engaging in conversations with the subject of screening gave rise to concerns over their modesty or the level of trust they had in their partners, resulting in a sense of discomfort that deterred them from broaching the topic.

According to a qualitative study conducted by Ndejjo (2017), women expressed apprehension regarding the possibility of their spouse abandoning them, particularly due to the financial burden associated with the treatment costs that would arise if they were diagnosed with cervical cancer. Consequently, the women refrained from undergoing screening. Consequently, the level of support for cervical screening among family members is contingent upon the dynamics of the couple's relationship, as well as the health literacy of these family members (Dzouza *et al.*, 2020). Therefore, the level of health literacy among families has a crucial role in influencing women's engagement in health screening activities. Drawing on the existing literature, this study examines the factors within the family context that hinder women's

awareness of cervical cancer and their participation in screening activities in Uasin Gishu County.

2.6.3 Health Care Providers as Sources of Information on Cervical Cancer and Influencers of Screening

Studies conducted worldwide have emphasized the significance of healthcare providers in predicting the utilization of cervical cancer screening. Arkin (2007) posits that individuals are more inclined to attend to personalized communications delivered by a medical professional. Effective communication between healthcare professionals and individuals is crucial for attaining favorable health outcomes. According to the findings of a study conducted by Abotchie and Shokar (2009), it was determined that the inclusion of primary healthcare workers, namely community health nurses, is crucial in the implementation of any prospective initiative targeting the enhancement of cervical cancer screening rates among college students in Ghana. Healthcare professionals working in clinics have the capacity to provide education to individuals, namely those who are at a higher risk of developing cervical cancer. This education aims to inform people about the various risk factors associated with the disease and encourage them to have Pap smear testing. Based on the aforementioned assertions, the present study aimed to investigate the involvement of healthcare professionals in the dissemination of information on cervical cancer and the facilitation of cervical cancer screening adoption in Uasin Gishu County, Kenya.

According to Mandelblatt and Yabroff (2000), the advice made by physicians is recognized as a highly influential factor in determining screening rates, regardless of age, socioeconomic status, or ethnicity. Okunowo *et al.* (2018) conducted a study in

Nigeria and arrived at a similar conclusion, namely that pre-counseling by medical professionals, such as doctors and nurses, had a notable impact on both the understanding of cervical cancer and the utilization of Pap smear screenings. Al-Naggar, Low and Isa (2010) have found a comparable discovery in their study conducted among young women in Malaysia. The findings of the study indicate that healthcare practitioners exert a significant influence on women's screening behaviors. The study revealed that the underutilization of cervical cancer screening may be attributed, at least in part, to a deficiency in physicians' recommendations. These studies highlight the significance of healthcare practitioners in enhancing women's awareness of cervical cancer and utilization of screening programs. Nevertheless, given that the aforementioned studies were done in different locations, it was imperative to empirically examine their hypotheses within the context of a research conducted in Uasin Gishu County, Kenya.

The need of enhancing health education provided by healthcare providers is emphasized by Wong *et al.* (2009), who found in their research that healthcare professionals had neglected to teach Malaysian women about the presence and significance of Pap smears. These results support the conclusions found in previous research investigating interventions aimed at enhancing the provision and acceptance of cervical screening (Everett *et al.*, 2011; Baron *et al.*, 2010; Musa *et al.*, 2017). Interventions aimed at provider recommendations, such as the utilization of invitation letters accompanied by follow-up phone call reminders, represent a worthwhile investment in order to attain a substantial enhancement in screening rates. A study conducted by Forbes, Jepson and Martin-Hirsch (2002) examined various treatments encompassing invites, reminders, education, message framing, counseling, risk factor

evaluation, processes, and economic variables. The study conducted by Forbes *et al.* yielded noteworthy results indicating a substantial favorable impact of invitation letters from healthcare professionals on the participation of women in cervical cancer screening. To what extent do health care personnel in Uasin Gishu County employ techniques such as letters of invitation to enhance the utilization of cervical cancer screening services among women?

Several researches have indicated that the perceived quality of physician-patient communication is a significant factor in determining patients' engagement in cancer screening (Beydoun & Beydoun, 2008; Fox *et al.*, 2009; Tessaro *et al.*, 2006). In a study to determine perceptions of risk and barriers to cervical cancer screening study conducted at the Moi Teaching and Referral Hospital, Were, Nyaberi and Buziba (2011), found that family planning counselling programmes present a favorable platform for discussing the advantages of cervical cancer screening. During consultations on reproductive health, gynecological examinations are generally more readily accepted by patients. Cervical cancer screening contributes to the enhancement of the visit's value for women. These studies emphasize the need of not only conveying cervical cancer messages to women, but also strategically selecting and utilizing communication channels in order to elicit the most effective response. Hence, the present study aimed at evaluating the efficacy of various interpersonal channels and sources in facilitating the adoption of cervical cancer screening.

The literature examined in this section has demonstrated that healthcare providers play a crucial role as a primary source of information regarding cancer screening. The significance of consistent health education and counseling for women regarding

cervical cancer, its prevention, and screening tests inside healthcare facilities or the community should not be underestimated, particularly in the absence of a well-established coordinated cervical screening program. The significance of healthcare providers' role in women's health facilities is underscored by the current study, which recognizes their potential as major sources of cervical cancer information and facilitators of screening uptake through interpersonal communication.

2.6.4 Community Health Workers and Volunteers as Providers of Information on Cervical Cancer

Community health workers (CHWs) have the capacity to effectively disseminate health information to individuals through direct interpersonal communication. The significance of community health workers (CHWs) and clinic visits as crucial channels for women to access health information has been acknowledged in previous research (Keating, Meekers & Adewuyi, 2006). In accordance with the findings of the American College of Clinical Pharmacy (ACCP) in 2004, the utilization of community outreach strategies, specifically through community-based information dissemination and educational initiatives, have proven to be a highly effective approach in raising awareness among eligible women on the significance and accessibility of cervical cancer screening. Numerous healthcare systems employ certified Community Health Workers (CHWs), volunteers, and peer educators to disseminate information regarding disease prevention within communities and to encourage the utilization of accessible healthcare services. Community Health Workers (CHWs) generally possess an advantage in establishing rapport with women in the target group due to their shared residence in the same communities and similar

lifestyles. This advantage is typically not enjoyed by practitioners operating within a clinic environment. In numerous instances, these healthcare professionals often necessitate just informational updates pertaining to cervical cancer prevention in order to integrate the subject matter into their preexisting and continuous outreach efforts. Building upon the existing literature, this study aims to investigate the association between the features of Community Health Workers (CHWs) and the level of women's awareness of cervical cancer as well as their participation in cervical cancer screening activities in Uasin Gishu County, Kenya.

In a study conducted by Arrossi *et al.* (2015) in Argentina, the researchers aimed to assess the impact of self-collection of HPV DNA, provided by community health workers during home visits, on the participation rate of cervical screening. The results of the study indicated that Community Health Workers (CHWs) had a favorable impact on the women involved. The participants in the intervention group received education regarding cervical cancer and HPV testing, and were thereafter motivated to go a healthcare facility for the purpose of undergoing screening. The intervention group demonstrated a much higher uptake of cervical cancer screening, with a rate of 86%, compared to the control group, which had a rate of 21%, throughout a 12-month timeframe. Given that networks of community health workers are already engaged in delivering health services and promoting health among low- and middle-income populations, as well as those who are difficult to reach, in developing nations, their involvement in interpersonal communication for cervical cancer prevention could potentially enhance screening coverage in Kenya. The primary objective of this study was to investigate the role interpersonal communication in enhancing participation in screening for the disease in Uasin Gishu County, Kenya.

2.6.5 Opinion Leaders as Influencers and Sources of Health Messages

In a community, those who usually provide advice and information to other people and maintain a high level of credibility are usually referred to as opinion leaders. According to Rogers (1995), opinion leadership is the degree to which an individual can influence other individuals' attitudes or overt behaviour informally in a desired way with relative frequency. The capacity to begin and foster communication and social engagement with others is a crucial aspect of opinion leadership (Kim *et al.*, 2017). According to Curran, Thrush and Smith (2005), opinion leaders are those who possess a high level of credibility and interpersonal communication abilities, enabling them to effectively influence the decision-making processes of others. Furthermore, it is posited that guidance or information originating from opinion leaders is, to some extent, disseminated to others through interpersonal communication, hence exerting influence on others (Kim *et al.*, 2017).

Hornik *et al.* (2002) and Southwell and Yzer (2007) found that interpersonal communication influences health behavior. Research has indicated that there exist various influential elements that establish a connection between opinion leadership and behavioral results. These aspects encompass media exposure, social relationships, expertise, and others (Weimann, 1994). When considering the application of this reasoning to the domain of health, it becomes evident that individuals who are regarded as opinion leaders have a heightened necessity and inclination to acquire knowledge and actively participate in their specific field of expertise (Weimann, 1994). Hence, those who hold influential positions are inclined to actively pursue knowledge and participate in group discussions pertaining to matters of public health. Building upon the existing body of literature, this study sought to investigate the role

played by influential figures, such as politicians and chiefs, in enhancing women's awareness of cervical cancer and their utilization of screening services in Uasin Gishu County.

2.6.6 Religious Institutions as Avenues for Preventive Health

Theoretical frameworks such as the religious coping theory proposed by Pargament (1997) and the social support theory put forth by Israel and Schurman (1990) propose many potential mechanisms by which religious considerations may impact the utilization of preventive health services, specifically in the context of cancer screening behavior. Church participation, as commonly understood, refers to the regularity of attending religious services or engaging in church-related activities (Idler, 1999). This level of involvement may impact an individual's exposure to church norms, such as abstaining from smoking and practicing moderation in alcohol use, both of which are recognized as risk factors for cervical cancer. Furthermore, the provision of enhanced opportunities for individuals to obtain religious support, which encompasses instrumental, informational, or emotional aid exchanged within a religious community, has the potential to mitigate the impact of stressful life events. This, in turn, can enhance individuals' capacity to effectively manage and cope with adverse occurrences, such as receiving abnormal screening results (Krause, 1999; Perez *et al.*, 2011; Strawbridge *et al.*, 1997; Van Olphen *et al.*, 2003). The primary objective of this study was to investigate the correlation between the religious demographics of participants and their utilization of cervical cancer screening services in Uasin Gishu County, Kenya.

The influence of an individual's connection with a higher power on their perception of control over outcomes has been explored in previous research (Thoresen & Harris, 2002). The establishment of a cooperative association with a higher authority in the supervision of one's well-being, referred to as an active spiritual health locus of control, has the potential to enable individuals to actively participate in actions that promote their own health. In contrast, individuals with a passive spiritual health locus of control may exhibit a tendency to place exclusive reliance on divine intervention in determining their state of health (Holt *et al.*, 2007). Religion can potentially influence health behaviors by means of religious coping, which refers to the manner in which individuals employ religion to comprehend and manage sources of stress (Pargament, 1998). Positive religious coping refers to the utilization of constructive religious strategies to comprehend and effectively deal with various stressors in life. Conversely, negative religious coping pertains to the experience of religious challenges and difficulties when attempting to cope with these stressors (Pargament, 1989). Building upon the existing literature, the current study sought to investigate the influence of religious views and affiliations on women's awareness of cervical cancer and their likelihood of undergoing screening in Uasin Gishu County.

According to Campbell *et al.* (2007), it has been suggested that churches should focus on reaching underprivileged people by implementing cancer education programs. Churches serve as ideal collaborators for the implementation of evidence-based treatments because to their significant involvement in offering reliable spiritual direction, culturally sensitive communication, social support, and networking opportunities (Campbell *et al.*, 2007; Pew Hispanic Centre, 2009). Churches also offer infrastructure and amenities for the implementation of health promotion

initiatives, which can contribute to the establishment of institutionalized programs. According to Campbell *et al.* (2007), numerous churches perceive health promotion as an integral component of their purpose. They demonstrate a keen interest in offering health programs and attribute significant importance to volunteerism, as it facilitates the implementation of such programmes. This study aims to assess the impact of churches on the effectiveness of interpersonal communication with cervical cancer messages among women in Uasin Gishu County.

2.7 Role of Interpersonal Communication Channels in Uptake of Cervical Cancer Screening

There exists a scarcity of research establishing a connection between interpersonal communication and the practice of cervical cancer screening. Consequently, pertinent studies have been considered. In their study, Yoo, Kwon, and Pteiffer (2013) aimed at investigating the impact of communication on colorectal cancer screening within the United States. The researchers discovered that mass media plays a comparatively significant role in enhancing awareness and understanding of cancer-related dangers. However, it has been discovered that interpersonal communication has a crucial role in influencing individuals to adopt certain behaviors, such as cancer-preventive behaviors, due to its ability to provide prompt and ongoing feedback. Conversations pertaining to colorectal cancer screening (CRC) among familial circles serve as a catalyst for individuals to have a CRC screening examination. The study under evaluation investigated the levels of knowledge and screening practices related to colorectal cancer, whereas the present study focused on the levels of knowledge and screening practices for cervical cancer. The results of the reviewed study emphasize

the significance of interpersonal contact in augmenting knowledge and screening rates for colorectal cancer. This study aimed to explore the potential factors that could influence women's participation in screening programs as a preventive measure against the increasing incidence of late-stage disease diagnosis.

Hendriks (2014) conducted a study in Amsterdam, Netherlands, which demonstrated that a more comprehensive understanding of the effects of health campaigns, as well as prospective avenues for improvement, may be achieved by considering interpersonal communication channels. Individuals have the ability to engage in discussions pertaining to health-related subjects or the substance of health campaigns on a personal level. These talks possess the potential to exert an influence on the effectiveness of health campaigns (Real & Rimal, 2007).

Southwell and Yzer (2007) have emphasized the notion that there is a connection between health campaigns and interpersonal communication. They posit that interpersonal communication can indeed contribute to the impact of health campaigns. According to Van den Putte *et al.* (2011), conversations stimulated by health campaigns have the potential to impact persuasion results, thereby playing a mediating function. The impact of conversational occurrence on health campaign outcomes is influenced by its moderating role, as it can alter, diminish, or amplify these benefits (Southwell & Torres, 2006). Moreover, some studies have indicated that the manner in which individuals engage in discussions regarding health matters, specifically the degree of positivity or negativity expressed (referred to as conversational valence), significantly impacts health behaviors and the effectiveness of health campaigns (Dunlop *et al.*, 2010).

The literature reviewed highlights the significance of interpersonal interactions or dialogues in facilitating health behavior outcomes. Hence, the current study aimed to investigate the utilization of interpersonal communication sources and channels in order to enhance women's awareness of cervical cancer and their participation in screening activities within Uasin Gishu County, Kenya.

Many research investigations have demonstrated that interpersonal communication has a significant role in shaping human behaviour, as individuals tend to exhibit enhanced information processing capabilities when engaging in discussions with others. Engaging in dialogue regarding newly acquired information facilitates individuals in comprehending and integrating the information with their existing knowledge on the subject matter (Hardy & Scheufele, 2005). Interpersonal communication can exert an additional influence on behavior through its social dimensions. According to Schuster *et al.* (2006), interpersonal communication is characterized by interactivity and the exchange of information in both directions. Engaging in conversations with individuals around the subject of health will always lead to deliberations of the merits and drawbacks associated with a preferred behavior. These talks have the potential to facilitate the sharing of strategies for addressing challenges related to the implementation of healthy behaviours. While mass communication primarily serves the purpose of disseminating information, interpersonal communication is characterized by a more interactive and reciprocal exchange (Schuster *et al.*, 2006).

The existing body of literature served as a source of inspiration for the current research, which aimed at investigating the potential utilization of several aspects of

interpersonal communication, such as dialogues, to improve women's knowledge of cervical cancer and their participation in screening activities in Uasin Gishu County.

Schuster *et al.* (2006) propose that interpersonal communication has the potential to impact behavior through contributing to the establishment of social norms surrounding the desired behavior. Discussions pertaining to the campaign may lead to the sharing of viewpoints over the (un)healthy conduct. The perspective of the interlocutor has the potential to either validate or challenge an individual's sense of the prevailing social standard about (un)healthy conduct. In addition to the prevailing societal norms, the presence of social support for engaging in healthy behaviors may be a significant factor contributing to the influence of interpersonal communication on behavior. The notion that interpersonal communication plays a significant role in providing social support for engaging in positive behaviors is supported by the findings of Boulay *et al.*'s (2002) study. The aforementioned perspectives aided the current researcher in contemplating the potential utilization of interpersonal communication as a means to establish a sense of normalcy in discussions pertaining to cervical cancer, as well as dispel any misunderstandings around the disease and screening procedures within Uasin Gishu County.

In a study conducted by Rupali (2012), the objective was to ascertain the impact of interpersonal communication and communication networks on HIV/AIDS-related behaviors in Malawi. The research revealed that the presence of norms within an individual's personal network may have an impact on engaging in protective sexual behaviors. Rupali proposes that the implementation of social norm treatments through interpersonal communication could serve as a novel strategy to enhance the adoption

of protective sexual behaviors. In a study conducted by Hendriks (2014) in Amsterdam, Netherlands, it was shown that interpersonal communication plays a significant influence in predicting health behaviors and the effectiveness of health campaigns, specifically in relation to alcohol use. The study presented findings indicating that the discussion of health issues has an impact on individuals' intentions to engage in healthy or unhealthy behaviors. Furthermore, the manner in which individuals express their opinions about health issues influences the factors that predict health behavior. Lastly, the study revealed that exposure to a health campaign that elicits fear can lead individuals to express more negative views towards unhealthy behaviors in their conversations. These perspectives highlight some factors that hinder or facilitate cervical cancer screening, which were relevant to the current investigation as well.

According to a study conducted by Genuis (2015) in Canada, it was shown that the dissemination of knowledge through oral communication remains a potent force. The study illustrated the utilization and significance of information conveyed through both formal (health professionals) and informal (family, friends, and others) interpersonal contacts in the context of personal health management. The research revealed that direct, in-person interpersonal connections were significant in the process of women comprehending specific information pertaining to their health management. Formal interpersonal contacts were highly regarded because to their ability to provide expert knowledge and assist individuals in effectively navigating conflicting information from many media sources. The confidence and utilization of information provided by health professionals were influenced by relational factors, including trust and a collaborative communication style. Informal interpersonal interactions held

significant value in terms of acquiring experiential and biological information, whereas the experiences of mothers exerted a notable influence on women's perception of their own experiences. The management of personal health difficulties is significantly influenced by interpersonal information behaviour. This phenomenon is notably apparent within the domain of women's health (Ramirez, Wathen, & Harris, 2006; Yeoman, 2010). Interpersonal communication sources have been found to contribute to favourable results (Johnson, 2007), as they promote the interchange of information and discourse (Davies & Bath, 2002), while also offering contextualization and validation for personal experiences (Veinot, 2010; Yeoman, 2010).

The literature examined indicates that interpersonal communication sources and channels have been found to be efficacious in influencing attitudes, skills, behavior, and behavioral intentions. In order to be deemed effective, communication must successfully engage the intended audience, capture their attention, convey a comprehensible message, facilitate the promotion of change, and ultimately result in a modification of behavior that leads to improved health outcomes.

2.8 Interpersonal Communication Barriers to Uptake of Screening

The majority of research conducted on impediments to the adoption of screening procedures mostly concentrate on factors associated with demography, risk perception, and health systems. Nevertheless, there has been limited research conducted on the subject of interpersonal communication difficulties. Hence, the literature evaluation in this particular subsection centers on difficulties pertaining to communication.

Nyambane (2016) conducted a study to examine the impact of electronic media on the promotion of cervical cancer awareness among women accessing reproductive health services at the Kenyatta National Hospital in Nairobi, Kenya. Several hurdles were observed in relation to cervical cancer, including a lack of comprehensive information regarding key topics, cultural views, and prevalent myths and prejudices. The study conducted by Nyambane focused on barriers within electronic media channels, whereas the present study investigated hurdles within interpersonal communication channels. However, the study that was evaluated sheds light on the obstacles to communication around cervical cancer. This analysis was valuable in assessing how interpersonal communication impacts women's understanding and utilization of cervical cancer screening in Uasin Gishu County.

In a study conducted by Kabiri and Komuhangi (2021), the examination of facilitators and barriers to cervical cancer screening among female undergraduate students at Makerere University revealed several noteworthy findings. Among the identified barriers were concerns regarding potential negative test results, a diminished perception of personal risk, and apprehension related to potential embarrassment, among other factors. The hurdles of fear and humiliation in participating in cervical cancer screening programs among African women in various countries have been consistently documented in the literature (Bukirwa *et al.*, 2015; Kabiri & Komuhangi, 2021; Adewumi *et al.*, 2022). The majority of women exhibit a preference for undergoing screening procedures in the presence of a female healthcare professional, such as a doctor or nurse. Some women may choose not to undergo screening tests due to the expected fear of pain associated with the process (Adewumi *et al.*, 2022). Various studies conducted in Uganda have documented the manifestation of fear in

different contexts. These studies have identified several sources of fear, such as the apprehension of contracting infections due to the utilization of non-disposable speculums or inadequate sanitary practices (Hasahya *et al.*, 2016; Paul *et al.*, 2013; Teng *et al.*, 2014). Additionally, concerns have been raised regarding the potential link between the procedure and the development of cancer (Teng *et al.*, 2014), as well as the possibility of experiencing enlargement of the sexual parts (Nakimuli, Nabunya & Mutyaba, 2012) or the removal of the uterus (Hasahya *et al.*, 2016). These concerns occur as a result of the differing degrees of limited understanding regarding the screening process. Hence, elucidating the process via effective interpersonal communication channels has the potential to mitigate anxiety levels and enhance the acceptance of screening. Therefore, the primary objective of this study was to investigate the potential of interpersonal communication as a means to enhance awareness and utilization of cervical cancer screening among women residing in Uasin Gishu County, Kenya.

Adewumi *et al.* (2022) conducted a study aimed at identifying the factors that impede or promote cervical cancer screening in Western Kenya. The findings of their research indicated that limited awareness and knowledge regarding cervical cancer, as well as healthcare providers' inadequate understanding and unease in addressing the sensitive topic of cervical cancer, were notable obstacles to the uptake of screening services. A significant proportion of women possess limited understanding of cervical cancer as a medical condition, as well as the accessibility and significance of cervical cancer screening services. These findings are consistent with the research conducted by Gichangi *et al.* (2003) and Kidanto *et al.* (2002), which also shown that women possess a limited understanding of cervical cancer. The efficacy of utilizing mass

communication channels for the transmission of health information to the general public may be limited in terms of its ability to reach the entire population. The dissemination of information regarding cervical cancer through mass media channels sometimes lacks comprehensive and nuanced coverage, resulting in an oversimplification of the topic. Consequently, the primary achievement of such efforts is the generation of awareness rather than the desired modification of behavior.

2.9 Theoretical Framework

The research was informed by Rogers' (2003) theory of diffusion of innovations (DOI). The DOI model has effectively facilitated numerous interdisciplinary endeavors in elucidating the phenomenon of social change. The theory elucidates the mechanisms through which novel concepts and methodologies disseminate across and across various communities (Rogers, 2003; Valente, 1995). According to Rogers (2003), diffusion refers to the transmission of an innovation through certain channels over a period of time among individuals within a social system.

The rate of adoption is influenced by the innovation at hand, communication channels, time, and the social system (Rogers, 2003). The richness of diffusion theory comes from its explicit measure of the role of external influences and social networks in the adoption decision (Valente, 1995). Innovations flow through social networks, which sometimes impede and sometimes accelerate behavioural spread (Valente, 1995). The premise, confirmed by considerable empirical research, is that new ideas and practices often spread through interpersonal contacts largely through interpersonal communication, especially if the interpersonal channel links two or more individuals who are near peers (Rogers, 2003). Diffusion theory, therefore,

emphasizes interpersonal communication more than any other area of communication research (Rogers & Singhal, 1996).

Dearing and Kreuter (2010) suggest that diffusion is a social phenomenon that may or may not transpire subsequent to the transmission of knowledge pertaining to a novel practice, program, or policy. Due to the novelty of technological advancements, a significant number of individuals experience initial uncertainty towards them. Hence, individuals partake in interpersonal contact as a means to address and alleviate their state of uncertainty. Diffusion occurs as a result of interpersonal or collective communication within the confines of a social system. The initial distribution of information is a crucial step in ensuring that individuals become aware of a new innovation. However, it is important to note that simply providing knowledge is often not enough to generate attention, shape attitudes, and induce changes in behavior (Dearing & Kreuter, 2010).

Social influence is often necessary to address the knowledge-attitude-practice gap, particularly when individuals perceive the innovation to be significant and are inclined to seek the opinions of others before making important decisions (Dearing & Kreuter, 2010). Social interactions play a crucial role in the dissemination of innovation, as individuals are influenced by one another through various means such as physical proximity, collaborative efforts (Goldstein, Cialdini & Griskevicius, 2008), verbal communication, active listening, experimentation, and the emulation of observed behaviors (Bettencourt *et al.*, 2008). Diffusion, then, is a dynamic process of change, involving both potential and actual users of innovations. The rate of diffusion of an idea is influenced by various factors. These factors encompass the decision-

making process, attributes of innovation, communication channels, characteristics of the social system, promotional efforts by the change agent, and the characteristics of adopters, which are determined by patterns of similar behavior (Rogers, 2003).

The efficacy of the DOI hypothesis has been proven in multiple domains, including as public health, agriculture, social work, marketing and communication (Sahin, 2006).

The Diffusion of Innovations (DOI) framework has been widely utilized in the field of public health to facilitate the adoption of important interventions aimed at modifying the behavior of a specific social system (Denis *et al.*, 2002).

2.9.1 Innovation Decision Making Process

According to Rogers (2003), the innovation-decision process can be characterized as a cognitive process involving the acquisition and processing of information. This process is driven by an individual's need to minimize ambiguity regarding the potential benefits and drawbacks associated with adopting an invention. In relation to the current investigation, the act of finding and digesting information plays a crucial role in the adoption of cervical cancer screening. The innovation-decision process encompasses a series of five sequential steps as proposed by Rogers (2003). These steps include learning about the innovation, forming an opinion about it or being persuaded to accept it, deciding whether to accept it or not, integrating the innovation or putting it into practice, and confirming the decision through reinforcement. In connection to the adoption of cervical cancer screening, this study looks at how social networks are used.

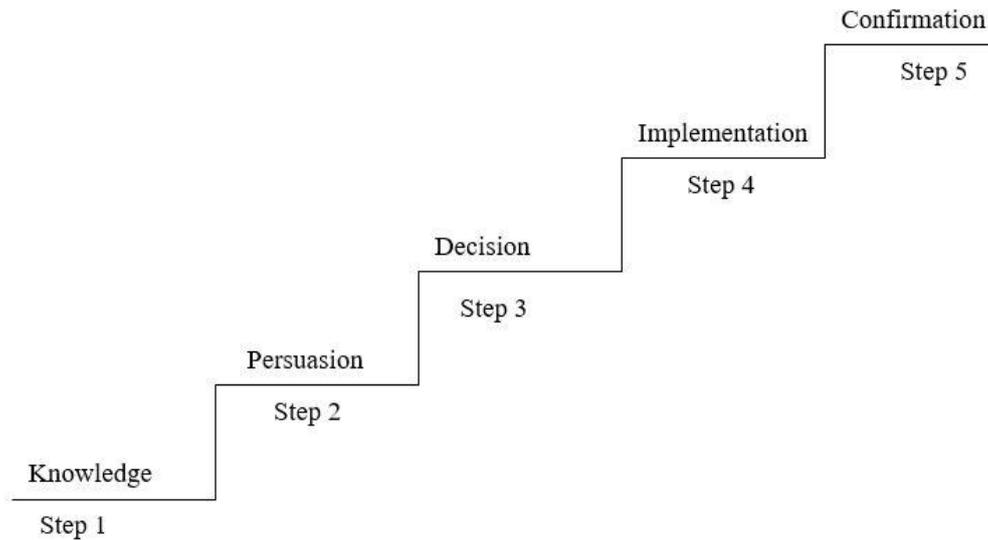


Figure 2.1: Diagrammatical representation of the innovation-decision process

There are five factors that influence whether or not an innovation will be successfully adopted and diffused from person to person: relative advantage, compatibility, complexity, trialability and observability (Rogers, 2003). Compared with traditional ideas, innovations should have advantages, should be compatible with legacy knowledge, as well as lower complexity and easy testability and observability in usual life. Considering cervical cancer screening, the focus of this study, the observable benefits include reduced suffering due to HPV-related infections, reduced cancer deaths, and healthy and productive women in the society.

Individuals' rates of innovation diffusion and concept adoption are affected by the channels through which the invention is communicated (Rogers, 2003). Mass media channels provide information whereas interpersonal interactions influence opinion and judgment thus influencing adoption process. The present study focused on the interpersonal communication channels, which are regarded as influential in the

diffusion process and are more convincing to women to undertake cervical cancer screening.

Social norms and the network interconnection that promotes the acceptance of these standards are two characteristics of the social system that effect the diffusion of innovation. No matter how eager an individual is to alter their behavior, societal norms may stand in the way (Rogers, 2003). Individual credibility and the innovation's conformance with established standards are linked to the success of change agents' efforts to spread the word about it (Rogers, 2003). If the healthcare providers, administration leaders and religious leaders are involved as change agents, the barriers to cervical cancer screening will be broken. These change agents are trusted in society and can counter societal norms that hinder women from being screened.

The members of a social system are classified based on innovativeness. They include innovators, early adopters, early majority, late majority and lastly laggards (Rogers, 2003). Innovativeness, in the context of this study, is the degree to which a woman adopts cervical cancer screening as a new idea earlier than other women. Women who have undertaken screening fall in the category of early adopters who are normally few. The early majority, late majority and laggards are the target of the study. It is crucial to have all women participate in early screening to avoid being diagnosed with cervical cancer in its late stages when little can be done in terms of curative interventions.

2.9.2 Application of Diffusion of Innovation Theory to the Study

This theory is applicable to this study in that it is concerned with how diffusion (communication) of an innovation (cervical cancer screening) through certain channels (interpersonal channels) over a period (decision-making period to seek cancer screening) can be enhanced among women in Uasin Gishu County (social system-women's relationships). Interpersonal communication is a major factor in the spread of health-related information, which the DOI theory asserts. The changes in behaviour needed to halt cervical cancer epidemic constitute what Rogers has labelled a 'preventive innovation', defined as an idea that an individual adopts at one point in time to lower the probability that some future unwanted event may occur (Rogers, 2003).

Innovation-decision making process, as stated in the theory, typically follows a time-ordered manner. Knowledge occurs when an individual is exposed to the innovation's existence and gains some understanding of how it functions. "What?" "How?" and "why?" are the critical questions in the knowledge phase. During this phase, the individual attempts to determine what the innovation is and how and why it works (Rogers, 2003). At this stage, the women are first exposed to an innovation but lacks adequate information about the it (possibly through the mass media). During this stage of the process, an individual has not been inspired to find more information about the innovation. According to Rogers (2003), persuasion occurs when a person forms a favourable or unfavourable attitude towards the innovation.

The individual's attitude is influenced by their knowledge of the innovation. The persuasion stage places a greater emphasis on emotive or emotional aspects.

Therefore, at the persuasive stage, the individual becomes more actively engaged with the invention in a heightened manner. The level of uncertainty surrounding the operational aspects and significance of cervical cancer screening, as well as the social validation received from many sources such as coworkers, peers, and relatives, might influence an individual's perceptions and convictions towards the invention. The process of decision-making takes place when an individual actively participates in various actions that ultimately result in the selection of either accepting or rejecting an innovation. According to Rogers (2003), innovations that undergo a partial trial basis tend to be adopted at a faster rate. This is because individuals often prefer to personally test the innovation in their own circumstances before making a judgment regarding its adoption.

As revealed in previous studies, some women have been screened while others have not. Implementation occurs when an individual puts an innovation into use (Rogers, 2003). Therefore, in this study, it was presumed that some respondents would choose to undertake screening and to adhere to the 2-3-year intervals. However, uncertainty about the outcomes of the innovation for some is a hindering factor. Confirmation finally occurs when an individual seeks reinforcement of an innovation decision that has already been made (one finds out what the peers think about cervical cancer screening). One may reverse this previous decision if exposed to conflicting messages about the innovation (myths and misconceptions that others have about screening). Nevertheless, the individual exhibits a tendency to avoid engaging with such messages and instead actively searches out supportive messages that validate her decision, particularly from credible sources such as healthcare professionals. Therefore, attitudes assume greater significance throughout the confirmation phase.

During this stage, the occurrence of subsequent adoption or discontinuance is contingent upon the level of support for the adoption of the innovation and the attitude of the individual.

2.10 Conceptual Framework

A conceptual framework was developed to provide clear links between the independent and dependent variables in this research. In this study, it was presumed that conviction about the benefits of cervical cancer screening from the interpersonal interactions would lead to adoption of the screening by women seeking healthcare services at MTRH in Uasin Gishu County, Kenya. The conviction to be screened is a factor of age, education level, income level and the number of children born to a mother.

The interplay of awareness and knowledge levels on cervical cancer, sources of information and their effectiveness, role of interpersonal communication and interpersonal communication barriers in relation to uptake of cervical cancer screening have been diagrammatically presented in the conceptual framework (Figure 2.2).

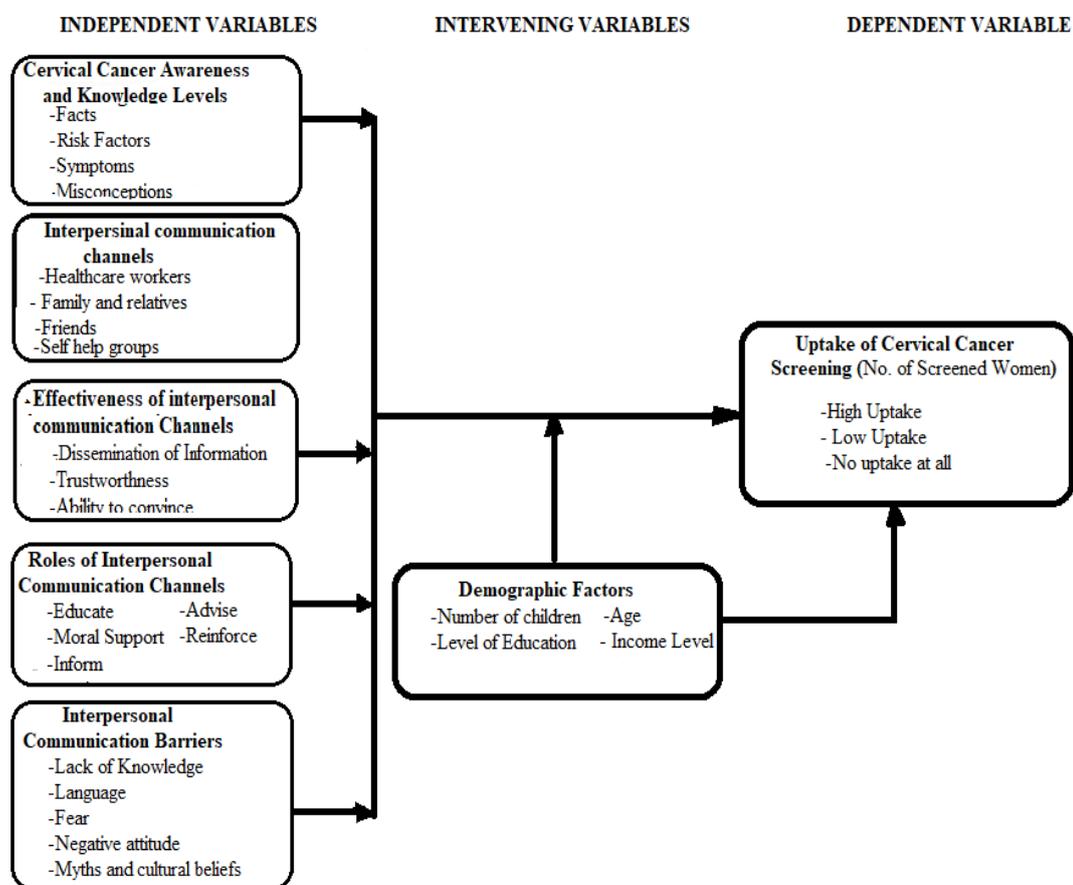


Figure 2.2: Conceptual framework

Source: Researcher (2022)

2.11 Knowledge Gaps

From the review of related literature, it is evident that many studies have been conducted on cervical cancer. Most communication studies done in relation to cervical cancer in Kenya have focused on the mass media communication and cervical cancer (Nyambane, 2016; Karaimu & Kimotho, 2016). Studies that have linked interpersonal communication and other health-related behaviour changes, such as colorectal cancer screening (Yoo *et al.*, 2013), alcohol abuse and binge drinking (Hendriks, 2014), HIV/AIDS-related behaviours (Joram, 2010; Ndati, 2011), maternal and child survival (Ting'aa, Siringi & Nzioka, 2018), and voluntary medical male

circumcision (Otteng, 2020), have shown that interpersonal communication is directly linked to health-enhancing behaviours. It is for this reason that the study sought to bridge the existing knowledge gap by investigating the use of interpersonal communication to enhance uptake of cervical cancer screening among women in Uasin Gishu County, Kenya.

Kenya does not have a standardized cervical cancer screening program for its citizens. That leaves us with the practice of spontaneous screening. Cervical cancer rates and deaths have been drastically decreased in countries with comprehensive screening programs. Regular two-way communication and counselling about cervical cancer, its prevention, and screening tests in health facilities or the community is crucial in the absence of an established cervical screening system. This is due to the increased frequency with which female patients consult physicians and other medical professionals. This is why the study set out to assess the efficacy of such interpersonal communication channels in disseminating knowledge about cervical cancer to women and encouraging them to get screened for the disease.

2.12 Chapter Summary

The reviewed literature revealed that lack of awareness and knowledge on cervical cancer, to a large extent, hinders uptake of cervical cancer screening. For the cervical cancer screening to be utilized in full, women need to be aware of the availability of such services in health facilities and need to have adequate knowledge of the disease. This will maximize uptake of cervical cancer screening, thereby reducing morbidities and mortalities resulting from cervical cancer in Kenya and the rest of the world. In conjunction with a focus on uptake, providers of screening services need to promote

informed decision-making among women by providing adequate information on the benefits of early screening using effective channels of communication. Better health education about cervical cancer through provision of adequate information in face-to-face interpersonal communication context, which was the focus of the present study, is likely to improve women's knowledge about the disease and enhance the uptake of cervical screening.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the study area, the paradigm used, research design, research approach, target population, sample size, sampling procedures, data collection tools and procedures, validity, reliability, and trustworthiness of the research instruments. It further discusses how data was analyzed and presented, the logistical and ethical considerations of the study. Finally, the chapter explains how the research findings of the study were disseminated to the public.

3.2 Study Area

Data was collected from the maternal child health (MCH-FP) clinic at the Moi Teaching and Referral Hospital (MTRH). MTRH is situated in Eldoret town, specifically in Eldoret East Constituency in Uasin Gishu County, Kenya. MTRH was identified as representative of the entire Uasin Gishu County since it is a Multi-Specialty International Teaching and Referral Hospital serving the Western half of Kenya and has a population of over 25 million. It is Kenya's second National Teaching and Referral Hospital after the Kenyatta National Hospital.

MTRH offers specialized services ranging from oncology, gynecology, intensive care unit (ICU), kidney transplants, alcohol and drug abuse rehabilitation, spine and neurosurgical operations, cardiology and cardiothoracic services, open heart surgery, corneal transplants and arthroscopic (shoulder and knee) surgeries. Other services include postpartum intrauterine devices (PPIUD) and 24 hours training surgeries.

According to the National Cervical Cancer Prevention Programme Strategic Plan (MPH/MMS, 2012), the suggested primary service entry points for outreach and in-reach efforts in mass cervical cancer screening campaigns in Kenya consist of Maternal Child Health-Family Planning (MCH-FP) clinics, Comprehensive Care Clinics (CCCs), and Obstetrics and gynecology wards/clinics. The selection of the MCH-FP clinic for study was motivated by its role as a primary entry point for cervical cancer screening. In addition, the MCH-FP clinic consists of four distinct sub-divisions, specifically the well baby clinic, which focuses on immunization and the care of sick children, the family planning clinic, the antenatal clinic, and the postnatal clinic. This observation substantiates the notion that female individuals who are receiving healthcare services at this particular establishment engage in sexual activity, hence suggesting their potential exposure to the human papillomavirus, a known causative agent of cervical cancer.

The study location was selected based on the observation that a higher proportion of women in Kenya tend to seek reproductive health care during the period of pregnancy. Additionally, individuals utilize reproductive health care to undergo postnatal examinations, engage in family planning, or address other gynecological issues. The patients' attendance at the clinics presents a valuable occasion to impart knowledge via direct interpersonal interaction regarding the significance of and available resources for cervical cancer screening services. Promoting the participation of these women in cervical cancer screening is crucial in mitigating the escalating prevalence of this disease.

Furthermore, the MCH-FP clinic functions as a comprehensive outpatient center for reproductive health and infant care, catering to a significant number of women residing in Eldoret Municipality and its surrounding areas, particularly the western region of Kenya. This population is estimated to consist of approximately 400,000 individuals, with around 90,000 being women of reproductive age (Were *et al.*, 2011). Based on the records of MTRH hospital in 2016, it was observed that around 1,000 women per month actively sought out the MCH/FP services provided by the hospital. The numerical value in question exhibits a higher magnitude in relation to other medical facilities within the County. Consequently, it became imperative to investigate the extent to which women make use of the accessible and cost-free cervical cancer screening services. Additionally, it was necessary to ascertain the extent of utilization of cervical cancer screening services and examine the influence of interpersonal communication sources and channels on the utilization of screening.

The other reasons MTRH was chosen as a suitable study area included the fact that it offers cervical cancer screening services free of charge during weekdays. Therefore, women can access the services when attending the MCH-FP clinics or they can voluntarily seek the services. Moreover, Moi Teaching and Referral Hospital (MTRH) boasts a team of proficient healthcare professionals, encompassing gynecologists, oncologists, and nurses, who are readily available at a comparatively affordable expense, in contrast to their counterparts in the private sector. The study incorporated healthcare providers as key informants. Finally, the Moi Teaching and Referral Hospital (MTRH) operates as a walk-in healthcare institution, allowing individuals to obtain medical services without the requirement of a referral from other healthcare establishments. The Hospital also receives referral cases from many regions in the

country, thereby serving as an accurate reflection of the cervical cancer screening rates in Kenya.

3.3 Philosophical Paradigm

Every research is anchored on a philosophical foundation. The term paradigm is used to refer to the philosophical assumptions or a basic set of beliefs that guide the actions and define the worldview of the researcher; a framework through which knowledge is filtered (Lincoln, Susan & Egon, 2011). It is a foundational perspective carrying a set of assumptions that guides the research process (Leavy, 2017). Jwan and Ongondo (2011) argue that the research process is influenced by the researchers' underlying philosophical beliefs and worldviews, which may or may not be made public.

In this investigation, the pragmatic paradigm was used. It has been established that pragmatism, a deconstructive paradigm (Teddlie & Tashakkori, 2003, 2009; Creswell & Plano-Clark, 2011), promotes the use of mixed techniques in scientific inquiry. In place of blind adherence to a single set of guidelines or theories, pragmatism recognizes the contextual relevance of research methods (Leavy, 2017). Instead of debating what is true or genuine, it looks at 'what works' as the truth in regards to the study topics at hand (Teddlie & Tashakkori, 2003). According to pragmatism, the researcher's values should be considered when interpreting the findings of a study (Teddlie & Tashakkori, 2003), hence the researcher should not have to decide based on the outcomes of the paradigm wars.

3.4 Research Design

Descriptive cross-sectional research design was used in the study. Descriptive cross-sectional design involves collecting data from a representative sample of the population at a specific point in time to estimate the prevalence of the conditions of interest with sufficient accuracy (Bangdiwala, 2019). Cross-sectional survey collects information from a sample that has been drawn from a predetermined population the information is collected at just one point in time; the time it takes to collect all the data may be a day to a few weeks or more (Fraenkel & Wallen, 2006). To achieve this, a representative sample size was obtained to effectively assess the use of interpersonal communication in the uptake of cervical cancer screening.

3.5 Research Approach

This study utilized a mixed methods research approach. The mixed methods approach provides a means of integrating quantitative and qualitative approaches in a single research study (Yin, 2003). The premises of this approach are that a single data set is not sufficient, that different questions need to be answered, and that each type of question requires different types of data. The core assumption is that a combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone (Creswell, 2014).

According to Creswell and Plano-Clark (2011), a mixed-methods research approach has its own philosophical assumptions and methods of inquiry. As a methodology, it includes philosophical assumptions to provide directions for the collection and analysis of data from multiple sources in a single study (Dawadi, Shrestha & Giri, 2021). Effective mixed methods research, therefore, involves making purposeful and

logical decisions about what types of data and analysis techniques will be most appropriate for answering the research questions (Creswell, 2014).

Central to the application of mixed methods research in pragmatism is the development of research questions that can be answered by integrating the results of quantitative and qualitative research (Creswell & Plano-Clark, 2011; Teddlie & Tashakkori, 2009). The emphasis on using mixed methods is on a value system in which the researchers choose the appropriate methods to answer research questions, rather than the methods themselves (Teddlie & Tashakkori, 2009; Creswell & Plano-Clark, 2011). The core assumption of the mixed methods research approach is that mixing quantitative and qualitative approaches provides a complete understanding of the research problem than does using only one type of methods (Creswell, 2014; Molina-Azorin, 2016).

The study sought to assess the influence of interpersonal communication on the uptake of cervical cancer screening by gathering quantitative data the use of questionnaires and qualitative data using key informant interviews and focus group discussions. This combination of methods yielded rich data on the sources of information on cervical cancer, knowledge levels on cervical cancer and interpersonal communication sources/channels deemed effective in promoting uptake of screening, among others. Therefore, the concurrent use of mixed methods served to ensure there were no ‘gaps’ to the data collected in the study.

3.6 Target Population of the Study

All women within the reproductive age of 18-65 years seeking maternal child health services and family planning (MCH-FP) at the Moi Teaching and Referral hospital in Uasin Gishu County formed the target population. According to MTRH Medical Records (2018), the average population of women seeking healthcare services at MCH-FP clinic was averaged at 1,000 per month. MPHS (2012b) recommends cervical cancer screening to all women in the age group of 25 to 49 years whereas ages 18 to 65 years for HIV-positive women with history of sexual activity. Since the researcher focused on all women irrespective of their HIV status, the 18-65 age groups were targeted. Furthermore, a study done in Kenya by Sidze (2017) on adolescent sexuality revealed that, nationally, more than a third of adolescents (aged 15-19), whether married or not, have had sexual intercourse (37% of females and 41% of males), and about one-fifth are currently sexually active. The median age at first intercourse is 18 for females and 17 for males. This justifies why the researcher found those aged 18-65 appropriate as the target population.

Being sexually active implies that one is vulnerable to human papillomavirus (HPV), a viral infection of the reproductive tract that causes cervical cancer and which is transmitted through sexual contact. This is in line with WHO report (2016), which states that most sexually active women of ages 18-65 years are prone to cervical cancer.

3.7 Eligibility Criteria

3.7.1 Inclusion Criteria

The inclusion criteria for the target population were women aged 18-65 years seeking healthcare services at MCH-FP clinic, from Uasin Gishu County and who could communicate in English or Kiswahili.

3.7.2 Exclusion Criteria

The exclusion criteria for the population of study were those women who required emergency care services, those not residing in Uasin Gishu County and women who could not communicate in English or Kiswahili.

3.8 Sample Size, Sampling Procedure and Inclusion Criteria for Quantitative Data

3.8.1 Sample Size

Sample size refers to the number of items which is to be selected from the population. According to Fraenkel & Wallen (1990), samples should be as large as a researcher can obtain with a reasonable expenditure of time and energy. The sample size for this study was computed based on the following formula as proposed by Gall, Gall and Borg (2007):

$$n = \frac{NZ^2 \times .25}{[d^2 \times (N - 1)] + [z^2 \times .25]}$$

Where:

n = sample size

N= total population size (known or estimated)

d= precision level (usually .05 or .10)

z= number of standard deviation units of the sampling distribution corresponding to the desired sample size.

Therefore,

$$\frac{1000 \times 1.96^2 \times .25}{[0.05^2 \times (1000 - 1)] + [1.96^2 \times .25]} = \frac{960.4}{3.43} = 280$$

Add 10% non-response to allow adjustment of other factors such as withdrawals, missing data, lost to follow-up among others, as recommended by Suresh, Chandrashekara and Suresh (2012).

10% of 280 = 28, therefore,

$$28+280=308$$

Thus, a sample size of 308 women was representative of the population.

For qualitative data six key informants were selected using purposive sampling based on their status in society and their ability to supply certain required and specialized kinds of information on the interplay of cervical cancer and communication. Guest, Bunce & Johnson (2006) recommend that in studies with a high level of homogeneity among population, a sample of six interviews may be sufficient to enable development of meaningful themes and useful interpretations though they claim that saturation often occurs around 12 participants. For the focus group discussions 20 respondents were picked. There were two FGDs each with 10 participants totalling to 20 respondents.

3.8.2 Sampling Procedure

The research used systematic random sampling method to obtain a sample from the population. A systematic sample is one in which every k^{th} item is selected, where k is

determined by dividing the number of items in the sampling frame by sample size (Suresh & Chandrashekara, 2012). In this study, the estimated population (women who visit the MCH-FP clinic) per month was 1000 and the sample size needed was 308. Therefore:

$$k = \frac{N}{n} = \frac{1000}{308} = 3.24 \cong 3$$

The researcher picked a starting number 3(3rd person) and used the interval of 3, meaning that every 3rd person was selected until a total of 308 respondents were picked. The researcher managed to obtain the sample of 308 respondents within a period of one month (an average of 15 to 16 respondents per day).

3.8.3 Data Collection Tools

Since the study used mixed methods research, both quantitative and qualitative data collection tools were used. To collect quantitative data, the study utilized questionnaires. Specifically, interviewer-administered semi-structured questionnaires were used. The questionnaire was developed based on the study objectives, having been tested for validity and reliability.

3.8.4 Data Collection Procedure using Questionnaires

Consent to conduct the study was obtained from the officer in charge of the MCH-FP Clinic. The researcher explained the objectives of the study and provided the characteristics of the participants needed for the study. The officer in charge of MCH-FP clinic informed the potential participants of the study and enquired about their

willingness to participate in the research process. Participants were invited separately after attending the clinic to meet the researcher. Every 3rd person who fulfilled the eligibility criteria was included in the study sample. Those who showed interest and willingness to participate in the study were issued with informed consent forms to sign. The researcher explained the objectives of the study to the participants for them to understand before appending their signatures. This step marked the official recruitment of the participants. Once the participants filled in and signed the consent form (Appendix I), they were issued with the questionnaire to fill with the guidance of the researcher and a trained research assistant. The questionnaires were administered in English and Kiswahili languages depending on the participants' preference. The total time required for each participant to complete the questionnaire ranged from 20 to 30 minutes.

3.8.5 Validity and Reliability of the Data Collection Instruments

Using instruments that are valid and reliable is crucial to the quality of one's research results. This section discusses the validity and reliability of the questionnaires that were used to collect data in this study.

3.8.5.1 Validity

Validity refers to the extent to which a research instrument measures what is intended to measure (Zikmund *et al.*, 2010). According to Fraenkel and Wallen (2006), validity refers to the degree to which evidence supports any inferences a researcher makes based on the data collected using a particular instrument. Therefore, a valid instrument is that instrument whose content is relevant to the study being conducted; in this case,

relevant to interpersonal communication and cervical cancer screening uptake. Internal validity refers to how accurately the measures obtained from the research precisely quantify what it was designed to measure whereas external validity refers to how accurately the measures obtained from the study sample describe the reference population from which the sample was drawn (Wong *et al.*, 2012). It is the extent to which one can generalize the findings of a study to other situations, people, setting and measures.

In this study, internal validity of the instruments was established by experts who were the researcher's academic supervisors. The instruments were further externally validated by considering the responses from questionnaires when a pilot study was done. The items that were ambiguous and those judged to be inappropriate were eliminated and others adjusted, in line with the recommendations of Amin (2005).

The researcher was able to ascertain the validity of the research tools using the guidance provided by the specialists. Upon analyzing the contents of the questionnaire, the supervisors assigned scores to assess its validity across four distinct categories: very good (4), good (3), average (2), and poor (1). A content validation was conducted in order to assess the overall validity score of the research tools. The reviewers were provided with the opportunity to suggest modifications to the research instruments in order to align them with the study objectives. The feedback provided by these specialists was utilized to enhance the items included in the study instruments. In order to assess the face validity of the data collection devices, the researcher sought input from colleagues who were pursuing PhD degrees. Face validity pertains to the visual perception and apparent appeal of a measurement tool,

which might influence its level of acceptance among individuals being surveyed (Nunnally & Bernstein, 1994).

In order to enhance the credibility of the study's results, the researcher employed methodological triangulation. Triangulation refers to the utilization of several data gathering equipment, data sources, and data analysis techniques in order to cultivate a thorough comprehension of phenomena and augment the validity of research findings (Patton, 2001). In this study, three distinct instruments for data collection were employed, including a focused group checklist, an interview guide, and a questionnaire.

The investigation additionally evaluated the content validity by employing the Content Validity Index (CVI). The researcher intentionally selected and sought guidance from three lecturers within the Department who had a significant level of knowledge in the field of communication studies, as well as two research experts. The assessment of content validity involved assigning a rating to each item using a 3-point rating system, with 1 indicating a high level of quality, 2 indicating an average level of quality, and 3 indicating a low level of quality. The ratings were subjected to analysis by means of calculating an item-level Content Validity Index (I-CVI) as well as a scale-level Content Validity Index (S-CVI). The Index of Content Validity (I-CVI) was calculated by dividing the count of experts who rated an item as having good content validity with a rating of 3, 4, or 5, by the total number of experts. The formula utilized in the present study was as follows:

$$CVI = \frac{\text{Total Number of Valid Questions}}{\text{Total Number of questions in the questionnaire}} \times 100$$

In accordance with the findings of Shi, Mo, and Sun (2012), it is observed that in cases when the total number of experts is ten, an item is required to attain a minimum agreement from eight experts. The S-CVI was determined by calculating the mean of the I-CVIs. Furthermore, as stated by Polit and Beck (2014), it is recommended that the Scale Content Validity Index (S-CVI) should attain a minimum value of 0.90.

3.8.5.2 Reliability

Reliability refers to the degree to which the results obtained by a measurement and procedure can be replicated (Wong *et al.*, 2012). According to Zikmund *et al.* (2010), a measure is reliable when different efforts at measuring something yield the same result. To establish the reliability of the questionnaire items, a pilot study was conducted at Uasin Gishu County Hospital, which has almost the same characteristics as the Moi Teaching and Referral Hospital. Nevertheless, Uasin Gishu Hospital has a smaller population of women seeking maternal child health services and family planning (MCH-FP) clinic.

In the pilot study, 30 respondents were chosen using convenient sampling to fill the questionnaires. According to Connelly (2014), a pilot study sample should be 10 percent of the sample projected for the larger parent study. Considering the sample size for this study was 308, 30 respondents were deemed adequate for the pilot study. Two health care providers based in the Uasin Gishu County Hospital were interviewed. From the instruments, items that displayed some forms of ambiguity

were restated. Thereafter, a test-retest was conducted in the Hospital. A test-retest correlation provides an indication of stability over time (Wong *et al.*, 2012). It is measured by having the same respondents complete a survey at two different points in time to gauge the stability of the responses obtained (Bolarinwa, 2015). When consistent results were obtained, the instruments were deemed reliable for actual data collection.

The data's reliability was assessed by calculating Cronbach's alpha coefficient for all items in the questionnaire, resulting in an overall assessment. The measure of internal consistency dependability most commonly utilized is Cronbach's alpha (α), as stated by Litwin (1995). According to Sekaran and Bougie (2010), a greater value of Cronbach's alpha indicates a stronger level of internal consistency reliability. The justification for conducting the evaluation is in the expectation that the constituent items within each scale ought to effectively capture the same underlying concept, resulting in a strong positive correlation among them. The metric spans a continuum from 0 to 1. A rating of 1 signifies optimal reliability. A questionnaire that exhibits strong internal consistency is characterized by elevated alpha coefficients (Hair *et al.*, 2010), which serve as indicators of enhanced reliability (Kimberlin & Winterstein, 2008). In general, correlation coefficient (r) values are considered good if they are equal to or greater than 0.7 (Singh & Singh, 2011). A reliability coefficient computed at 0.7 and above was therefore adopted for this study.

In this study, all sections of the questionnaire designed by the researcher to be filled by respondents had reliability ranging from 0.722 to 0.927, as shown in Table 3.1 below.

Table 3.1: Reliability Analysis Table

No.	Subscales	No. of Items	Cronbach's Alpha (α)
1	Cervical cancer awareness and knowledge	30	.927
2	Interpersonal communication channels and their effectiveness	25	.797
3	Role of interpersonal communication channels	9	.722
4	Interpersonal communication barriers to uptake of cervical cancer screening	11	.891
	Overall	75	.834

3.9 Qualitative Section

3.9.1 Interviews for the Key Informants

The use of personal interviews with the key informants enabled the researcher to explore in depth the responses of the interviewees by further probing interesting responses and investigating underlying motives in ways that the questionnaire could not. Interviews allow the researcher to obtain data to meet specific objectives of the study; they are more flexible than questionnaires because the interviewer can restructure questions to obtain rich information (Orodho, 2009). An interviewer by his own skill can overcome the resistance, if any, of the respondents (Fraenkel & Wallen, 2006). Orodho (2009) adds that most people prefer oral to written communication and would thus provide data more readily and fully in an interview than on a questionnaire. The use of personal interviews with key informants enabled the interviewer to clarify questions and ask the respondents to further explain their answers, which served to enrich the study findings.

3.9.1.1 Sampling Procedure and Sample Size for the Key Informants

The key informants for this study were selected using purposive sampling based on their status in society and their ability to supply certain required and specialized kinds of information on the interplay of cervical cancer and communication. MCH-FP clinic has four subsections, namely well-baby clinic (immunization and sick children), family planning clinic, antenatal clinic, and postnatal clinic. Out of the four subdivisions two nurses were purposively chosen. One was in charge of the MCH/FP clinic, meaning all nurses in MCH/FP report to her, and the other was in charge of well-baby clinic, which occupies a different building altogether and handles many clients.

The researcher also recruited communication officer and records management officers since they were in possession of specialized information on cervical cancer. Two county officers from Uasin Gishu County were also selected as key informants. To this end, the County Reproductive Health Coordinator and the County Health Records and Information Officer formed part of the key informants since they possessed crucial information on the state of cervical cancer screening and communication channels utilized in the County. Therefore, the sample size for the key informants was six participants chosen according to the inclusion criteria.

3.9.1.2 Inclusion Criteria

The inclusion criteria for the key informants were service experience, that is, those who had worked in the section for at least 2 years, and availability, meaning those who were available during the study period.

3.9.1.3 Tools for Data Collection

Interviews were used to collect data from the key informants. An interview guide was formulated based on the study objectives.

3.9.1.4 Data Collection Procedure for One-on-one Interviews

The researcher introduced herself as a doctoral candidate student in the Department of Journalism and Mass Communication, Masinde Muliro University of Science and Technology (MMUST), focusing on health communication and interested in collecting data for a PhD thesis. The researcher then sought appointments with the relevant key informants and interviewed them in their offices at a time of appointments. The researcher encouraged the key informants to provide exhaustive details on the subject (cervical cancer) by probing them deeply into the problem at hand. As such, respondents were probed on various topics of the study, in line with the study objectives. These topics includes the uptake levels of cervical cancer screening by women, the specific roles the key informants played in information dissemination about cervical cancer and screening sensitization, the kind of educational and informational materials available for informing women about cervical cancer and screening services, and effective communication channels that can be used (or are used) to encourage women to be screened, among others. Each interview session lasted between 45 minutes and 1 hour.

Interview sessions were audio-recorded. After every interview, the audio-recorded data was played back to the participants to verify and confirm whether it was a true reflection of their responses in the interview. The verification process also helped to ensure that the recorded data was clear and of good quality. Any changes or

corrections suggested were recorded on a notepad and was later integrated with the final transcripts. The recorded interview sessions were later transcribed and recorded for data analysis.

3.9.2 Single Focus Group Discussions (FGDs) for Women

The primary characteristic of a singular focus group entails the collaborative exchange of ideas regarding a certain subject matter, involving the participation of all individuals and a team of facilitators within a unified setting (Nyumba *et al.*, 2018). The process is overseen by a moderator who use questions or interview guides to foster a discourse on a certain subject (Streubert-Speziale, 2007). Focus Group Discussions (FGDs) have the valuable advantage of incorporating the element of interpersonal interactions among participants. In lieu of the moderator assuming the role of questioner, participants are actively encouraged to engage in interpersonal communication, facilitating the exchange of ideas and remarks pertaining to their distinct experiences or perspectives (Kitzinger, 1994). The fact that the group process helps people to identify and clarify their views is an important advantage of focus groups compared with individual interviews. FGDs are also considered effective in addressing sensitive topics, are relatively inexpensive, and provide cumulative information from multiple participants (Streubert-Speziale, 2007).

In the context of health research, focus groups are particularly apt since most health-related conditions are created by social environments and made within the social context (Carter & Henderson, 2005). Therefore, focus groups are a popular method for assessing public experience and understanding of illness (Kitzinger, 1993), and for identifying ideas concerning health-risk behaviours and dangers (Duke *et al.*, 1994).

Owing to the sensitive nature of the topic of cervical cancer, the need to understand respondents' views and experiences about screening, focus group discussions were adopted in this study.

3.9.2.1 Sampling Procedure and Sample Size for the Single Focus Group Discussions

One commonly cited guideline is that focus group research requires at least two groups for each defining demographic characteristic (Barbour, 2007; Krueger & Casey, 2015; Ulin *et al.*, 2005). Generally, it is accepted that between six and eight participants are sufficient for a focus group discussion (Krueger & Casey, 2015), although Krueger (2014) recommends ten participants, a number large enough to gain a variety of perspectives and small enough not to become disorderly or fragmented. In the current study, 2 focus group discussions were conducted each with 10 participants and each session lasted for 60-90 minutes. Therefore, for the 2 a total of 20 participants formed the sample size for the focus group discussions.

3.9.2.2 Inclusion Criteria

The inclusion criteria for FGDs were women aged 18-65 years seeking healthcare services at MCH-FP clinic who could communicate proficiently in English or Kiswahili or both languages.

3.9.2.3 Tools for Data Collection

A focused group discussion guide was used to collect qualitative data from women seeking healthcare services at MCH/FP clinic.

3.9.2.4 Data Collection Procedures for Single Focus Group Discussions

The officers in charge of the four subdivisions of the clinic were provided with the characteristics of the participants required for the FGDs. The officers then helped the researcher to recruit the FGD participants. The officers explained the objectives of the study and enquired of their willingness to participate in the FGDs. Those willing to participate in the FGDs were provided with consent forms (Appendix I) to sign. The researcher used age as a key indicator in group formation. One group was composed of 10 young women (18-40 years) while the other group had 10 older women (41-65 years) picked from every subsection of the four divisions. This segregation by age was necessary as the researcher anticipated that age difference would influence women's responses to the sensitive questions relating to cervical cancer.

The FGDs were guided by questions (Appendix III) formulated by the researcher (moderator). An audio recorder was used to capture the proceedings of the focus group discussions. The audio-recorded data was later transcribed for data analysis.

3.9.3 Trustworthiness

The aim of trustworthiness in a qualitative inquiry is to justify why the inquiry's findings are worth paying attention to (Lincoln & Guba, 1985; Creswell & Miller, 2000). A thorough reporting of the process and the results of qualitative data collection and analysis is the key to justifying and ensuring that trustworthiness exists in the study (Henderson, 2006). There are at least five criteria for assessing the trustworthiness of a qualitative research, namely credibility, dependability, confirmability, transferability (Baumgartner, Strong & Hensley, 2002; Lincoln & Guba, 1985), and authenticity (Lincoln & Guba, 1985; Polit & Beck, 2012).

Therefore, in this study, during data collection phase, the researcher ensured trustworthiness of the data collection methods, sampling strategy and the selection of a suitable unit of analysis.

3.9.3.1 Credibility

Credibility refers to confidence in how well data and processes of analysis address the intended focus of the research (Polit & Hungler, 1995) and truth value or believability of the study findings (Polit, Beck & Hungler, 2006; Streubert-Speziale, 2007). To enhance credibility, the researcher used data and method triangulation, as suggested by Denzin (1978). Multiple sources of data, such as interviews and focus group discussions, were used, and the approach of the study was mixed methods. Secondly, repeated contact with participants was done as the researcher conducted two focus group discussions and interviewed 6 key informants. Thirdly, peer debriefing was done by sharing questions about the research process and/or findings with health communication practitioners who provided additional perspectives on analysis and interpretation. An independent review from two postgraduate students and a peer review by a supervisor further helped to ascertain the credibility of the study (Lincoln & Guba, 1985).

The study also included reflexivity, which was suggested by Guillemin and Gillam (2004) and Reich (2003). According to Horsburgh (2003), reflexivity is characterized by the researcher's conscious recognition that their own activities and judgments will necessarily influence the interpretation and context of the phenomenon being studied. Reflexivity entails the critical examination of one's own views, experiences, and identity, as well as the recognition of how these aspects intersect with those of the

participant (MacBeth, 2001). This process of reflection takes place both in the realm of solo contemplation and in the context of engaging in discourse with others who recognize and validate the researcher's personal experiences and viewpoints (Johnson & Waterfield, 2004). Researchers engage in introspection to contemplate the ways in which they can either facilitate or impede the process of collaboratively building interpretations (Guillemin & Gillam, 2004; Reich, 2003). Reflexivity was enhanced in this work by a comprehensive meeting conducted with the research assistant and data analyst, during which potential biases in data collection and interpretation were extensively discussed.

3.9.3.2 Dependability

The concept of dependability pertains to the consistency and reliability of research findings throughout different time periods (Bitsch, 2005). Dependability encompasses the process by which individuals assess the outcomes, the analysis, and the suggestions of a research study to ensure that they are all substantiated by the information obtained from the study's informants (Cohen, Manion & Morrison, 2011; Tobin & Begley, 2004). Dependability is established using an audit trail, a code-recode strategy, stepwise replication, triangulation and peer examination or iterator comparisons (Ary *et al.*, 2010; Chilisa & Preece, 2005; Schwandt *et al.*, 2007). In this study, the researcher ensured that dependability was achieved by giving adequate information about participants' verbatim quotes and notes as recorded during interviews and focus group discussions. Additionally, it was achieved using a rigorous audit of all data sources and data reconstruction by supervisors from Masinde Muliro University of Science and Technology.

3.9.3.4 Confirmability

Confirmability is a concept that pertains to the extent to which the findings of a study can be verified or supported by other researchers (Baxter & Eyles, 1997). According to Polit and Hungler (1995), confirmability refers to the authenticity and dependability of the data. Hence, the primary objective of this study is to ensure that the data and interpretations of the findings are not subjective constructs of the researcher's imagination, but rather are firmly grounded in the empirical evidence obtained from the relevant field (Tobin & Begley, 2004). The confirmability of qualitative inquiry is established by employing several methods such as an audit trail, reflexive journal, and triangulation (Bowen, 2009; Koch, 2006; Lincoln & Guba, 1985). As such, in this study, confirmability was achieved by conducting face-to-face interviews and focus group discussions and all audio-recorded proceedings were retained for later reference during confirmation. Data triangulation was also achieved through the use of multiple methods of data collection.

3.9.3.5 Transferability

Transferability concerns the aspect of applicability (Lincoln & Guba, 1985). In the context of this study, the researcher provided a rich account of descriptive data, such as the context in which the research was carried out, its setting, target population, sample size, sampling procedures, demographic and socio-economic characteristics of the participants, inclusion and exclusion criteria, interview procedures and topics and excerpts from the interview guide. Focus group discussion guides and recordings of the discussions were also provided. The researcher also gave a detailed description of the research methodology used during data collection and analysis.

3.9.3.6 Authenticity

Authenticity is the extent to which researchers fairly and completely show a range of different realities and realistically convey participants' lives (Polit & Beck, 2014). This was achieved in this study by selecting appropriate participants for the study sample and by providing a rich and detailed description of the study sample.

3.10 Data Analysis and Presentation

3.10.1 Data Entry and Cleaning

Once the questionnaires had been collected, they were coded and screened in readiness for analysis. Data analysis was performed with the aid of SPSS (version 29.0) using both descriptive and inferential statistics.

3.10.2 Descriptive Statistics

Quantitative data collected was analyzed using descriptive statistical techniques, which included percentages, frequencies and means. The findings were presented by use of frequency distribution tables, charts and graphs.

3.10.3 Inferential Statistics for Quantitative Data

Quantitative data collected was analyzed using descriptive statistical techniques like percentages, frequencies and means. For inferential statistics, Pearson's correlation coefficient analysis and Regression analysis were computed using SPSS, version 29.

3.10.4 Thematic Analysis of Qualitative Data

The research collected qualitative data through interviews with key informants and discussions held in focus groups. According to Gray (2004), qualitative data offers

comprehensive descriptions and explanations that illustrate the sequential progression of events, frequently resulting in serendipitous discoveries. The data was categorized into emergent themes using NVivo version 12 software. These topics included awareness and knowledge levels regarding cervical cancer, sources of information, effectiveness of interpersonal communication channels, and barriers to interpersonal communication. The qualitative data collected from the interviews and focus group discussions were documented and transcribed. Subsequently, a coding system utilizing numerical identifiers was applied to the data, which was then examined thematically. In accordance with the research objectives, Chapter Four provided the concepts alongside quantitative data simultaneously. The presentation included both qualitative and quantitative data in order to facilitate comparison and validation.

3.11 Ethical Approvals

The researcher acquired official authorization to conduct the study from the Board of Postgraduate Studies at Masinde Muliro University of Science and Technology. In addition, the Ethics Review Committee of the University granted a certificate of ethical clearance for the research. Subsequently, the researchers secured a research permission from the National Commission for Science, Technology, and Innovation (NACOSTI). The researcher subsequently conveyed the findings to the County Commissioner, the County Director of Education, and the County Director of Health Services in Uasin Gishu County, as per the guidance provided by NACOSTI. The study obtained further approval from the Institutional Ethical and Research Committee of Moi Teaching and Referral Hospital (MTRH) in order to ensure research integrity. This approval allowed the study to proceed at MTRH.

3.12 Ethical Considerations

Ethical issues are moral concerns and dilemmas that arise regarding the proper way to execute research, more specifically not to cause harm to the subjects of inquiry, especially humans, in the research process (Schurink, 2005). While the acquisition of knowledge through study is highly esteemed, it is imperative to ensure that the pursuit of knowledge does not compromise the inherent worth and respect for human dignity. Therefore, it is imperative for a researcher to articulate the methods through which ethical considerations will be safeguarded throughout the course of the study (Oso & Onen, 2009). According to Schurink (2005) research ethics is a complex matter to which there is unlikely to be clear solutions. Schurink believes that it is useful for researchers to follow a practical approach in which they ask questions and push themselves hard to reach answers. The researcher needs to be honest about the purpose of their research. The study is likely to include not only the advancement of knowledge or understanding of some aspect of the social world, but also factors involving personal gain, such as the achievement of a personal qualification, of a promotion, of some standing in a discipline and/or of some research funding (Schurink, 2005). Research ethics involve requirements on daily work, the protection of dignity of subjects in the study and the publication of the findings from the research. Researchers have a duty to protect the life, health, dignity, integrity, right to self-determination, privacy and confidentiality of personal information of research subjects (WMA, 2013).

3.12.1 Anonymity and Confidentiality of Study Participants

Ensuring the anonymity and confidentiality of participants is a fundamental aspect of ethical study conduct. Researchers strive to provide participants with the assurance that diligent measures would be used to safeguard their data from being linked to their identities in various forms of dissemination, such as reports and presentations (Graham & Rose, 2008). Researchers commonly utilize pseudonyms to protect the identities of participants and to maintain confidentiality regarding the research location. In addition, other practices, such as changing the reported characteristics of participants, like gender or occupation, may also be used in some special cases to conceal identities and thereby maintain the confidentiality of the data provided by the participant (Graham & Rose, 2008). In this study, participants were assured of confidentiality by use of codes on questionnaires instead of their names to maintain anonymity. This enabled the researcher to quote respondents verbatim without revealing their true identity.

3.12.2 Respect for Potential and Enrolled Participants

According to Beauchamp and Childress (2001), research participants must be treated with respect from the time they are approached, whether they refuse or choose to participate, throughout and even after the study ends. In this study, respect for potential and enrolled subjects was achieved through five different activities. To start with, substantial information was collected about potential as well as enrolled subjects; their privacy was respected by managing the information in accordance with confidentiality rules. Secondly, the subjects were permitted to change their mind, to decide that the research did not match with their interests, and to withdraw without penalty. Thirdly, there was provision of new additional information learnt from

research. Fourthly, the welfare of subjects was carefully monitored throughout the research process. Finally, the researcher recognized and acknowledged the subjects' contribution to research (National Council for Science and Technology-NCST, 2004; Beauchamp & Childress, 2001). Respect for potential and enrolled subjects is justified by multiple principles including beneficence, non-maleficence, and respect for persons. Protecting confidentiality and monitoring well-being are motivated by respect for persons (NCST, 2004; Beauchamp & Childress, 2001).

3.12.3 Informed Consent

Informed consent is the process of agreeing to take part in a study based on access to all relevant and easily digestible information about what participation entails in terms of harms and benefits (Parahoo, 2006). It is documented by means of a written, signed and dated informed consent form (Manti & Licari, 2018). It is necessary to fully and accurately inform research participants on the nature and goals of the study in order to respect their freedom to make decisions about themselves and their lives. In this study, participants were informed of the objectives as well as the procedures involved in the research. They were also informed of their role as respondents in the study, what was expected of each participant, benefits associated with their participation, approximate time requirement for their participation, how the collected data would be managed and used, and the storage of the data.

Doyal and Tobias (2001) argue that in addition to being informed, consent must also be voluntary in order to achieve autonomous exercise. They identify two more key factors that need to be implemented for this purpose. In the initial stages, it is imperative that the participant possesses the requisite cognitive capacity to

comprehend the information pertaining to the research, encompassing the potential ramifications of their involvement, as well as the cognitive aptitude to supply informed permission. The provision of such information allows the prospective participant to provide informed permission for their participation in the research. This information should be delivered in the language and method that the potential subjects can understand (World Medical Association [WMA], 2013) commonly in the form of a printed participant information sheet (consent form). When asking for their decision, the researcher should explain and reiterate verbally all the aspects of the study and regularly check their understanding, as recommended by Royal College of Nursing Research Society (RCNRS) (2011). Since the questionnaires were interviewer-administered, the objectives of the study were well explained to the participants in simple terms, and they were able to give informed consent to participate in the study. Depending on their preference, Kiswahili or English language was used.

Secondly, the participant must be free from coercion, meaning volunteering is encouraged (Connelly, 2014). Potential subjects should not believe they have to participate in the research because a physician or nurse asked them to be involved. Voluntarism is defined as the ability of an individual to judge freely, independently and in the absence of coercion, what is good, right and best, subject to his/her own situation, values and prior history (Roberts, 2002). In the context of this study, the participants were requested to volunteer to take part and were informed that should they could withdraw their participation at any stage of the study for whatever reasons they deemed sufficient to warrant their withdrawal. They were further informed that refusal to consent also was not in any way going to affect their reception of health

care services in the hospital. The researcher also ensured that the participants were free from any other forms of duress related to the research in question, from the researcher or health care team or significant others.

3.12.4 Respect for Culture and Forms of Human Diversity

Culture encompasses the symbols and conventions human beings construct to understand and interact in the world. Cultural variety lends extraordinary plasticity and diversity to human behaviour. Diversity is the condition of having or being composed of differing elements the inclusion of different types of people of different races or cultures in a group or organization (Merriam-Webster Dictionary, 2016). For the sake of the current study, the aspects of human diversity considered included ethnicity, gender, nationality, and socio-economic status. Other facets could include religious beliefs, age, sexual orientation and ability (Ingram, 2001).

Cultural sensitivity, including self-awareness regarding possible biases, stereotypes, and limits to our understanding of the other, dispels arrogance and enhances competence in cross-cultural encounters (Jinger *et al.*, 2008). Kenya has as many as 44 tribes, and there are bound to be unique socio-cultural backgrounds for each tribe (NCST, 2004). Paasche-Orlow (2004) proposes that the essential principles of cultural competence are the acknowledgement of culture in people's lives, respect for cultural differences and minimization of any negative consequences of cultural differences. Cultural competence is a practical, concrete demonstration of the ethical principles of respect for persons; beneficence, non-maleficence and justice, which are the cornerstones of ethics. Ethical principles are an expression of moral ideals and values,

which are a product of human culture (Jinger *et al.*, 2008). Cultural competence and ethical decision-making are therefore interconnected and interdependent.

In this study, the researcher identified the ethnic and religious power structures in MTRH and approached the study participants in accordance with the cultural traditions and norms of the ethnic or religious groups. The researcher was also sensitive on the choice of words since some topics of discussion in line with the study were considered taboo by some participants. Local customs were observed when planning for and conducting interviews, focus group discussions and administering questionnaires, including, for instance, giving advance notice before arriving and dressing in a culturally appropriate manner. The researcher also considered the unique language and communication needs of persons with physical, cultural and emotional barriers and generally avoided the use of technical language or jargon.

3.12.5 Protection of Rights and Welfare of Vulnerable Participants

Vulnerable populations in the health domain refer to those with physical challenges, such as pregnant women, fetuses, children, orphans, students, employees, prisoners, the military, and those who are chronically or terminally ill, psychological challenges, such as cognitively and intellectually impaired individuals, and social vulnerability, which include those who are homeless, from ethnic minorities or refugees (Aday, 2001). Due to a compromised free will and inability to make conscious decisions, several ethical dilemmas relating to communication, privacy and treatment often arise when research involves vulnerable persons (Manti & Licari, 2018). In fact, every recipient of health care is in some way vulnerable, but those with more limited ability to act autonomously can also be more vulnerable to the impact of research activity

(RCNRS, 2011). People can have a range of special needs that should be considered and which are not always obvious; some may even conceal such needs. It is vital, therefore, to explore the potential abilities of participants sensitively (RCNRS, 2011).

The researcher was particularly sensitive to the needs and vulnerabilities of participants in the study. RCNRS (2011) advises that where the researcher and the potential participant do not speak the same language or their command of the common language is not good enough to enable effective communication; information should be translated into the first language of the participant. This will enable the participant to freely give consent based on proper understanding of the research aims, potential benefits and risks. Further, the ability to process information can slow with age; as such, older people should be given plenty of time and opportunity to ask questions and contemplate on whether or not to participate. Consideration should also be given to problems that might arise because of memory lapses. It is important, however, that older people are involved in research and not excluded merely due to their age (RCNRS, 2011).

Vulnerable participants in the context of the study included pregnant women, those who were economically and/or educationally disadvantaged, and those with psychological or emotional conditions. Their comfort and general welfare were put into consideration before engaging them in the study. They were protected against any forms of harm or abuse and treated in accordance with what is morally right and proper, as recommended by NCST (2004). Oral consent process was conducted for participants who were illiterate and, where possible, information was translated into Kiswahili language. All these groups of vulnerable participants were treated with

concern, patience, respect, allowing free will and avoiding any forms of inducement, enticements, insensitivity, or prejudice.

3.12.6 Confidentiality and Privacy of Data

Confidentiality in health care refers to the obligation of professionals who have access to patient records or communication to hold that information in trust (McWay, 2010).

Confidentiality is recognized by law as privileged communication between two parties in a professional relationship, such as with a patient and a physician, a nurse or other clinical professional (Brodnik, Rinehart-Thompson & Reynolds, 2012).

The researcher ensured there was privacy and confidentiality at various stages, ranging from data gathering, to data processing and analysis, to data storage, data dissemination, to the publication of research results. The researcher carefully and safely handled, protected and stored data to ensure that information obtained from and about research participants was not improperly divulged. The researcher used physical, administrative, research design and technological safeguards to protect data. Physical safeguard measures, such as using locked filing cabinets to store data collected in hard copies like questionnaires, interview guides and consent forms, were used. Other physical safeguards included using secluded interview rooms, private offices, storing information away from public and easily accessible areas.

Administrative safeguard measures were also put in place to protect the privacy of participants' information. This entailed clearly delineating persons who were authorised and those not authorised to access participants' information and the nature

of access. To this end, the principal researcher and the research assistant were the only persons allowed access to participants' data.

Research design safeguards were also put in place in this study. These are measures intrinsic to the research design of a project that help protect the privacy of research participants. These include anonymizing information, transcribing raw data as soon as possible, storing data separately from coding lists, and shredding all hard copies containing sensitive information as soon as feasible.

Passwords, encryptions and other technological measures were used to protect data from unauthorized individuals, loss, theft or modification. Information was shared for research purposes on condition that it would remain protected from disclosure outside of the research setting or to unauthorized persons.

3.13 Dissemination of Research Findings

The findings of the study will be shared with various stakeholders through seminar presentations, conferences and publications in peer-reviewed journals. This wide dissemination process will enable translation of the research findings into actionable knowledge that can be used to influence current policies on health communication and practices for better service delivery. The results of the study could be used by government agencies and other stakeholders to design effective communication strategies for enhanced uptake of cervical cancer screening.

3.14 Chapter Summary

This chapter has described the study area, the paradigm used, research design, research approach, target population, sample size, sampling procedures, data collection tools and procedures, validity, reliability, and trustworthiness of the research instruments. It has further discussed how data was analyzed and presented, the logistical and ethical considerations of the study. Finally, the chapter has explained how the research findings of the study were disseminated to the public.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter undertakes a presentation, analysis and interpretation of research data. In analyzing the data collected, descriptive and inferential statistics were used. Quantitative data collected was analyzed using descriptive statistical techniques, such as percentages, frequencies and means. For inferential statistics, Pearson's correlation coefficient and regression analyses were performed with the aid of SPSS, version 29. Qualitative data obtained from the interviews and focus group discussions were recorded and transcribed, then coded using numerals. Using NVivo version 12 software, thematic analysis was carried out to generate themes that have been presented together with quantitative data as per the research objectives.

This chapter focuses on the following themes: demographic characteristics; cervical cancer awareness and knowledge; sources and channels of information on cervical cancer and their effectiveness; role of interpersonal communication channels in uptake of cervical cancer screening; interpersonal communication barriers in relation to uptake of cervical cancer screening, and cervical cancer screening uptake rates. All analysis was done at a typical level of $\alpha = 0.05$. There were three sets of data analysed by use of mean. Conclusions were drawn based on the table of means shown below.

Table 4.1: Summary Table of Means

Data Set	Interpretation of Mean	
I	Mean value	Interpretation
	1.00-1.49	I Don't Know
	1.50-2.49	No
II	2.50-3.00	Yes
	1.00-1.49	Never
	1.50-2.49	Rarely
	2.50-3.49	Occasionally
	3.50-4.49	Frequently
III	4.50-5.00	Very Frequently
	1.00-1.49	Strongly Disagree
	1.50-2.49	Disagree
	2.50-3.49	Neutral
	3.50-4.49	Agree
	4.50-5.00	Strongly Agree

4.2 Response Rate

The researcher administered the questionnaires in person for the the respondents to fill. Where necessary, the researcher provided clarifications on the questions. All the 308 respondents completed and returned the questionnaire administered to them. This represented a response rate of 100%. According to Blumberg, Cooper and Shindler (2014), a return and response rate of over 60% is sufficient to acquire credible and reliable results. Therefore, the present study's credibility and reliability was significantly high.

4.3 Demographic Characteristics

This section discusses the various socio-economic characteristics of the respondents of the study. These characteristics underlined the extent to which the respondents were able to access and utilize communication channels used for cervical cancer information. It further revealed the characteristics of women who were likely to participate in cervical cancer screening. The demographic parameters sought were: age, marital status, highest level of education, current employment status, income level, religious affiliations and number of children born to the respondents. The parameters were investigated and presented in tables and interpreted appropriately.

4.3.1 Age of Respondents

The researchers considered the age of the participants to be a significant factor in this study due to its potential influence on their cognitive development and capacity to comprehend healthcare information, as well as their ability to make informed decisions and respond appropriately. Hence, it was concluded that those with a higher level of maturity were more capable of effectively utilizing cervical cancer knowledge to make informed decisions on their health-seeking behavior. The findings on the distribution of the respondents by age were as presented in Figure 4.1.

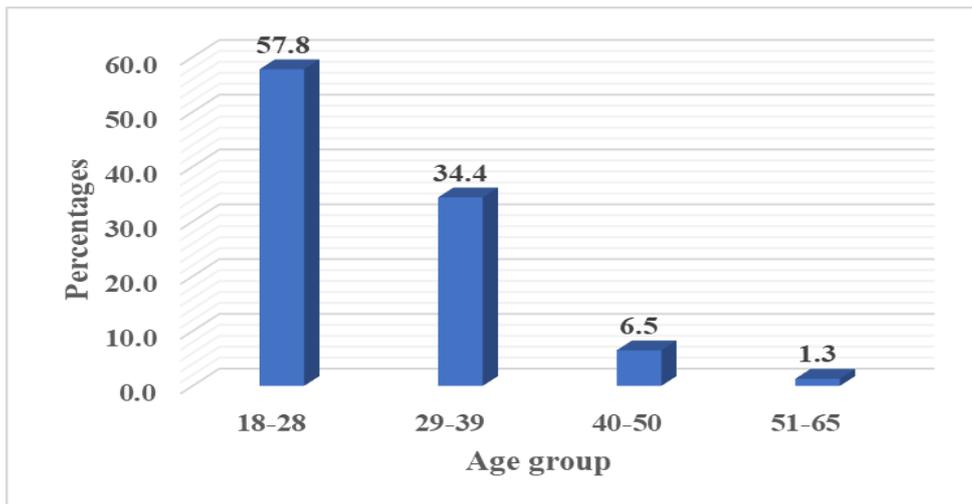


Figure 4.1: Age distribution of the respondents

Figure 4.1 shows that, out of 308 respondents, 178(57.8%) were aged 18-28 years while 106(34.4%) were aged between 29 and 39 years. As such, 284(92.2%) of the respondents were aged 18-39 years while only 24(7.8%) were aged between 40 and 65 years.

Further, as per the findings in Figure 4.1 women aged 18-39 years were the majority. This group was considered to have latest issues on cervical cancer screening, since they were in their most active ages of reproduction. According to Kenya's Ministry of Health, cervical cancer screening is recommended for all women aged 25-49 years, and ages 18-65 years for HIV-positive women with history of sexual activity (MPHS, 2012b). In their research, Ombechi (2012) and Odongo (2013) show that, to a significant extent, majority of women who significantly engage with healthcare services at reproductive centres are aged 18-40 years. This is contrasted to statistics in Western countries, like the USA and Britain, where the ages go slightly up to approximately 24-45 years (Mosavel & Ports, 2015). Therefore, the current study

accessed women who predominantly engage with reproductive health to a significant extent, which enhanced the credibility and reliability of the findings.

4.3.2 Marital Status

The study included a question into the marital status of the participants, with the aim of examining its potential impact on their decision to undergo cervical cancer screening. The distribution of participants based on their marital status is depicted in Figure 4.2.

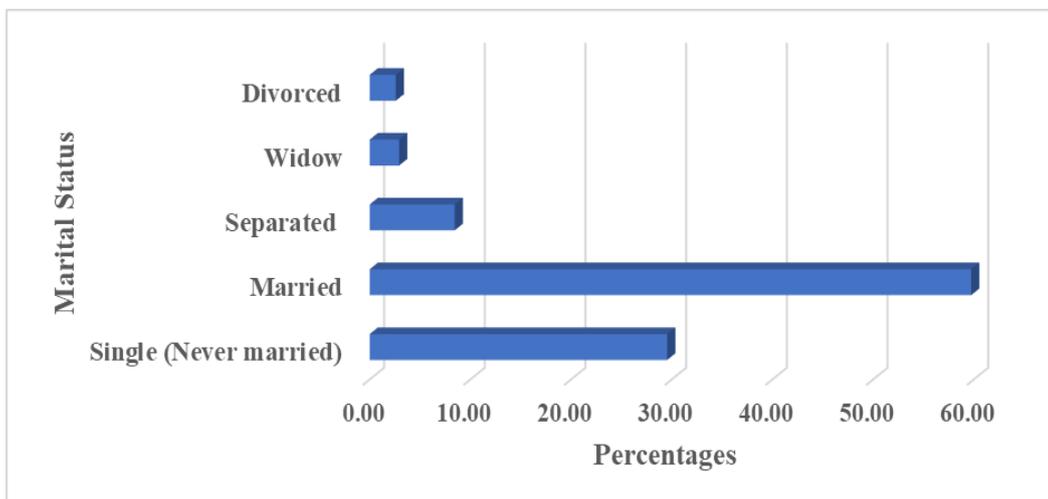


Figure 4.2: Marital Status

Figure 4.2 indicates that majority, 184(59.7%), of the respondents were married while 91(29.5%) were single. Moreover, 26(8.4%) of the respondents were separated, 9(2.9%) were widowed while only 8(2.6%) were divorced. These statistics suggest that married women had the highest potential to interact with cervical cancer screening.

Research conducted has demonstrated that the marital status of individuals is a notable determinant of their likelihood to have cervical cancer screening. In a study conducted by Nyangasi *et al.* (2018) on the determinants of cervical cancer screening among women in Kenya, it was observed that marital status significantly influenced the likelihood of undergoing or abstaining from cervical cancer screening. Specifically, the study revealed that married and single women exhibited higher propensities to engage in or refrain from cervical cancer screening, in contrast to individuals who were widowed, separated, or divorced.

In a recent investigation conducted by Weng *et al.* (2020), focusing on the understanding and perspectives of women in Zanzibar, Tanzania regarding cervical cancer and cervical cancer screening, it was shown that married women had a greater inclination towards accepting screening compared to their divorced or unmarried counterparts. According to Lyimo and Beran (2012), there is evidence to suggest that the provision of spousal support has a significant role in facilitating the increased utilization of cervical cancer screening services among married women. However, a study conducted by Mupepi, Sampelle and Johnson (2011) observed that spouses can impede cervical cancer screening due to their lack of knowledge and inadequate assistance. A significant number of African nations continue to exhibit patriarchal structures, resulting in the involvement of male family members, who are regarded as household heads, in decision-making processes related to reproductive health within the household (Lewis *et al.*, 2020). Hence, it is imperative to make intentional endeavors to involve the entire community, encompassing males, in the advancement of consciousness and mitigation of cervical cancer (Kim, Kim & Kim, 2018; Lewis *et al.*, 2020; Mukama *et al.*, 2017).

4.3.3 Highest Education Levels of Respondents

Some research has shown that one's level of education is strongly linked to uptake of health services such as preventative care (Feinstein, 2006). Therefore, the researchers deemed the educational attainment of the participants as a significant variable in this study. The educational attainment of the participants, as depicted in Figure 4.3, was examined in the study.

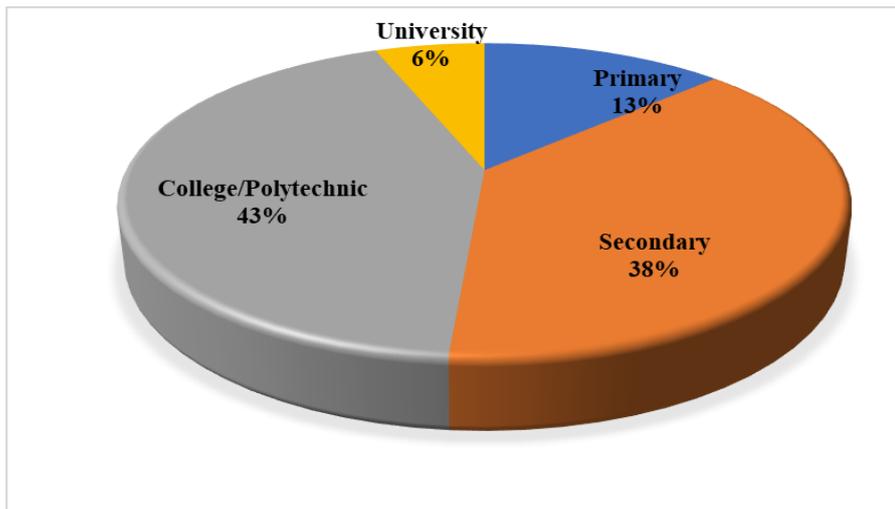


Figure 4.3: Level of education of respondents

According to the data presented in Figure 4.3, it can be observed that among the 308 respondents that were sampled, 118 individuals (38.3%) possessed a secondary level education, while 40 individuals (13.0%) had completed primary level education. Furthermore, it was found that 132 respondents, accounting for 42.9% of the sample, possessed a college or polytechnic level of education, whilst 18 respondents, representing 5.8% of the sample, had achieved a university level of education. The findings presented in Figure 4.3 demonstrate that a significant proportion of the participants, specifically 150 individuals (48.6%), possessed advanced level of education. The majority of participants possessed a satisfactory level of education,

enabling them to make well-informed judgments regarding their health-seeking behaviors. The aforementioned factor has a significant impact on the acquisition of knowledge regarding cervical cancer. Moreover, the educational attainment level has significant repercussions for various socio-economic prospects, such as obtaining job and gaining access to and comprehending cervical cancer messages (Islam *et al.*, 2017; Morema *et al.*, 2014). The inclusion of female respondents from a wide range of educational backgrounds contributed to enhancing the credibility and reliability of this study.

The study further sought to determine whether one's education level influenced their uptake of cervical cancer screening services. Pearson's correlation coefficient test was undertaken and the results were as shown in Table 4.2.

Table 4.2: Relationship between the Level of Education and Cancer Screening Uptake

		Level of Education	Uptake of cervical Cancer screening
Level of Education	Pearson	1	.704**
	Correlation		
	Sig. (2-tailed)		.009
	N	308	308
Uptake of cervical Cancer screening	Pearson	.704**	1
	Correlation		
	Sig. (2-tailed)	.009	
	N	308	308

** . Correlation is significant at the 0.05 level (2-tailed).

The results indicate that there was a significant positive relationship between level of education and cancer screening uptake (N=308, $r=.704$, $p=.009$). The more educated woman is, the more likely she will take up cervical cancer screening services.

This discovery aligns with prior studies that propose a connection between education and the structure of an individual's communication surroundings, as well as their utilization of media and interpersonal channels for acquiring health-related information (Lee, 2010). Respondents with relatively high levels of education give more informed, well-thought out and valid results than the less educated (Ncube *et al.*, 2015; Njuguna, 2017; Ombech, 2012). Another study has found that accessing and utilizing information obtained to a large extent depends on one's educational level and the importance attached to information is also commensurate with the education level of an individual (Dozie *et al.*, 2021). The higher the education level, the more one is likely to value information. This finding aligns with the outcomes of a research conducted by Abu *et al.* (2020) about the impact of health education on the utilization of cervical cancer screening in Ethiopia. The study shown that women with a higher education level, namely those who had attained a university education, exhibited a twofold increase in the likelihood of undergoing screening. The aforementioned discovery aligns with previous research undertaken in Korea and Zimbabwe (Chang *et al.*, 2017; Mupepi *et al.*, 2011).

The importance of education level in health service uptake has been affirmed by studies conducted in Ghana (Adanu *et al.*, 2010) and in Ethiopia (Aweke, Ayanto & Ersado, 2017). In both studies, lack of formal education was significantly associated with low utilization of cervical cancer screening services. This implies that education

grants women better self-efficacy and and increased their likelihood of access and use of health care services (Islam *et al.*, 2017; Yimer *et al.*, 2021).

4.3.4 Employment Status of Respondents

In this study, respondents' employment status was deemed an important variable as it portends the ability to pay for transport and cervical cancer screening and care services. The findings on the employment status of the respondents were as presented in Table 4.3.

Table 4.3: Distribution of Respondents by Employment Status

Employment status	Frequency	Percentage (%)
Unemployed	116	68.8
Employed	192	31.2
Total	308	100

Table 4.3 shows that majority of the respondents, 212(68.83%), were unemployed while only 96(31.17%) were employed. Unemployment in this study was used to mean the absence or lack of either a formal or informal employment, although could be self-employed. The significantly high number of women who were unemployed could be explained by the earlier finding that showed that majority had basic education, as shown in Table 4.2. The few who had attained college and university level of education could be among the 31.17% who had formal employment. Studies in UK by Labeit, Peinemann and Kedir (2013) and Binka *et al.* (2019) have shown that employment status and income have a significant influence on the uptake of cervical cancer screening.

4.3.5 Level of Income

The study considered the income level as an important variable as it helps to determine the capacity of women to afford services that support their access to health care. The research findings on the salary ranges for the employed respondents were as presented in Table 4.4.

Table 4.4: Distribution of Level of Income of the Respondents

Salary range (if employed) n=96	Frequency	Percentage (%)
Less than Kshs 10, 000	94	30.5
Kshs 10,000 to 30,000	83	26.9
Kshs 30,000 to 50,000	101	32.8
Ksh 50,000 to 70,000	24	7.8
More than Kshs 70,000	6	1.9
Total	308	100

Table 4.4 shows that most respondents, 101(32.8%), earned between Kshs 30,000 and 50,000 followed by 94(30.5%) who earned a salary of less than Kshs 10,000. Mwanwhile, 83(26.9%) of the respondents earned between Kshs 10,000 and Ksh 30,000 per month, 24(7.8%) earned between Kshs 50,000 and Kshs 70,000 while only 6(1.9%) earned above Kshs 70,000 monthly. Previous literature has shown that women who are unemployed and those with low income significantly interact with government health facilities while those with middle to high montly income can afford private health insurance and therefore often prefer to use services in private hospitals (Tiruneh *et al.*, 2017; Nyangasi *et al.*, 2018).

The study further sought to establish whether the level of income of the respondents influenced the uptake of cancer screening. Pearson’s correlation coefficient test was carried out and the results were as shown in Table 4.5.

Table 4.5: Relationship between Income Level and Cancer Screening Uptake

		Income Level	Cancer screening uptake
Income Level	Pearson Correlation	1	.717**
	Sig. (2-tailed)		.012
	N	308	308
Cancer screening uptake	Pearson Correlation	.717**	1
	Sig. (2-tailed)	.012	
	N	308	308

** . Correlation is significant at the 0.05 level (2-tailed).

These results in Table 4.5 indicate that there was a strong relationship (N=308, r=0.717 & p=0.012) between respondents’ income levels and their uptake of cervical cancer screening services. This implied that high-income earners were more likely than low-income earners to afford the cost of cervical cancer screening.

Morema *et al.* (2014) have reported comparable results in their investigation aimed at identifying the factors influencing the utilization of cervical screening services among women aged 18-49 who sought treatment at the Jaramogi Oginga Odinga Teaching and Referral Hospital in Kisumu. The research results were consistent with the findings of a previous study conducted by Gichangi *et al.* (2003) at Kenyatta National Hospital. This study demonstrated that many socio-economic characteristics, such as employment status, monthly income, and degree of formal education, played a major

role in influencing the utilization of cervical cancer screening services. Moreover, the findings of this study align with previous research undertaken in India (Dhamija *et al.*, 1993; Nene *et al.*, 2007), Malawi (Chirwa, 2022), and Uganda (Black, 2019). Women who had the financial means to cover transportation and food expenses were more inclined to pursue cervical cancer screening. Consequently, the rise in socio-economic status has provided women with enhanced economic empowerment and information, resulting in a higher utilization of cervical cancer screening services. The observation made by Murfin *et al.* (2020) aligns with the notion that there exists a correlation between education, income, and the utilization of cervical screening and HPV vaccination among women.

4.3.6 Religious Affiliation of Respondents

The significance of religious affiliation as a demographic factor was examined in this study, as it was found to have a substantial impact on decisions related to marriage, cervical cancer screening, and overall health-seeking behavior due to the effect of religion teachings and beliefs. The distribution of respondents based on their religious affiliations is presented in Table 4.6.

Table 4.6: Distribution of Denominational Affiliation of Respondents

Religion	Frequency	Percentage (%)
Protestant	246	79.8
Islam	4	1.4
Catholic	58	18.8
Total	308	100

Table 4.6 shows that majority of the respondents, 304(98.6%), were Christians of whom 246(79.8%) being protestants and 58(18.8%) being Catholics. Only 4(1.3%) were affiliated to Islam. These statistics correspond with the fact that Christianity is the most predominant religion in Kenya (Pew, 2019). In 2019, an estimated 84.8% of the total population of Kenya was reported to consist of Christians (Iyer & Weeks, 2020). The results suggested that the study accessed a substantial number of women from the predominant religious groups in Kenya.

From past studies, there is inconclusive evidence on the link between religious denomination and cancer screening uptake. In some studies, religious faiths have been noted to have direct correlation with cervical cancer awareness and the intention to adopt cervical cancer screening. Other studies report that religious faiths either impede or have no effect on cervical cancer knowledge and screening uptake. Gatumo *et al.* (2018), for instance, aver that the Catholics and Muslims, compared to Protestants, have one of the lowest uptakes of cervical cancer screening due to their somewhat strict beliefs concerning sexual matters. This has been confirmed by Dzouza *et al.* (2020), in their study in India that explored the barriers to cervical cancer screening. It was observed that Muslim women, in particular, exhibited a lower level of engagement with reproductive health treatments. This finding is consistent with a study conducted among a diverse group of American Muslim women, which demonstrated that engaging in negative religious coping strategies, such as perceiving health issues as a kind of divine retribution, was linked to decreased likelihood of undergoing a Pap test (Padela *et al.*, 2014). In contrast, the study conducted by Speed (2018) did not yield statistically significant evidence to support a correlation between religious involvement and the likelihood of undergoing cancer tests.

4.3.7 Number of Children Born to Respondent

The study further sought to establish the number of children born to the respondents.

The distribution of respondents by number of children was as presented in Table 4.7.

Table 4.7: Number of Children

Number of children	Frequency	Percentage (%)
None	66	21.4
1-4 children	232	75.3
5 or more children	10	3.3
Total	308	100

Majority of the women, 232(75.3%), had 1-4 children, followed by 66(21.4%) who did not have any child and 10(3.3%) who had more than 5 children. As such, many of the women respondents had had children, suggesting they were sexually active. Considering that various strains of the human papillomavirus (HPV) are sexually transmitted through sexual contact, sexual activity plays a role in causing cervical cancer (Nygard, 2011). The study therefore sampled women who were susceptible to cervical cancer, which enabled the researcher to collect valid and reliable data about communication channels for information on the disease and the state of uptake of screening. A study by Gan and Dahlui (2013) noted that being married with children was a significant predictor of uptake of cervical cancer screening.

4.3.8 Demographic Characteristics and Uptake of Cervical Cancer Screening

A regression analysis was carried out to ascertain the strength and nature of the relationship between demographic variables and uptake of cervical cancer screening.

The results were as presented in Table 4.8.

Table 4.8: Relationship between Demographic Characteristics and Uptake of Cervical Cancer Screening Services

Model		Unstandardized		Standardized	Sig.
		Coefficients		Coefficients	
		B	Std. Error	Beta	
1	(Constant)	1.264	.219		<.001
	Age of Respondents	.349	.028	.133	.001
	Marital Status Level of Education	-.031	.061	-.074	.147
	Employment Status	.290	.030	.046	.008
	Income Level	-.002	.058	.103	.021
	Denomination	.295	.021	.634	.001
	Number of Children	-.001	.041	-.003	.969
		.109	.022	.089	.062

The findings presented in Table 4.8 indicate that the demographic attributes of the participants played a significant role in predicting their engagement in cervical cancer screening (B0=1.264). The uptake of cervical cancer screening was shown to be strongly impacted by age (B1=0.349). There was a higher likelihood of older women engaging in cervical cancer screening compared to their younger counterparts. The findings were consistent with previous research that observed a positive correlation

between age and the frequency of cervical cancer screening (Bante *et al.*, 2019). Tefera and Mitiku (2016) have also documented an increased probability of undergoing cervical cancer screening among women in the age range of 25 to 49 years who are mothers. Likewise, the research conducted by Bayu *et al.* (2016), Cunningham *et al.* (2015), and Mingo *et al.* (2012) yielded consistent findings indicating a positive correlation between age and the utilization of screening services.

According to the findings presented in Table 4.8, a positive association was seen between the degree of education and the utilization of cervical cancer screening ($B=0.290$). Furthermore, a significant correlation was observed between individuals' economic level and their likelihood of undergoing cervical cancer screening ($B=0.295$). There was a higher likelihood for women with higher incomes to pursue cervical cancer screening compared to women with lower incomes. The findings of the study indicate a significant association between the number of children a woman has and her likelihood of undergoing cervical cancer screening ($B=0.349$). The likelihood of engaging in cervical cancer screening was higher among women who had given birth to 1-4 children compared to those who had no children or had more than 4 children. Nevertheless, the research revealed no significant correlation between the adoption of cervical cancer screening and marital status ($B=-0.03$), employment position ($B=-0.002$), and denominational affiliation ($B=-0.001$).

4.4 Cervical Cancer Awareness and Knowledge

The first objective of the study sought to determine cervical cancer awareness and knowledge levels in relation to uptake of cervical cancer screening. To achieve this, the researcher asked the respondents to indicate their knowledge levels on cervical cancer, the risk factors of cervical cancer and symptoms of cervical cancer. They were also asked to indicate their levels of agreement with certain statements about cervical cancer. The responses were presented in tables and interpreted appropriately.

4.4.1 Awareness about Cervical Cancer

The study examined various awareness parameters, such as familiarity with cervical cancer, knowledge of cervical cancer screening, understanding of cervical cancer as a sexually transmitted disease, awareness of the preventability of cervical cancer, recognition of the potential for prevention through vaccination of young girls, recognition of the role of early screening in preventing cervical cancer, and awareness of the recommended frequency of cervical cancer screening within a three-year period. Table 4.9 presents the results of the study, indicating the degrees of awareness among respondents on cervical cancer.

Table 4.9: Awareness about Cervical Cancer

Statements	Yes, n(%)	No, n(%)	Do not know, n(%)
Whether one has ever heard of cervical cancer	278(90.3)	30(9.7)	0(0)
Whether one has ever heard of cervical cancer screening	226(73.4)	76(24.7)	6(1.9)
Whether cervical cancer is a sexually transmitted disease	88(28.6)	58(18.8)	162(52.6)
Whether cervical cancer is preventable	150(48.7)	14(4.6)	144(46.8)
Whether cervical cancer is preventable through vaccination of young girls	62(20.1)	30(9.7)	216(70.1)
Whether early screening helps in prevention of cervical cancer	216(70.1)	4(1.3)	88(28.6)

The data presented in Table 4.9 reveals that a significant proportion of women, specifically 278 individuals (90.3%), reported having prior knowledge of cervical cancer. A significant proportion of women, specifically 226 individuals (73.4%), were found to possess knowledge regarding cervical cancer screening. Furthermore, nearly half of the female participants, specifically 150 individuals (48.7%), demonstrated awareness regarding the preventability of cervical cancer. Moreover, a substantial proportion of these women, specifically 216 individuals (70.1%), exhibited awareness

about the role of early screening in the prevention of cervical cancer. Nevertheless, a considerable proportion of women, namely 162(52.6%), exhibited a lack of awareness regarding the sexual transmission of cervical cancer. Additionally, a significant number of women, amounting to 216(70.1%), were uninformed about the preventability of cervical cancer by the administration of vaccinations to young girls. The findings suggest that a significant proportion of the female participants were knowledgeable of cervical cancer, however a considerable number lacked awareness on the modes of transmission and the preventive measures available, such as vaccination.

The above results agreed, to a large extent, with the responses from the focus group discussions with women. Most of the women mentioned that they had heard about cervical cancer, among other types of cancers.

I have also heard of cervical cancer (FGD, 01).

Apart from the cervical cancer, the women had heard about breast cancer, ovarian cancer, skin cancer and throat cancer as reported by one of them.

I have had two friends who have died of breast cancer...My aunt suffered from throat cancer and eventually died (FGD, 02).

From the interviews with the key informants, it was revealed that there was no proper way to gauge women's awareness of cervical cancer. However, the interviewees noted that most women who are HIV-positive were likely to be aware about cervical cancer. According to the key informants, although most women were aware about cancers in general, their awareness about cervical cancer was low. Additionally, a good number of women had inaccurate information and beliefs about cervical cancer.

There is a lot of information out there about cancer in general but not specific to cervical cancer. But I think some women are aware of existence of cervical cancer, but they lack accurate information on the same. There is little communication done concerning cervical cancer in the community (KII, Facility B, 02).

From the focus group discussions, women aged 41-65 years (FGD 2) were reported as being more aware and most likely to have been screened for cervical cancer. Women who utilised family planning services were also aware of cervical cancer because they underwent mandatory screening for the cancer.

Sometimes they [women] ask for it [cervical cancer screening], but we do tell them that the services are available especially those who come for family planning services. You know for family planning method like the coil (IUCD), a woman must be screened first for cervical cancer before insertion (KII, Facility B, 02).

In general, the findings of this study corroborate previous research indicating that the majority of women possess awareness of cervical cancer and screening. However, their knowledge regarding specific aspects such as transmission, prevention, and signs and symptoms remains limited, as evidenced by studies conducted by Nyangasi *et al.* (2018), Tiruneh *et al.* (2017), and Gatumo *et al.* (2018). In certain regions of Kenya, the implementation of cervical cancer screening programs and the introduction of the HPV vaccine have led to an increase in community awareness of cervical cancer. However, suboptimal screening rates persist due to various factors, including limited knowledge and awareness among the population, concerns regarding speculum

examination, discomfort with male health workers, and inadequate spousal approval (Gatumo *et al.*, 2018).

Moreover, it has been observed in Kenya that there is a correlation between limited information and the delayed detection of cervical cancer (Wamburu *et al.*, 2016). The urgency of addressing late diagnosis is underscored by its association with a poor prognosis, as highlighted by De Ver Dye *et al.* (2011). In the present study, it was shown that although women exhibited a notable level of awareness regarding cervical cancer, they displayed a substantial lack of knowledge pertaining to cervical cancer screening. This deficiency in knowledge may contribute to the poor utilization of cervical cancer screening services. Consequently, the enhancement of cervical cancer knowledge and the mitigation of unfavorable attitudes towards cervical cancer screening are essential elements of a comprehensive cervical cancer preventive initiative (Adewumi *et al.*, 2022; Bonful *et al.*, 2022).

In addition, the respondents were asked to give their views on the number of times in three years one should be screened for cervical cancer. Their responses were as presented in Table 4.10.

Table 4.10: Number of Times in Three Years one should be Screened for Cervical Cancer

Number of times	Frequency	Percentage (%)
Once	14	4.6
Twice	6	2.0
Thrice	72	23.4
Do not know	216	70.1
Total	308	100

The findings in Table 4.10 indicate that majority of the respondents, 216(70.1%), did not know that one should be screened for cervical cancer at least once in three years.

4.4.2 Factors Responsible for Development of Cervical Cancer

To further gauge the level of knowledge on cervical cancer, the women respondents were asked to give their opinions concerning factors responsible for development of the cancer. The findings were as presented in Table 4.11.

Table 4.11: Views on Factors Responsible for Development of Cervical Cancer

Factors responsible for development of cervical cancer	N	Mean	Std
Human Papilloma Virus	308	2.31	.802
Having multiple sexual Partners	308	2.29	.806
Being sexually active at a young age (below 17)	308	2.30	.804
Smoking	308	2.26	.819
Family history	308	2.22	.776
Using drugs/medicine that suppress immunity	308	2.31	.802
Having multiple pregnancies	308	2.55	.783
Giving birth before the age of 17	308	2.30	.805
Having high levels of mental stress over a sustained period	308	2.34	.755
Being infected with some sexually transmitted diseases	308	2.13	.739

Table 4.11 indicates that majority of women did not know that the Human Papillomavirus, having multiple sexual partners, being sexually active at a young age (below 17), smoking, family history, using drugs/medicines that suppress immunity, having multiple pregnancies, giving birth before the age of 17, having high levels of mental stress over a sustained period, and being infected with some sexually transmitted diseases were risk factors for development of cervical cancer. This implies

that there were low levels of knowledge among women on the risk factors of cervical cancer.

During the FGDs, the respondents mentioned some of the causes of cervical cancer as including poor hygiene, Human Papillomavirus (HPV) and genetics. Additional risk factors mentioned by the respondents included age, alcohol drinking, multiple sexual partners, and smoking.

I heard someone say cervical cancer is hereditary. They say it is just like breast cancer in that if someone in your family has, you are likely to have it (FGD, 02).

I think it [cervical cancer] may be caused by multiple sexual partners. I think smoking cigarettes, alcohol drinking and also being old in age may cause such cancers (FGD, 02).

These results point to the fact that there is poor knowledge about cervical cancer among women. Lack of knowledge about the seriousness of cervical cancer has been significantly associated with low uptake of cervical cancer screening (Morema *et al.*, 2014). Women's description of cervical cancer risk factors suggested that they had limited knowledge about the disease. Although most of the study participants had some levels of formal education, they showed poor knowledge about the disease.

4.4.3 Symptoms of Cervical Cancer

The study sought to determine whether the respondents were aware of some of the symptoms of cervical cancer. Table 4.12 presents the findings.

Table 4.12: Womens Views on Symptoms of Cervical Cancer

Symptoms of cervical cancer	N	Mean	Std
Bleeding between menstrual periods	308	2.31	.802
Bleeding during or after sexual intercourse	308	2.06	.904
Bleeding in post-menopausal women	308	2.06	.903
Bad smelling vaginal discharge	308	2.11	.899
Discharge with some blood	308	1.81	.928
Lower abdominal pain	308	1.71	.904

The study results in Table 4.12 show that majority of the respondents were not aware of the symptoms of cervical cancer. Therefore, there limited knowledge among the women on the symptoms of cervical cancer.

The findings from the FGD sessions showed that some women were aware of certain symptoms of cervical cancer, which included excessive bleeding, general body pains, discharge from the vagina, foul smell, and pain in the cervix.

“Some discharge from the private area. May be pain in the cervix” (FGD, 01)

4.4.4 Facts and Misconceptions about Cervical Cancer

To further determine the respondents’ knowledge levels on cervical cancer, they were asked to state their level of agreement with given statements about cervical cancer (facts and misconceptions). The findings were as presented in Table 4.13.

Table 4.13: Levels of Agreement with Statements about Cervical Cancer

Facts and misconceptions about Cervical cancer	N	Mea n	Std
Cervical cancer is the leading cause of death among women in reproductive age in Kenya	308	2.7	0.655
Anyone including me can get cervical cancer	308	2.8	0.628
Cervical cancer screening is cheap	308	2.0	0.927
If I got cervical cancer symptoms, I would go for screening	308	2.9	0.420
Adequate information on cervical cancer will make me go for screening	308	2.8	0.480
Cervical cancer can be cured if detected in early stages	308	2.8	0.553
If a woman has cervical cancer, then it means she has HIV	308	1.9	0.404
The womb will be removed if diagnosed with cervical cancer	308	1.9	0.636
Being diagnosed with cervical cancer means death	308	2.2	0.620
Getting screened exposes me to unnecessary health risks/other diseases	308	1.8	0.687
Screening destroys the ability of a woman to have a baby	308	1.6	0.592
Family planning methods like intrauterine device (copper coil) cause cervical cancer	308	2.0	0.811

As shown in Table 4.13, majority of the respondents (mean=2.9) agreed that if they suspected that they had cervical cancer or got more information about cervical cancer (mean=2.9), they would go for screening. This was followed closely by another majority (mean=2.8) who were aware that anyone, including them, could get cervical cancer and those who agreed that cervical cancer can be cured if detected in its early stages (mean=2.8). Those who were aware that cervical cancer is the leading cause of death among women in reproductive age in Kenya followed with a mean of 2.7.

Almost half of the women disagreed that getting screened exposes one to unnecessary health risks or other diseases (mean=2.2) and that screening destroys the ability of a woman to have a baby (mean=1.8). Majority of the women (mean=1.9) further disagreed that if a woman had cervical cancer, then it meant she has HIV-positive. Another majority disagreed that the womb would be removed if diagnosed with cervical cancer (mean=1.9) and that being diagnosed with cervical cancer meant death (mean=1.9). From these findings, it was evident that most respondents had facts about cervical cancer. More than half of the respondents were able to differentiate between facts and misconceptions about cervical cancer.

On the other hand, a good number (mean=2.0) disagreed that cervical cancer screening is cheap. There was an ambivalent response on the statement that family planning methods like intrauterine device (copper coil) caused cervical cancer (mean=2.6). Therefore, the study found that respondents did not have accurate information on the cost of screening services. Moreover, they were unsure about the link between cervical cancer and use of intrauterine devices.

4.4.5 Cancer Awareness and Cancer Screening Uptake

The first hypothesis (H_{01}) of the study stated that there is no significant relationship between level of cervical cancer awareness and knowledge and uptake of cervical cancer among women screening seeking healthcare services at MTRH, Kenya. A regression analysis was carried out to ascertain the strength and nature of the relationship between the cancer awareness variables and uptake of cervical cancer screening. The results were as presented in Table 4.14.

Table 4.14: Relationship between Cancer Awareness and Cancer Screening Uptake

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
	1 (Constant)	.633	.192	
Knowledge about cervical Cancer	1.515	.028	.749	.001
Causative Factors of Cervical cancer	.645	.061	.428	.014
Symptoms of cervical cancer	.020	.030	.046	.624
Facts and misconceptions about Cervical cancer	.217	.058	.103	.021

The results in Table 4.14 indicate that, generally, cervical cancer awareness was a strong positive predictor of uptake of cervical cancer screening (N=308, $B_0=0.633$, $p=0.028$). Therefore, the null hypothesis was rejected. More specifically, knowledge about cervical cancer greatly was found to be the greatest predictor of the respondents' cervical cancer screening uptake (N=308, $B_1=1.515$, $p=0.001$). This meant that the respondents who were more informed about cervical cancer were more likely to go for screening. Knowledge of causative factors of cervical cancer was the second predictor of respondents' cervical cancer screening uptake (N=308, $B_2=.645$, $p=0.014$). As such, respondents who exhibited awareness of risk factors for cervical cancer, like it being caused by human Papillomavirus, use of drugs/medicines that suppress immunity, giving birth before the age of 17 and being infected with some sexual transmitted diseases, were more likely than those who were not aware to

undertake cervical cancer screening. This implies that giving women adequate information improves their uptake of cervical cancer screening.

The findings of this study were consistent with the conclusions drawn by Bayu *et al.* (2016), Mingo *et al.* (2012), and Orang'o *et al.* (2016), all of whom found that being HIV-positive was a significant determinant of the utilization of cervical cancer screening services. Moreover, previous studies have demonstrated a substantial correlation between engaging in sexual activity with several partners and acquiring sexually transmitted diseases, and the subsequent likelihood of undergoing cervical cancer screening (Bante *et al.*, 2019; Bayu *et al.*, 2016).

Respondents' perceptions of the facts and misconceptions about cervical also influenced their screening behaviours (N=308, $B_3=.217$, $p=0.021$). Specifically, those respondents who had factual information about cervical cancer, like cervical cancer screening is not expensive, getting screened does not expose one to unnecessary health risks/other diseases, screening does not destroy a woman's ability to have a baby, and family planning methods like intrauterine device (copper coil) do not cause cervical cancer, were more likely to make informed decisions to go for cervical cancer screening.

Finally, there was minimal or no influence of the respondents' awareness of symptoms of cervical cancer on their uptake of cervical cancer screening (N=308, $B_4=.020$, $p=0.624$). This finding implied that the knowledge the respondents had regarding cervical cancer symptoms, such as bleeding between menstrual periods, bad smelling vaginal discharge, and lower abdominal pain, might not necessarily influence them to go for cancer screening. These results, however, contrast the view

by Adanu *et al.* (2010) that abnormal vaginal bleeding has been significantly associated with cervical cancer screening.

4.5 Sources of Information on Health and Cervical Cancer and their Effectiveness

The second objective of the study sought to establish the communication channels women seeking healthcare services at MTRH used to obtain health information in general, and specifically cervical cancer information, and how these sources of information influenced their uptake of screening. To begin with, the study sought to identify the frequency of access/use of communication channels for health information and the effectiveness of those communication channels.

4.5.1 Access and Use of Communication Channels for Health Information

The findings on the frequency of access and use of various communication channels for health information were as summarised in Table 4.15.

Table 4.15: Frequency of Access and Use of Communication Channels for Health Information

Communication channel (n=308)	M	Very frequently	Frequently	Occasionally	Rarely	Never
Health workers	3.62	52(16.9)	146(47.4)	72(23.4)	16(5.2)	22(7.1)
Family/Relatives	3.64	12(3.9)	140(45.5)	72(23.4)	30(9.7)	54(17.5)
Church/Mosque/Temple	3.48	106(34.4)	61(19.8)	54(17.5)	49(15.9)	38(12.3)
Friends	3.74	135(43.8)	69(22.4)	37(12.0)	23(7.5)	44(14.3)
Self-help group	2.69	11 (3.6)	102(33.1)	72(23.4)	28(9.1)	95(30.8)
Neighbours	3.09	56(18.2)	68 (22.1)	82(26.6)	51(16.6)	51(16.6)
Workmates	2.32	10 (3.2)	64 (20.8)	30 (9.7)	116(37.7)	88(28.6)
Cancer survivor	2.68	24 (7.8)	54 (17.5)	54(17.5)	70(22.7)	106(34.4)

The results in Table 4.15 show that all the stated communication channels were utilized by women to obtain information about cervical cancer. However, the

frequency of access and use varied by the type of communication channels. The most common communication channels used by the women was friends (mean=3.74), followed by family/relatives (mean=3.64) and health workers (mean=3.62). The church/mosque/temple (mean=3.48), self-help group (mean=2.69) and neighbours (mean=3.09) were utilized less frequently. In addition, workmates (mean=2.32) and cancer survivors (2.68) were utilized by a few of the women.

The above results cohered with literature that reported that how and with whom one connects has a profound impact on their health behaviours and outcomes (Christakis & Fowler, 2008; Smith & Christakis, 2009). Furthermore, the family as a primary cultural unit for health education across most countries, irrespective of the level of economic development, helps to establish culturally engrained beliefs about health and illness. This concurs with a study done by Mosavel and Ports (2015) on upward communication about cancer screening between an adolescent daughter to mother. Mosavel and Ports found that daughters were able to successfully recall and deliver a cancer appeal to their mothers and mothers were generally receptive to this message. Not only did mothers listen to their daughters' appeals, but also daughters' knowledge of cancer was considerably improved by the opportunity to educate their female elders.

The findings of the current study further affirm the report that women prefer acquiring health-related information via their family and friends in a face-to-face communication over impersonal forms of health seeking behaviours (Courtenay, 2000; Fuhrer & Stansfeld, 2002; Perz *et al.*, 2011). Gatumo *et al.* (2018) put it more

succinctly that family and friends are the most important sources of health information for women, followed by healthcare facilities and radio/television.

4.5.2 Sources/Channels of Information on Cervical Cancer and Screening

The respondents were further asked to specify the communication channels they used to obtain information on cervical cancer. The findings were as presented in Figure 4.4.

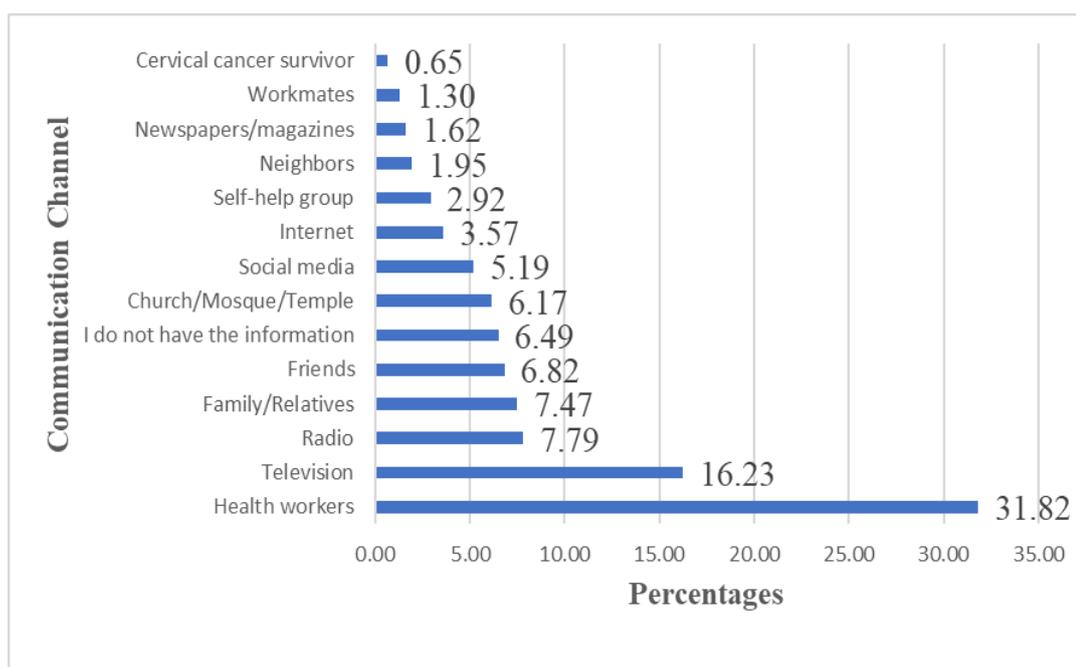


Figure 4.4: Communication channels for information on cervical cancer and screening

The results in Figure 4.4 indicate that the most common forms of communication channel used to obtain information on cervical cancer and screening was health care workers, 98(31.82%), and television, 50(16.23%). The least utilized channels were cervical cancer survivors, 2(0.65%). This finding could be explained by the fact that cervical cancer survivors are rarely used as sources of information in society.

The participants in the FGDs affirmed that they obtained information on cervical cancer from media channels, posters, health care providers and friends.

I don't remember the program, but doctors and cancer survivors had been invited to an FM radio station to provide information through a talk show. I also got the information through a nurse when I came for family planning i.e., the IUCD because it is a requirement to be screened (FGD, 02).

This finding reiterated the data obtained from the key informant interviews, which indicated that health care providers participated in information dissemination about cervical cancer and screening. For instance, there had been community outreaches and dialogue activities organized by health care workers.

We are also using community health volunteers. We empower them with education on cervical cancer and screening. We even describe the procedure of screening and the equipment we use to dispel the myths that the women have about screening. Community health education workers and public health workers also work hand in hand with public administration in spreading the information (KII, Facility A, 02).

Health care providers were noted as major sources of information as they participated in cervical cancer awareness creation and sensitization through health talks and health education offered at their respective health facilities.

Sometimes we use health talks done once in a week, through a promotion team from Chandaria cancer center. They help us in creating awareness about cervical cancer. The nurses in charge of the various sections also do educational talks and they inform them of the availability of screening. The

doctors in gynaecology section inform them of the need to be screened especially those who want to get the IUCD insertion (KII, Facility B, 01).

In addition, the key informants stated that they used public notice boards and posters to reach out to the women. Specifically, MTRH majorly used posters. This was reported as follows:

The only source of information on cervical cancer at the hospital currently is through posters. We do use posters mainly in MTRH and here is the evidence. The poster tells everything about cervical cancer, i.e., what it is, its causes, how it is transmitted and symptoms (KII, Facility B, 03).

Hospital clients could thus access information about cervical cancer and screening services at the health facilities, ranging from dispensaries to the hospital level. It was noted that in some public health facilities, MCH-FP services were integrated with cervical cancer screening, although this was not the practice in MTRH. In such cases, women seeking health care services at MCH-FP clinics could utilize the clinics to obtain cervical cancer information. This was reported by one of the key informants.

In the public hospitals, we have integrated MCH services especially family planning with cervical cancer screening. We screen them every month as they come for the FP services (KII, Facility A, 01).

Health care providers said the key messages they communicated to the clients contained the general information about cervical cancer, such as its causes, signs and symptoms, and the importance of early diagnosis through screening. One of the key informants had this to say:

We normally ask them to seek treatment for cervical cancer early. If they have any symptoms of the disease, they seek medical attention. We also sensitize them to come for cervical cancer screening especially women between 14 to 49 years because that is the reproductive age (KII, Facility A, 01).

Another important aspect of information dissemination process mentioned by the key informants concerned sensitization on the importance of cervical cancer screening. This included relaying information on where to access cervical cancer screening services as well as the screening procedures. It also included sensitising the clients on the recommended frequency of screening as well as the importance of HPV vaccine. This was reported as follows:

The key messages that we communicate at MTRH are importance of screening, what early diagnosis of cancer means and duration in which one should return for screening. We also inform them of the HPV Vaccine for immunization of girls who are not exposed to Human Papilloma Virus, mostly aged around 10-14 years to prevent cervical cancer (KII, Facility B, 01).

Mostly, the focus is on what cervical cancer is, the importance of screening, where they can be screened, early diagnosis of screening, the procedure itself, duration it takes and the time that one should return for screening” (KII, Facility B, 02).

From the study findings in this section, it was deduced that since data for this study was collected in a hospital set up, majority of the respondents seemed to have received information on cervical cancer through the health care workers.

4.5.2.1 Correlation of Communication Channels Utilized with Uptake of Cervical Cancer Screening

A Pearson's correlation coefficient test was performed to test the relationship between communication channels utilized for information on cervical cancer screening and uptake of cervical cancer screening. The results were as presented in Table 4.16.

Table 4.16: Communication Channel and Uptake of Cervical Cancer Screening

		Interpersonal communication channel	Cancer screening uptake
Interpersonal communication channel	Pearson Correlation	1	.876**
	Sig. (2-tailed)		.004
	N	308	308
Cancer screening uptake	Pearson Correlation	.876**	1
	Sig. (2-tailed)	.004	
	N	308	308

** . Correlation is significant at the 0.05 level (2-tailed).

The results in Table 4.16 show that there was strong positive relationship between communication channels used and uptake of cervical cancer screening ($r=0.876$, $p < .004$). This observation indicates that the choice of communication medium used played a crucial role in influencing the acceptance and adoption of cervical cancer screening. Consequently, the study's second hypothesis (H02), which posited that there is no statistically significant disparity between the various interpersonal communication channels employed to acquire cervical cancer information and their

efficacy in promoting the adoption of cervical cancer screening among women seeking healthcare services at MTRH, Kenya, was refuted. Consequently, it was determined that the selection of a communication channel holds equal importance to the content of the message. This indicates that the fight against cervical cancer needs efficient use of relevant communication channels to promote uptake of cervical screening among susceptible women. Research has indicated that mass communication channels play a relatively significant role in enhancing awareness and knowledge regarding cancer-related risks. On the other hand, interpersonal communication channels offer prompt and continuous feedback, thereby serving as influential factors in persuading individuals to adopt specific health behaviors, including those aimed at preventing cancer (Yanovitzky & Blitz, 2000; Backer, Rogers & Sopory, 1992; Rogers & Storey, 1987).

4.5.3 Most Effective Channels in Uptake of Cervical Cancer Screening

The second objective of the study further sought to determine the communication channels that were most effective in increasing cervical cancer screening uptake. Effectiveness was described in terms of dissemination of adequate information, trustworthiness and persuasiveness. The findings were as presented in Table 4.17.

Table 4.17: Most Effective Communication Channels

Effective communication channel	Mean	Most effective	Effective	Neutral	Less effective	Ineffective
Health workers	4.85	282(91.6)	14(4.6)	4(1.3)	4(1.3)	2(0.7)
Family/Relatives	3.45	22(7.1)	166(53.9)	60(19.5)	50(16.2)	10(3.3)
Church/Mosque/Temple	3.98	84(27.3)	174(56.5)	26(8.4)	8(2.6)	16(5.2)
Friends	3.31	20(6.5)	146(47.4)	82(26.6)	46(14.9)	14(4.6)
Women self-help group	3.44	32(10.4)	166(53.9)	40(13.0)	48(15.6)	22(7.1)
Neighbours	3.25	14(4.6)	114(37.0)	114(37.0)	46(14.9)	20(6.5)
Workmates	3.12	14(4.55)	132(42.9)	78(25.3)	54(17.5)	30(9.7)
Cervical cancer survivors	4.47	192(62.3)	98(31.8)	16(5.2)	0(0.0)	2(0.7)

The research results in Table 4.17 show that health care workers (mean=4.85) were the most effective communication channels, followed by cervical cancer survivors (mean=4.47). Religious institutions, such as churches, mosques and temples, followed with a mean of 3.98.

The key informants also mentioned health care providers as the most effective interpersonal sources of information, especially at the facility level. They noted that health care providers at all levels of care were effective in disseminating accurate information on cervical cancer, especially by offering health education and health talks to clients during clinic visits. The health care providers in the MCH-FP clinic were mentioned as being in a better place to advise women to take up cervical cancer screening.

The healthcare providers can be effective during clinical visits-Every client who comes for any MCH FP service should be informed and persuaded to go

for screening. Any trained personnel who can advocate for cancer screening in various health facilities can also be effective (KII, Facility B, 01).

I think the healthcare providers in the MCH-FP clinics in hospitals can also be effective if they can inform the women and convince them to be screened (KII, Facility A, 01).

Several studies have underlined the importance of health care professionals as predictors of use of cervical cancer screening services. A study done by Mbatia (2016), in Naivasha Kenya, revealed that clients preferred to be given information on cervical cancer in hospital during health talks. They also wanted spaces where they could ask questions on things they did not understand regarding cervical cancer. According to Arkin (2007), when a message comes from a doctor, people are likely to listen. Good communication between healthcare providers and individuals is thus important in achieving positive health outcomes.

In one of the FGDs, cervical cancer survivors were also proposed as potentially reliable sources of information to spur women to take up screening.

There should be forums where cervical cancer survivors can be invited to speak to women about their experience maybe they can be invited to churches. This would encourage more women to go for screening (FGD, 02).

Other channels considered most effective by women included religious institutions, i.e., church/mosque/temple (2.0), women self-help groups (2.6), family/relatives (2.6) and friends (2.6). The communication channels considered least effective was neighbours (2.8) and workmates (2.9).

From one of the FGDs, the participants described friends and health care providers as channels they considered most convincing in promoting uptake of cervical cancer screening. As one participant indicated, they made the decision to go for screening following an advice from a friend or health care provider.

I was advised by a healthcare provider-doctor while seeking a different service from the doctor and I got convinced. I made the decision, after my friend told me (FGD, 01).

At the health facilities, FGD participants mentioned health care providers and use of posters as the most effective communication channels.

Hospitals because the healthcare providers can provide health education to women when they go for clinic visits. The hospitals can also put-up posters that provide information about cervical cancer screening (FGD, 02).

In addition, FGD participants also noted other effective channels of communication to include door to door campaigns and religious institutions, such as churches.

Community health workers can go door to door to speak to women, especially those in rural areas who may not have access to cervical cancer information. Healthcare providers could also use religious institutions to spread awareness by working with religious leaders to organize health programs in the institutions (FGD, 02).

Other channels mentioned included women group meetings and community outreach activities facilitated by the community health volunteers. The use of administrative

leaders and schools in awareness creation were also mentioned as potential effective channels of communication.

There should be forums where cervical cancer survivors can be invited to speak to women about their experience maybe they can be invited to churches. This would encourage more women to go for screening. The women can be reached through administrative leaders like chiefs to create awareness in rural areas among their communities (FGD, 02).

Similarly, the key informant interviewees and FGD participants indicated that community outreaches were among the most effective interpersonal sources of information on cervical cancer. These included the use of medical camps, open days, outreaches at the community level, and the use of the door-to-door campaigns.

Any dialogue-based communication channels especially face to face communication is most effective. To start with, the ministry of health should have open days and community outreaches when you pitch a tent in marketplaces or centers and invite the women in the community to come for screening (KII, Facility A, 01).

There is also the use of medical camps and community outreaches where they are taught about cervical cancer and the importance of early screening and inform them that screening is free (KII, Facility A, 01).

Community health workers could organize health education programs in estates and rural areas (FGD, 01).

The above study findings affirmed the view by Abotchie and Shokar (2009), on cervical cancer screening among college students in Ghana. The findings showed that

that primary healthcare workers such as community health nurses should be an important part of any new programme aimed at increasing cervical cancer screening rates. Community health workers and visits to the clinics have been reported as important information venues for women (Tiruneh *et al.*, 2017). A study done by Arrossi *et al.* (2015) in Argentina sought to determine the effect of self-collection of HPV DNA offered by community health workers at home visits on uptake of cervical screening. The findings showed that the CHWs influenced women positively. In another study, CHWs were reported to have the potential to reach people with face-to-face information (Tiruneh *et al.*, 2017).

Other communication channels mentioned in the current study included the use of learning institutions like schools and universities, and social places such as churches and social support groups.

The public can be reached through the use of students in through schools and colleges. The use of churches may also work. (KII, Facility A, 01).

The churches can also be used because most women do go there. Chamas [self-help groups] also can be helpful because women do share a lot during these meetings (KII, Facility B, 03).

The perspective that the most efficient means of communication for churches aligns with the religious coping theory (Pargament, 1997) and social support theory (Israel & Schurman, 1990). These theories propose that religious influences may exert an influence on individuals' utilization of preventive health services, such as engaging in cancer screening behaviors. In accordance with existing literature, the extent of an individual's involvement in religious activities, commonly measured by their

regularity of attending religious services or engaging in church-affiliated events (Perez *et al.*, 2011), is associated with their exposure to church norms. These norms encompass behaviors such as abstaining from smoking and practicing moderate alcohol consumption, both of which are recognized as risk factors for cervical cancer. The implementation of health education initiatives within communities, including religious institutions such as churches, is suggested as a viable approach to enhance the acceptance and utilization of cervical cancer screening and treatment (Enyan *et al.*, 2022; Orang'o *et al.*, 2016). During FGDs, some respondents opined that the local barazas are effective communication channels.

The women can be reached through administrative leaders like chiefs to create awareness in rural areas among their communities through barazas (FGD, 02).

The aforementioned statements reflect the action points derived from the Kenya Cancer Research and Control National Stakeholder Meeting with regards to the prevention of cervical cancer. These action points include: 1) involving community leaders and members in the identification of primary factors contributing to stigma through the implementation of knowledge, attitude, and practice (KAP) studies; 2) formulating messages that are culturally suitable to address misconceptions and knowledge deficiencies; 3) facilitating the exchange of information regarding community-based educational initiatives; and 4) enhancing public consciousness regarding cancer prevention and early detection, with a specific target of reaching 60% of the population by the year 2018 (Morgan *et al.*, 2018).

Some key informants stated that social media platforms and local media stations such as radio and TV stations were effective in promoting cervical cancer screening uptake.

Social media can be used. I think social media reaches large population even those who do not come to the hospital (KII, Facility B, 05). Lastly, the media- Local TV and local Radio FM stations e.g., KASS and others can be used (KII, Facility A, 01).

4.6 Interpersonal Communication Channels

4.6.1 Role of Interpersonal Communication Channels in Uptake of Cervical Cancer Screening

The third objective of the study sought to assess the role of interpersonal communication channels in uptake of cervical cancer screening. The findings for this objective were as presented in Table 4.18.

Table 4.18: Interpersonal Communication Channels and Cervical Cancer Screening

Role of interpersonal communication channels	M	SA	A	U	D	SD
Healthcare workers like doctors and nurses educate women on cervical cancer risk factors and motivate them to be screened during clinic visits	3.61	107(34.7)	93(30.2)	25(8.1)	48(15.6)	35(11.4)
Community health workers and volunteers are useful in community outreach by informing members about cervical cancer screening	3.55	103(33.4)	101(32.8)	13(4.2)	47(15.3)	44(14.3)
Families and relatives influence cancer prevention and control by providing moral support	3.75	117(38.0)	93(30.2)	22(7.1)	56(18.2)	20(6.5)
Friends provide information or advice about the purpose of cervical cancer tests and the benefits of testing	3.94	92(29.8)	162(52.6)	26(8.4)	26(8.4)	2(0.7)
Religious institutions like churches, mosques and temples view health promotion as part of their mission hence provide health programs which aid in cervical cancer program delivery to women	1.7	4(1.3)	16(5.2)	14(4.5)	126(40.5)	113(36.7)
Learning institutions like schools, colleges reach a wider population through learners by informing them on the need for screening of women of reproductive age	4.55	194(1.3)	99(32.1)	7(2.3)	6(1.9)	2(0.6)
Opinion leaders like politicians, chiefs and assistant chiefs have high credibility and are ideal sources for delivering and reinforcing cervical cancer messages	2.4	47(15.3)	54(17.5)	15(4.9)	61(19.8)	131(42.5)
Group meetings like self-help groups, workplace meetings, club meetings and <i>barazas</i> help in reaching the intended audience (women) with cervical cancer screening messages	4.0	116(37.7)	122(39.6)	36(11.7)	18(5.8)	16(5.2)
Educational seminars educate women on the benefits of cervical cancer screening	4.54	208(67.5)	78(25.3)	10(3.3)	6(2.0)	6(2.0)

**M: Mean, SA: Strongly Agree, A: Agree, U: Undecided, D: Disagree, SD: Strongly Disagree

The findings in Table 4.18 indicate that, overall, majority of the respondents agreed that learning institutions, such as schools and colleges, may be used to reach a wider population through learners with information on the importance of cervical cancer screening for women of reproductive age (4.55). One of the key informants also reiterated that learning institutions helped in information dissemination.

They serve as channels of disseminating information, remember information is power. When they have the information, they can come for the services (KII, Facility A, 01).

A majority of the respondents also agreed that educational seminars helped to educate women on the benefits of cervical cancer screening (4.54). Information from key informants were in line with these results. The interviewees reported that educational seminars helped to educate the community about cervical cancer, and were effective in debunking myths and misconceptions about cervical cancer.

I think mainly they are used for education purposes. More importantly, it clears the myths peddled by women about cervical cancer and how painful the procedure is (KII, Facility A, 02).

They also play a role in convincing women to change their health seeking behaviour. In Kenya, people go to hospital when they are sick. Since cancer is a disease that may not present itself with symptoms, information given in seminars help them to go for early screening and not wait for symptoms (KII, Facility A, 01).

They provide adequate information on cervical cancer and they convince clients to take up the screening (KII, Facility B, 05).

In addition, healthcare workers like doctors and nurses were reported to be useful in educating women on cervical cancer risk factors and motivating women to be screened during clinic visits (3.61). The findings from the FGDs indicated that health care workers played great roles in women's decision to be screened for cervical cancer. They influenced the attitudes and behaviours of women on cervical cancer. They provided adequate information for women on cervical cancer. Therefore, HCWs were reported to be more effective in persuading and reminding women to go for screening.

The healthcare workers influence the attitudes and behaviour of women especially in relation to cervical cancer screening. These channels provide adequate information to women and provide room for feedback i.e., asking questions and seeking clarification about cervical cancer (FGD, 01).

To me it was much of the trust and the adequate information. I felt free to ask for more information in confidentiality and the nurse changed my attitude towards screening. Mine was much about reminding because I had been planning to go for screening for too long (FGD, 02).

However, a portion of the participants (2.4) expressed dissent against the assertion that opinion leaders, including politicians, chiefs, and assistant chiefs, had substantial credibility and serve as optimal conduits for disseminating and reinforcing messages pertaining to cervical cancer. The present discovery contradicted the findings of a previous study conducted by Kreps and Kunimoto (1994) in California. Their study revealed that local opinion leaders had a significant level of credibility and frequently

serves as effective conduits for disseminating and reinforcing health-related messages, such as those pertaining to cervical cancer screening.

The findings from the key informant interviews also indicated that interpersonal communication channels play a role in the uptake of cervical cancer screening by disseminating information about the disease.

A follow-up analysis was done to understand the role of interpersonal communication channels in cancer screening uptake. Table 4.19 presents the findings.

Table 4.19: Relationship between Interpersonal Communication Channels Role and Uptake of Cervical Cancer Screening

		Interpersonal Communication channels	Cancer screening uptake
Interpersonal Communication channels	Pearson Correlation Sig. (2-tailed) N	1 308	.676** 308
Cancer screening uptake	Pearson Correlation Sig. (2-tailed) N	.676** <.001 308	1 308

** . Correlation is significant at the 0.05 level (2-tailed).

The results in Table 4.19 show a positive relationship between communication channels role and the uptake of cervical cancer screening (N=308, r=.676, p=<.001). Based on these results therefore, the null hypothesis (H₀₃), that there is no significant role that interpersonal communication channels play in the uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya, was rejected. The study concluded that there was a significant relationship between interpersonal communication channels and the uptake of screening among women.

4.7 Interpersonal Communication Barriers

4.7.1 Interpersonal Communication Barriers to Uptake of Cervical Cancer Screening

The fourth objective of the study sought to establish interpersonal communication barriers in relation to uptake of cervical cancer screening. To achieve this aim, the respondents were asked to indicate the extent of their agreement on some of the reasons why women do not participate in cervical cancer screening. The responses were scored on a five-point Likert scale and were as presented in Table 4.20.

Table 4.20: Interpersonal Communication Barriers

Communication barriers	M	SA	A	U	D	SD
Lack of knowledge about cervical cancer i.e., causes, risk factors	4.48	244(79.2)	26(8.4)	2(0.7)	14(4.6)	22(7.1)
Lack of awareness that screening is meant for all sexually active women of reproductive age	4.17	219(71.1)	12(3.9)	16(5.2)	33(10.7)	28(9.1)
Limited understanding about where to be screened, the purpose of screening and benefits	4.44	244(79.2)	8(2.6)	20(6.5)	19(6.2)	17(5.5)
Language barriers	2.19	82(26.6)	4(1.3)	6(1.95)	19(6.2)	197(64.0)
Misconceptions and myths about cervical cancer	4.48	216(70.1)	60(19.5)	8(2.6)	8(2.6)	16(5.2)
Cultural beliefs about cancer	3.61	148(48.1)	74(24.0)	22(7.1)	26(8.4)	38(12.3)
Religious beliefs	2.1	38(12.3)	26(8.4)	24(7.8)	82(26.6)	138(44.8)
Fear of finding cancer	4.86	266(86.4)	36(11.7)	4(1.3)	0(0)	2(0.6)
Fear of vaginal examination	4.77	258(83.8)	36(11.7)	8(2.6)	6(1.9)	0(0)
Negative attitude towards screening	4.51	180(58.4)	98(31.8)	18(5.8)	4(1.3)	8(2.6)

**M: Mean, SA: Strongly Agree, A: Agree, U: Undecided, D: Disagree, SD: Strongly Disagree

The findings in Table 4.20 indicate that overall, the respondents generally agreed with the barriers as listed. This implies that most of the listed barriers in Table 4.20 were major barriers to the uptake of cervical cancer screening by the respondents. The main

barriers identified were lack of knowledge about cervical cancer (4.48), lack of awareness that screening is meant for all sexually active women of reproductive age (4.17), limited knowledge of where to go for screening, the purpose of screening and benefits (4.44). The barriers cited by the least number of respondents were religious beliefs about cancer (2.1) and language barrier (2.2).

The above results cohered with information from the key informants, which revealed that inadequate information about cervical cancer was a major barrier. The key informants noted that most women lacked adequate information about cervical cancer to convince them to go for screening. Among the barriers to screening mentioned by the key informants were also myths and misconceptions about cervical cancer, such as it being caused by witchcraft or being a demonic disease. They further noted that the women lacked adequate information about the screening procedures. The low levels of education were considered a contributing factor to women's knowledge of cervical cancer. Finally, overreliance on mass media, which presented scanty information about cervical cancer, was also mentioned as a barrier to women's knowledge levels on and uptake of cervical cancer.

There is also lack of adequate information about cervical cancer. There are so many myths and misconceptions about cervical cancer in that many believe it is a curse or demonic in a way (KII, Facility B, 02).

There is lack of knowledge and information on cervical cancer because many of them are not aware of it. Failure to understand what cervical cancer all is about and people imagining that they cannot get the disease. I am thinking of the low levels of education that hinder understanding on diseases like cancer.

There are no simplified terms in reference to cancer in general. Lastly, heavy

reliance on mass media which presents scanty information on cervical cancer to women (KII, Facility B, 01).

The above sentiments were affirmed by the FGD participants who noted that many women lacked the requisite knowledge on cervical cancer. They further mentioned that inadequate information about cervical cancer was a barrier to women's uptake of cervical cancer screening.

Lack of knowledge on cervical cancer and screening - Some simply have no information about it; risk factors, symptoms, and places where screening services are offered (FGD, 02).

The above study results agreed with those from previous studies. Lack of knowledge and awareness about cervical cancer and screening methods in low- and middle-income countries have been reported as a common barrier to uptake of cervical cancer screening (Islam *et al.*, 2015; Montgomery *et al.*, 2014; Sudenga *et al.*, 2013). The other communication barrier to uptake of cervical cancer screening identified in the current study was fear of both the screening procedure and positive diagnosis of cervical cancer. As such, due to the stress that came with contemplating the procedures of screening and the possibility of cervical cancer diagnosis, some women avoid screening altogether. As one respondent explained:

Fear of finding out that they have cancer (FGD, 01).

Fear of the screening process – Some people fears the intrusiveness and discomfort that you feel during screening. I even think it may cause unnecessary health risks especially to the reproductive system (FGD, 02).

Some have many misconceptions about cervical cancer for example things like screening process is painful and that it could cause cervical cancer (FGD, 02).

From the interviews with the key informants, it was also noted that the main barrier to communication and uptake of cervical cancer screening was fear. Specifically, the interviewees mentioned fear of screening procedures. They said some women believed that the screening procedures were painful and uncomfortable. Others feared being actually diagnosed with cervical cancer. In addition, other women feared that the health care providers would breach confidentiality and disclose information to especially family members who would not approve of screening.

There are so many communication-related barriers to screening; to start with there is the fear of unknown. Others fear the procedure of being screened even among the elites; they think that the process is painful and nasty. There is also the fear of confidentiality being breached. I mean that there are women who fear that those doing the screening like the nurses may share your results with other people (KII, Facility A, 01).

Fear of the unknown in that some women are afraid of finding out that they have cancer. Some say that they fear the screening procedure. Assuming it is a male providing the screening services, some women may fear being attended to by a man (KII, Facility B, 03).

The findings concurred with those of Islam *et al.* (2015), which identified the perceived screening barriers to include fear and shame or embarrassment related to the screening procedure, and fear of receiving positive screening results.

Language barrier was cited as a hindrance to uptake of cervical cancer by one of the key informants.

It is hard to explain cervical cancer to a woman who barely understands Kiswahili leave alone English language. The terminologies used are hard. People living with disabilities like the deaf may also be disadvantaged since translating to them using sign language may be hard (KII, Facility B, 01).

Problems of access to cervical cancer screening services were further reported as a barrier to uptake of cervical cancer screening services. For instance, the key informants stated that some women lacked money to facilitate transport to seek health care facilities for screening services. Subsequently, the long distance to health care facilities was a critical barrier to screening for such women. There was also lack of information about where to access cervical cancer screening services. Meanwhile, some women said they were too busy to find time to go for cervical cancer screening services.

Some women lack money for transport to health facilities and for consultation. Here in MTRH they pay a consultation of 150 shillings before screening which may be hindering them because of the low economic levels of some women (KII, Facility B, 01).

Some of the women also lack information on where to access the services. Some complain that the facilities are far apart i.e., MCH/FP clinic and room 29 where screening is done are far apart. Some may keep postponing to another day and end up not doing it. Some may not know the days for screening though some of them ask when they are coming for clinics (KII, Facility B, 03).

They include being too busy to create time for screening. Nowadays women hustle to feed their families, and many are the working class and are committed in offices from 8am to 5pm (KII, Facility B, 02).

One respondent stated that there was no need to go for screening since there was faithfulness in their marriage.

I don't think I need it because my husband is faithful and I am also, so we are not at risk (FGD, 02).

The relationship between the client and the provider was also mentioned as a possible barrier to women's uptake of cervical cancer screening. Some women said they were uncomfortable with being screened by a male health care provider. Age and gender difference between the client and the health care provider were mentioned as barriers that negatively impaired with women's uptake of cervical cancer screening.

In cases where a health worker could be older or younger than the clients and vice versa, it is hard to discuss a topic like cervical cancer. This makes them not understand each other and fear being screened or just get embarrassed to undress in front of the healthcare worker. Gender is also a hindering factor. I am talking about a case of a male nurse who must attend to a female client. Clients shy off from asking a male health provider questions on cervical cancer. Concentrating on the topic cervical cancer may even be a problem when they are being taught (KII, Facility B, 05).

Akinyemiju, McDonald and Lantz (2015) observed in a study conducted in Nigeria that women were more likely to accept screening if the provider was also female. In contrast, the absence of a gender preference for physicians was found to be associated

with increasing rates of screening among Ethiopian women (Nigussie, Admassu & Nigussie, 2019).

Finally, in the current study, the shortage of health care workers was noted as a barrier uptake of cervical cancer screening. For instance, due to their overloaded work schedules, some health care providers said they could hardly make time to sensitize women clients about cervical cancer and screening.

If a client comes for MCH-FP services and has not been attended to, they may not concentrate if you engage them in other talks that are unrelated to what they came for. This becomes a barrier to communicating cervical cancer messages. Health workers do not have spare time since they handle so many duties and clients. It can be so overwhelming adding cervical cancer talks since it is not their core business, it therefore becomes a challenge. There is concentration on what clients came for in MCH-FP subsection (KII, Facility B, 05).

We regret that we have not been aggressive in creating awareness about cervical cancer and screening, especially among the women seeking services at the MCH-FP clinic. It should be us doing the sensitization but since we have a lot of work here; it is rarely done (KII, Facility B, 03).

Another challenge also mentioned by the health care providers was the difficulty to integrate cervical cancer screening into MCH-FP clinic due to shortage of staff. Nessler *et al.* (2021) have found that the poor organization of the healthcare system is a primary barrier to the administration of Pap smear by primary health care providers.

Further analysis of the study findings was done using Pearson correlation coefficient analysis to determine the relationship between interpersonal communication barriers and cervical cancer screening uptake. Table 4.21 presents the analysis results.

Table 4.21: Interpersonal Communication Barriers and Uptake of Cervical cancer Screening

		Interpersonal communication Barriers	Cancer screening uptake
Interpersonal communication Barriers	Pearson Correlation	1	-.561**
	Sig. (2-tailed)		<.001
	N	308	308
Cancer screening uptake	Pearson Correlation	-.561**	1
	Sig. (2-tailed)	<.001	
	N	308	308

** . Correlation is significant at the 0.05 level (2-tailed).

These results in Table 4.21 show a significant inverse relationship between interpersonal communication barriers and cervical cancer screening uptake ($r = -0.561, p = < 0.001$). This implied that with significantly more perceived or experienced communication barriers reported, there was significantly less uptake of cervical cancer screening uptake. Previous studies corroborate these findings. For instance, in their study, Islam *et al.* (2015) noted that perceived screening barriers, such as lack of knowledge, money or financial concerns, difficulties accessing screening and religious or cultural beliefs, hindered uptake of screening. The other barriers Islam *et al.* noted in their study included stigma, spousal disapproval and marital discord.

Stigma can decrease screening and treatment uptake by diminishing the perception of personal risk, which results in increased HPV-risk behaviours (Ginjupalli *et al.*, 2022). Additional research has indicated that male partners have a desire to actively participate in the decision-making process about cervical cancer screening. Nevertheless, the individuals possessed a restricted understanding regarding the process of screening and maintained inflexible attitudes towards societal expectations of gender, which subsequently influenced their endorsement of cervical cancer screening (Chapola *et al.*, 2021; Kim & Kim, 2018; Lewis *et al.*, 2020; Rosser *et al.*, 2014). Previous studies have indicated that the presence of negative attitudes among women, along with their perceived susceptibility to developing cervical cancer and perceived hurdles, can diminish the probability of engaging in cervical cancer screening (Bayu *et al.*, 2016; Idowu *et al.*, 2016; Nigussie *et al.*, 2019). Conversely, Bante *et al.* (2019) found that a favorable mindset was associated with higher levels of service consumption in Ethiopia.

4.8 Uptake of Cervical Cancer Screening

To determine the uptake levels of cervical cancer screening, the respondents were asked to indicate whether or not they had ever been screened for cervical cancer. The findings were as presented in Figure 4.5.

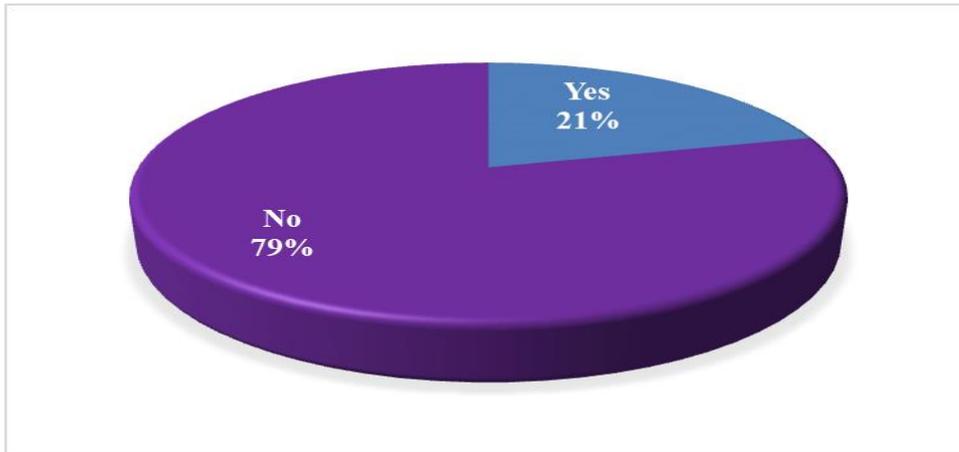


Figure 4.5: Distribution of those screened for cervical cancer

The results depicted in Figure 4.5 reveal that a significant proportion, specifically 244 individuals (79.2%) out of the total sample size of 308 respondents, reported never having had cervical cancer screening. Conversely, 64 respondents (20.8%) reported having been screened for cervical cancer. The findings suggest that there was a limited adoption of cervical cancer screening among the female population at MTRH. The study aimed to investigate whether individuals who have undergone cervical cancer screening had received the screening within the previous three-year period. The participants' answers were consolidated and presented in a summarized form, as depicted in Figure 4.6.

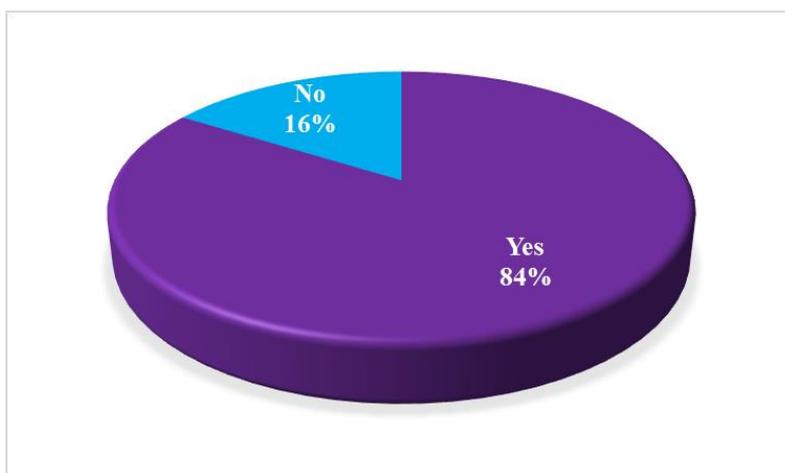


Figure 4.6: Cervical cancer screening within the past 3 years

The findings indicate that, out of 66 women who had been screened for cervical cancer, majority, 54(84.4%), had been screened within the last 3 years. These findings show that some women do not abide by the timelines recommended for subsequent screening.

Findings from the FGDs also showed that there was low uptake of cervical cancer screening among women. Majority of the women who took part in the FGDs said they had not been screened for cervical cancer. A few walk-in cervical cancer screenings were reported. However, majority of those who accepted to be screened had gynecological issues. The FGD participants attributed the low uptake of screening to the fear of positive results and lack of adequate information about cervical cancer. On their part, the key informants reported that uptake levels normally improve after outreach activities are done.

According to the health records that I keep, the level of uptake of cervical cancer and screening was 20% by mid of the year i.e., June 2019. In the month of July 2019, out of the 148 women who attended the Family planning

clinic, 34 women were screened for cervical cancer. This is equivalent to about 23% which is a slight increase (KII, Facility B, 04).

The uptake levels are not bad, but it is still low across the county majorly because of the lack of awareness. Normally the uptake improves after outreach campaigns are done. They rarely come to health facilities for testing voluntarily (KII, Facility A, 02).

The remarks above concurred with findings from previous literature. According to Gatumo *et al.* (2018), cervical cancer screening uptake in Kenya is low. Several other studies have shown that despite awareness of cervical cancer being high, the perception that it can be treated is quite low, and there is much fear of the screening outcomes (Dozie *et al.*, 2021; Nyangasi *et al.*, 2018).

Previous researchers also recommend that improvement strategies on cervical cancer screening uptake in low- and- middle-income countries should be accompanied by educational interventions aimed at enhancing knowledge and understanding of cervical cancer and screening (Islam *et al.*, 2017). Studies in Ethiopia (Akinyemiju *et al.*, 2015) and South Africa (Bante *et al.*, 2019) found that counselling sessions about screening was associated with uptake of the service.

4.9 Chapter Summary

This chapter has undertaken a presentation, analysis and interpretation of research data. The findings were presented in line with the research objectives. Discussions and interpretations of data were done in relation to the reviewed literature. Both the quantitative and qualitative data were collected through triangulation of administered

questionnaires, moderator-guided focus-group discussions, and key informant interviews. From the findings of this study, it is clear that interpersonal communication has not been given the weight that it deserves in healthcare facilities like MTRH (MCH-FP clinic). Face to face conversations and other oral forms of communication would have enabled women discuss issues surrounding cervical cancer in more detailed ways and would have helped in clarifying unclear issues that hinder them from being screened for cervical cancer.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a concise overview of the findings, conclusions, and suggestions derived from the study. The chapter commences by providing an overview of the investigation where a concise explanation of the research objectives is presented, followed by an exposition of the findings and conclusions. Towards the end, recommendations for practitioners and policymakers are given, followed by suggestions for further research and lastly it covers the contributions of the study.

5.2 Overview of the Study

The objective of this study was to evaluate the utilization of interpersonal communication channels in facilitating the uptake of cervical cancer screening among female individuals seeking healthcare services at the MCH/FP clinic located in Moi Teaching and Referral Hospital, situated in Uasin Gishu County, Kenya. The research was guided by the following research objectives: determining the levels of awareness and knowledge regarding cervical cancer in relation to the utilization of screening services; examining interpersonal communication channels employed and their effectiveness in promoting the utilization of cervical cancer screening; determining the role of interpersonal communication channels in the uptake of cervical cancer screening among women; and establishing the interpersonal communication barriers that hinder the uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya.

Data was collected from the maternal child health (MCH-FP) clinic at the Moi Teaching and Referral Hospital (MTRH). This study utilized descriptive research design and mixed methods approach. For the quantitative segment, the sample size was 308. The researcher used systematic sampling method to obtain the sample from the target population. The study utilized interviewer-administered questionnaires for data collection. For the qualitative component, interviews with six key informants selected purposively were undertaken. Two focus group discussions were also conducted each with ten participants. Descriptive analysis of the collected data included the generation of frequency percentages, mean and standard deviation. To determine the relationship between the dependent and independent variables, inferential statistics were computed using regression analysis and Peasorn's coefficient of correlation, at a confidence level of 95%. Both descriptive and inferential statistical analyses for the quantitative data were done using SPSS, version 29.0. On the other hand, thematic framework analysis using NVivo software was done for qualitative data.

5.3 Summary of Study Findings

5.3.1 Demographic Characteristics

The study found that women's age, levels of education, income levels and number of children significantly influenced their uptake of cervical cancer screening. The older women were more likely than their younger counterparts to undertake cervical cancer screening. Additionally, women who earned more were more likely than the low-earning women to undertake cervical cancer screening. Lastly, women with 1-4 children were more likely to undertake cervical cancer screening than the other categories women. Notably, however, marital status, employment status and

denominational affiliation did not significantly influence women's uptake of cervical cancer screening.

5.3.2 Cervical Cancer Awareness and Knowledge

The first objective of this study set to determine the awareness and knowledge levels of cervical cancer in relation to uptake of screening. The findings revealed that cervical cancer awareness levels were high. However, the women lacked in-depth knowledge on cervical cancer and screening. Regression analysis was carried out to ascertain the strength and nature of the relationship between the cancer awareness variables and uptake of cervical cancer screening. The results showed that knowledge levels were a strong positive predictor of women's uptake of cervical cancer screening. Knowledge about cervical cancer, its causative factors, and facts and misconceptions about cervical cancer significantly influenced women's cervical cancer screening uptake. Therefore, women who had more knowledge about cervical cancer were more likely to go for cancer screening. The women who exhibited knowledge of causative or risk factors of cervical cancer, such as the Human Papillomavirus, use of drugs/medicines that suppress immunity, giving birth before the age of 17, and being infected with some sexual transmitted diseases, were also more likely to undertake cervical cancer screening than those without such knowledge. This implied that giving women adequate information about cervical cancer increases their propensity to go for screening.

Furthermore, respondents who had facts about cervical cancer, such as cervical cancer screening is not expensive, getting screened does not expose one to unnecessary health risks/other diseases, screening does not destroy the ability of a woman to have

a baby, and family planning methods like intrauterine device (copper coil) do not cause cervical cancer, were more likely to utilize cervical cancer screening services.

5.3.3 Sources of Information on Cervical Cancer and their Effectiveness

The second objective of the study was to examine interpersonal communication channels utilized for cervical cancer information in relation to uptake of screening. The most commonly used communication channels included health workers, television and radio. Other important sources of information mentioned included the media channels, posters and friends. The study findings showed that the most effective channels in uptake of cervical cancer screening were health care providers.

A Pearson's correlation coefficient test was performed to gauge whether there was a relationship between communication channels utilized for information on cervical cancer screening and uptake of cervical cancer screening. The study found a strong positive relationship between communication channels and uptake of cervical cancer screening. This implied that the communication channel utilized was a significant determinant of uptake of cervical cancer screening. Subsequently, there was a significant association between some specific channels of communication and uptake of cervical cancer screening. These channels included health workers, religious institutions, women self-help group (chamas) and cervical cancer survivors.

5.3.4 Role of Interpersonal Communication Channels in Uptake of Cervical Cancer Screening

The third objective of this study sought to determine the role of interpersonal communication channels in the uptake of cervical cancer screening among women. Majority of the respondents agreed that healthcare workers, such as doctors and nurses, educate women on cervical cancer risk factors and motivate them to be screened during clinic visits. In addition, they also agreed that learning institutions, such as schools and colleges, can reach a wider population of women through learners with information on the importance of screening among women of reproductive age. The findings also revealed that friends provide information or advice about the purpose of cervical cancer tests and the benefits of testing. Meanwhile, religious institutions, such as churches, mosques and temples, view health promotion as part of their mission, hence provide health programmes that aid in cervical cancer programme delivery to women. On the other hand, many respondents disagreed with the statement that opinion leaders, such as politicians, chiefs and assistant chiefs, have high credibility and are ideal channels for delivering and reinforcing cervical cancer messages.

5.3.5 Interpersonal Communication Barriers to Uptake of Cervical Cancer Screening

The fourth objective of this research was to establish interpersonal communication barriers in relation to the uptake of cervical cancer screening among women seeking healthcare services at MTRH, Kenya. The major barriers identified were lack of knowledge about cervical cancer and inadequate information about cervical cancer. Other barriers noted by the women were: lack of information that screening is meant

for all sexually active women of reproductive age; limited understanding about where to be screened, the purpose and benefits of screening. From the key informant interviews and the FGD sessions, the main barriers mentioned were those related to language, specifically about finding the appropriate vocabulary to discuss cancer. Myths and misconceptions about cervical cancer, such as it being caused by witchcraft and being a demonic disease, were also noted barriers to screening uptake. The respondents also mentioned fear of positive results after screening and fear of the screening procedure. In addition, poor relationship between health care workers stemming from age and gender differences was noted as some of the barriers to women's uptake of cervical cancer screening. Women expressed discomfort with being screened by a male health care worker. The respondents also stated that it was hard to discuss a taboo topic like cervical cancer in some contexts. Some religious beliefs were also mentioned as a hinderance to uptake of screening.

5.3.6 Uptake of Cervical Cancer Screening

Majority (79.2%) of the respondents had never been screened for cervical cancer. From the key informant interviews and the FGD sessions, it was also noted uptake of cervical cancer screening was low. Therefore, there was a low uptake of cervical cancer screening among women seeking healthcare services at MCH/FP clinic in Moi Teaching and Referral Hospital, Uasin Gishu County.

5.4 Conclusion

Basing on the first objective of the study, generally, women's knowledge about cervical cancer and cervical cancer screening are low. Although majority of women have heard of cervical cancer (awareness), most of them lacked adequate information (knowledge) about cervical cancer to convince them to go for screening. Accurate and adequate information about cervical cancer to women can lower the burden of the disease by encouraging them to take up screening thus preventing late diagnosis of cervical cancer when very little can be achieved with therapeutic intervention.

From the second objective of the study, the findings revealed that several channels of communication are utilized by women for cervical cancer information. The major channels of communication utilized were friends, health care workers and media channels. Out of these, the most effective channels were health care workers. As such, healthcare workers, especially doctors and nurses can enhance uptake of screening among women thus reducing the burden of cervical cancer disease in society.

Based on the third objective of the research, it was revealed that interpersonal communication channels play key roles in the uptake of cervical cancer screening. They helped to disseminate information about cervical cancer, provide adequate information on cervical cancer and are a means to convince women on the need to be screened for cervical cancer. These channels also offer an avenue to educate women about cervical cancer, hence clearing the myths and misconceptions about the disease. Lastly, they influence the attitudes and behaviour of women on cervical cancer screening. Therefore, interpersonal communication channels should be utilized extensively to enhance uptake of cervical cancer screening. It is important to note

that providing information in itself will not be sufficient to improve screening uptake; using appropriate interpersonal communication channels, as postulated in the Diffusion of Innovation Theory, will help increase screening uptake.

Finally, based on the fourth objective of the study, it was found that low levels of knowledge about cervical cancer, inadequate information about cervical cancer, limited understanding of screening benefits, fear and stigma of being diagnosed with cervical cancer and of the screening procedures, language barriers, myths and misconceptions about cervical cancer, poor relationship between health care workers stemming from age and gender differences, and the women's religious beliefs are some of the barriers to uptake of cervical cancer screening. To enhance cervical cancer screening uptake at the individual level, better and more targeted information should be provided to address these barriers. A lack of adequate knowledge about the disease or the benefits of screening not only prevents women from participating in screening but might also lead to fear of the disease itself and that of the screening procedures.

5.5 Recommendations

From literature reviewed and the study findings discussed and interpreted in various sections, it is clear that communication in general and in particular interpersonal communication plays a significant role in adopting health interventions. The recommendations have therefore been given in three main domains: content, practice and policy making.

- i. The study recommends the strengthening of intense health education on cervical cancer by healthcare workers through interpersonal communication in

health facilities in order to increase women's knowledge and understanding about cervical cancer thus enhancing utilization of screening services.

- ii. Health care workers and others involved in cervical cancer control at all levels should be trained on how to use effective interpersonal communication skills like dialogue and persuasion to reach women. They were considered frequently used sources for health information and the most effective interpersonal communication channels for they were deemed trustworthy, credible and able to convince women to be screened for cervical cancer.
- iii. Interpersonal communication channels play important roles in the uptake of cervical cancer screening as revealed in the findings. They educate, inform, motivate, advice among others. They should therefore be utilized extensively to promote uptake of cervical cancer screening.
- iv. Integrating interpersonal communication channels with mass media channels is likely to improve women's knowledge about cervical cancer thus enabling them to make informed decisions about their health. More often, people heavily rely on mass media channels when they are first learning about an idea, but use interpersonal channels as they move toward decision making (Rogers, 1995). Integrating the communication channels will also help women overcome interpersonal communication-related barriers and enhance the uptake of cervical screening.
- v. There is a need for curriculum review in all health training institutions in order to put communication training especially interpersonal communication aspects on a higher pedestal both in depth and scope in order equip the trainees with skills of disseminating health messages.

- vi. Policies in the Kenyan health sector should be broken down into actionable points through interpersonal communication to the public in order to increase the likelihood of the suggested interventions being adopted right from county levels to national levels.

5.6 Suggestions for Further Research

1. The findings of this study showed that cervical cancer screening uptake was low majorly because of lack of adequate information about the disease among women. This lack of adequate information was associated with reliance on mass media channels to relay messages about cervical cancer and screening to women. Therefore, another study can be conducted to identify how cervical cancer messages can be packaged to enhance higher uptake of cervical cancer screening in Kenya.
2. A comparative study can be done on communication strategies utilized in counties with high uptake of cervical cancer screening to establish the strategies that work best in enhancing the uptake.
3. The literature reviewed showed the relevance of both interpersonal communication and health campaigns for health interventions, as well as the potential moderating role of interpersonal communication within health campaign effects, it is necessary to further examine how the interplay between interpersonal communication like health education in health facilities and health message exposure affects immediate health outcomes such as creating demand for screening.

5.7 Contributions of the Study

This study has shown that information alone is insufficient unless it is disseminated through the right communication process and appropriate communication channels so as to reach the target group. A lot of information on cervical cancer is enshrined in policy documents like the National Cervical Prevention plans (MPHS, 2012), National Guidelines for Prevention and Management of Cervical, Breast and Prostate Cancer (MPHS, 2012a), National strategic plans for the prevention and control of Non-Communicable Diseases 2015-2020 and 2021-2025 and the National Cancer Control Strategies (MPHS, 2017) drafted by the Ministry of Health. These will remain just policy documents if the government does not adopt appropriate interpersonal communication channels to design and disseminate cervical cancer information to women at all levels so as to enhance uptake of screening.

The study has shown that most women in Uasin Gishu County have very low knowledge levels about cervical cancer. Most of them were ignorant of the risk factors, causes, symptoms, transmission and preventive measures for cervical cancer, as well as on the benefits of early screening for cervical cancer. This translated to low uptake of cervical cancer screening.

The study revealed women obtain health information mainly from friends, health care workers and media channels. Health care workers were the most effective interpersonal communication channels in enhancing uptake of cervical cancer screening. Nevertheless, underutilization of cervical cancer screening partly stemmed from lack of time on the part of health care workers to sensitize and persuade women to undertake screening. The study found that health care workers had overloaded

schedules, making it difficult for them to focus on sensitization of women on cervical cancer and screening services.

The centrality of interpersonal communication in adoption of innovations was confirmed in the study as stated by Diffusions of Innovation Theory (Rogers, 2003).. Interpersonal communication played a key role in promoting uptake of cervical cancer screening. They helped to disseminate adequate information about cervical cancer, educate and convince women to change their health seeking behaviour and they influence women's attitudes on cervical cancer screening. The success of health interventions depends in large measure on the quality of interpersonal communication. Therefore, interpersonal communication channels should be utilized extensively to enhance uptake of cervical cancer screening.

The findings of the study indicated a significant lack of utilization of cervical cancer screening services among the female population residing in Uasin Gishu County. In order to optimize cervical cancer screening and facilitate early diagnosis, it is imperative for women to obtain essential information pertaining to cancer risk factors, symptoms, and healthcare facilities offering screening services. Lack of understanding of the communicated messages makes it difficult for behaviour change. A proper understanding particularly of the facts about cervical cancer and its prevention is necessary to enhance uptake of screening. Effectiveness of communication methods used will influence their understanding of their susceptibility to developing the disease and their receptivity to information . Effective interpersonal communication can enhance uptake of screening and save women's lives.

5.8 Chapter Summary

This chapter has provided a concise overview of the findings, conclusions, and suggestions derived from the study. The chapter commenced by providing an overview of the investigation where a concise explanation of the research objectives was presented, followed by an exposition of the findings and conclusions. Towards the end, recommendations for practitioners and policymakers have been given, followed by suggestions for further research and lastly it has covered the contributions of the study.

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APPENDICES

APPENDIX IA: CONSENT INFORMATION FORM FOR THE RESPONDENTS (English)

“Principal investigator: CHEPNGENO JUDY B.

Title: Interpersonal Communication as a Tool for Enhancing Women’s Uptake of Cervical Cancer Screening In Uasin Gishu County, Kenya

Good morning /afternoon?

My name is Chepngeno Judy B. I am a Doctor of Philosophy student at the department of Journalism and Mass Communication at Masinde Muliro University of Science and Technology in Kakamega. I am here with my research team to conduct a study on **Interpersonal Communication as a Tool for Enhancing Women’s Uptake of Cervical Cancer Screening in Uasin Gishu County, Kenya**. This form will give you information that you need, so that you can make a decision on whether to participate or not in the study. You will be given time to consider if you would like to participate in this study. There are no wrong or right answers. Kindly read the consent form well and be free to ask where you don’t understand. You are requested to be honest and truthful in answering the questions.

Background

Cancer of the cervix is the most common cancer among women and the leading killer of women in their reproductive ages. Cervical cancer is highly preventable through screening tests, and if detected at an early stage, it can be successfully treated. Regular screening and timely intervention upon finding abnormal cell scan highly reduce the morbidity and mortality due to cervical cancer. This can be best achieved through uptake strategies that focus on provision of adequate information to enable women make informed choices about their health.

Study objectives

This study explores the use of interpersonal communication in enhancing uptake of early cervical cancer screening among women seeking healthcare services at MTRH, in Uasin Gishu County. Kenya. The specific objectives of the study are: to determine the awareness and knowledge levels of cervical cancer in relation to the uptake of screening, to identify interpersonal communication channels utilized and their effectiveness in the uptake of cervical cancer screening, to determine the role of interpersonal communication channels in the uptake of cervical cancer screening among women and to explore interpersonal communication barriers to the uptake of cervical cancer screening.

Study population and inclusion criteria

All women within the reproductive age of 18-65 years seeking Maternal Child Health services and Family Planning (MCH-FP) at Moi Teaching and Referral hospital will form the target population of the study. Women aged 18-65 years who will volunteer and willingly give informed consent will be selected to participate in this research study.

Study procedure

Women at MCH-FP clinic will be approached in waiting rooms by a member of the research team and asked if they would like to participate in the study. The ones who will meet the inclusion criteria and have expressed interest in participating will be issued with questionnaires.

If you agree to be a participant in this study, we will ask you to fill in a semi-structured questionnaire which contains questions regarding: cervical cancer awareness and knowledge levels in relation to uptake of screening among women,

sources of information on cervical cancer, the most effective interpersonal communication sources of cervical cancer information and effects of interpersonal communication channels on uptake of cervical cancer screening. Once you have filled the questionnaires, they will be collected and kept safely. The information that you will give will aid in recommending and designing appropriate interpersonal communication interventions that promote cervical cancer screening.

Data will also be collected using 4 focused group discussions (FGDs) each with 10 members and each session will last for 60-90 minutes. Two groups will be composed of young women (18-40 years) while the other two groups will consist of older women (41-65 years). Women who have been attended to for healthcare services will be invited to participate in focused group discussions.

Privacy and confidentiality

To ensure complete confidentiality, your name will not be used but an identification number will be assigned to label the questionnaire. The information that you will provide will be treated as confidential and will be used solely to achieve the stated objectives.

All the information obtained will be strictly confidential and data in soft copy will be password protected and only accessed by the principal investigator.

Risks

The process is safe and there are no risks involved apart from the inconveniences caused by taking part of your time. The information that you will provide during the study will be kept in confidence and there will be no anticipated risks whatsoever.

Benefits

By participating in this study and answering the questions, you will understand the importance of early utilization of cervical cancer screening services as we shall answer any questions you have. The answers that you give will help in increasing my understanding of the communication needs of women in relation to cervical cancer screening. The results of the study will be used in writing my thesis as part of requirements by the university. It will also shed light on effective interpersonal communication strategies that enhance uptake of cervical cancer screening among women in Kenya. The information will also benefit health professionals, government, and other relevant stakeholders to formulate relevant strategies towards cervical cancer prevention.

Voluntarism

Your participation in this study is voluntary and you have the right to refuse to participate or answer any questions that you may feel uncomfortable with. If you change your mind about participating during the course of this study, you have the right to withdraw at any time.

Instructions

When you sign below it shows that you have agreed to participate in the study. If you do not understand any part of the information that has been read to you or that you have read, be free to ask questions. Do not sign until you have understood all that is expected or required.

Declaration of the respondent

I have understood the purpose of this study and therefore consent voluntarily to participate as a respondent.

Signature _____ of _____ the _____ respondent

Date: _____

Signature of the person obtaining consent _____ Date _____

Contact Information

For any questions or concerns about the study or in the event of a study-related injury, the following person is available for contact

Principal Investigator- CHEPNGENO JUDY B.

Telephone- 0721766502

Email: jboiyon2011@gmail.com

Signature: _____

Date: _____

APPENDIX IB: FOMU YA IDHINI

MPELELEZI MKUU: CHEPNGENO JUDY B.

KICHWA: UTUMIZI WA MAWAZILIANO BAINA YA WATU KAMA NJIA MWAFKA YA KUHIMIZA KINA MAMA WAPIMWE SARATANI YA NJIA YA KIZAZI KATI KA JIMBO LA UASIN GISHU, KENYA.

Utangulizi

Habari za Mchana?

Jina langu ni Chepngeno Judy B. na mimi ni mwanafunzi katika chuo kikuu cha Masinde Muliro idhara ya mawaziliano. Ninafanya utafiti kuhusu utumizi wa mawasiliano baina ya watu kama njia mwafaka ya kuhimiza kina mama wapimwe saratani ya njia ya uzazi kati ka Jimbo la Uasin Gishu. Fomu hii yakupa idhini unayohitaji ili kushiriki au kutoshiriki kwenye utafiti huu. Elewa kuwa hakuna jibu lisilo sahihi. Utapewa muda wa kutosha ili kuidhinisha kushiriki kwako kwenye utafiti huu. Soma fomu hii kwa utaratibu na unaruhusiwa kuuliza swali lolote usipoelewa. Tafadhali jibu maswali yote kwa uaminifu na ukweli.

Taarifa muhimu kuhusu saratani ya njia ya uzazi

Saratani ya njia ya uzazi ni mojawapo ya magonjwa ambayo inasababisha vifo vya wanawake katika umri ya uzazi. Ugonjwa huu unaweza kuzuiliwa iwapo kina mama watapimwa mapema na ukipatikana katika mwili iweze kutibiwa mapema. Hivyo basi kuzuia kueenea kwa ugonjwa huu utachangia kupunguza vifo. Huu unawezekana ikiwa kina mama watapata mawasiliano kamili na ya kutosha ndiposa waweze kupimwa.

Malengo ya utafiti

Utafiti huu unanua kuchunguza ufanisi wa mawaziliano baina ya watu kama njia mwafaka ya kuhimiza kina mama wapimwe saratani ya njia ya uzazi miongoni mwa kina mama wanaopata matibabu kutoka kliniki la watoto na kina mama waja wazito hospitali ya rufaa ya Moi katika jimbo la Uasin Gishu. Malengo maalum ya utafiti huu ni: kuamua kiwango cha uelewaji kuhusu kansa ya njia ya uzazi ikilinganishwa na kina mama wenye wamepimwa, kuamua njia zipi za mawaziliano ambazo mtu anaweza pata habari kuhusu ugonjwa wa saratani ya njia ya uzazi, kujua ushawishaji wa mawasiliano ya kibinafsi katika kupimwa ugonjwa wa saratani ya uzazi na

kutahmini mikakati ya ufanisi ya mawasiliano ya kibinafsi ili kuongeza ufuatiliaji wa upimaji wa saratani ya kizazi.

Idadi ya watu katika utafiti na vigezo vya kuingizwa

Kina mama wote wenye Umri wa 18-65 wanaopata huduma za afya katika kliniki ya familia na uzazi katika hospitali kuu ya rufaa ya moi watahusishwa katika utafiti. Wahusika waliotajwa hapa juu wana huru kushiriki utafiti bila kushurutishwa au kulazimishwa baada ya kutia sahihi kwenye fomu ya idhini.

Utaratibu wa utafiti

Kina mama wanaopata huduma za afya katika kliniki ya familia na uzazi wakiwa chumba cha kusubiri wataulizwa kama wanaweza kushiriki kwa utafiti huu. Wenye watafikia vigezo vya kuingizwa na wameonyesha maslahi watahusishwa katika utafiti huu kwa kupewa dodoso la muundo wa nusu. Maswali yatakuoulizwa yanaambatana na malengo haya: kiwango cha uelewaji saratani ya njia ya uzazi ikilinganishwa na kina mama wenye wamepimwa, njia za mawasiliano ambazo mtu anaweza kupata habari kuhusu ugonjwa wa saratani ya njia ya uzazi, ushawishaji wa mawasiliano ya kibinafsi katika kupimwa ugonjwa wa saratani ya uzazi na mikakati ya ufanisi wa mawasiliano ya kibinafsi ili kuongeza ufuatiliaji wa upimaji wa saratani ya kizazi.

Wahusika wakishajaza dodoso, zitatakusanywa na kuwekwa salama. Maelezo ambayo itawapeanwa itasaidia katika kupendekeza njia sahihi za mawasiliano za kibinafsi ambazo zinalenga upimaji wa saratani ya njia ya kizazi. Data pia zitakusanywa kwa kutumia majadiliano ya Vikundi vinne vyenye wanachama sita hadi kumi na kila kikao kitachukua dakika 60-90. Makundi mawili yatakuwa na wanawake wadogo (miaka 18-40) wakati vikundi vingine viwili vitakuwa na wanawake wakubwa (miaka 41-65). Kina mama ambao watakuwa wamehudumiwa huduma za afya wataalikwa kushiriki katika majadiliano ya vikundi.

Faragha na siri

Habari zote zitakazopatikana zitakuwa za siri na zitalindwa na kupatikana tu kwa mpelelezi Mkuu. Washiriki katika utafiti hawatajulikana kwa majina ila watatambuliwa tu na nambari maalum ya kupewa na mpelelezi mkuu wa utafiti. Taarifa zote zitakazopatikana zitakuwa siri na data katika nakala nyepesi zitakuwa

salama kwa nenosiri. Mpelelezi mkuu pekee yake ndiye atakuwa na haki ya kuona na kuweka.

Hatari ya utafiti

Mchakato ni salama na hakuna hatari ya kushiriki ila tu utafiti utachukua sehemu ya muda wako. Baadhi ya maswali yanaweza kuonekana wasiwasi lakini ni muhimu kwa ajili yenu kuyajibu kwa uaminifu. Hata hivyo, mimi nitajaribu kuhakikisha nimetumia muda mdogo. Taarifa ambayo utatoa wakati wa utafiti itahifadhiwa kwa ujasiri na hakutakuwa na hatari yoyote inayotarajiwa.

Faida

Kwa kushiriki katika utafiti huu na kujibu maswali, utaelewa umuhimu wa matumizi ya awali ya huduma za uchunguzi wa saratani ya kizazi kwani nitaweza kujibu maswali yoyote unayo. Majibu utakayoyotoa itasaidia kuongeza kuelewa kwangu mahitaji ya mawasiliano ya wanawake kuhusiana na uchunguzi wa saratani ya kizazi. Matokeo yake pia itatumika katika kuandika ripoti yangu kama sehemu ya mahitaji na chuo kikuu.

Itasaidia pia juu ya mikakati bora ya mawasiliano baina ya watu ili kuongeza idadi ya wanaofanyiwa uchunguzi wa saratani ya kizazi miongoni mwa wanawake nchini Kenya.

Majibu pia itasaidia pia kwa upangaji wa mikakati bora ya mawasiliano baina ya watu ili kuongeza idadi ya wanawake wanaoshiriki kwa uchunguzi wa saratani ya kizazi nchini Kenya. Taarifa pia itafaidi wataalamu wa afya, serikali na wadau wengine husika kuunda mikakati inayofaa kwa kuzuia kansa ya kizazi.

Kujitolea

Kushiriki kwako katika utafiti huu ni kwa hiari na una haki ya kukataa kushiriki au kujibu maswali yoyote ambayo unaweza kujisikia wasiwasi nayo. Ikiwa utabadilisha mawazo yako juu ya kushiriki kwa utafiti huu, una haki ya kujiondoa wakati wowote.

Maelekezo

Unaposaini fomu hii inaonyesha kuwa umekubali kushiriki katika utafiti. Ikiwa hujaelewa sehemu yoyote ya habari ambayo umesomewa au umejisomea, kuwa huru kuuliza maswali. Usitie sahihi mpaka utambue yote yanayotarajiwa au yanayohitajika.

Tamko la Mhojiwa

Mimi nimeelewa habari yote kuhusu utafiti huu na nimekubaliana kwa hiari kushiriki. Nime pewa nafasi ya kuuliza maswali na nimepata majibu kwa ukamilifu na ya kuridhisha.

Jina la Mshiriki.....

Tarehe

Sahihi ya mtu mwenya anapata idhini _____

Tarehe _____

Kuwasiliana habari

Kwa maoni yoyote kuhusu maswali ya utafiti au malalamiko, utaweza kuwasiliana na:

Mpelelezi mkuu- CHEPNGENO JUDY B.

Simu- 0721766502

Barua pepe: jboiyon2011@gmail.com

APPENDIX IIA: QUESTIONNAIRE FOR THE WOMEN (ENGLISH)

Date filled

Code no

Dear respondent,

My name is Chepngeno Judy B. a PhD candidate in the department of Journalism and Mass Communication of Masinde Muliro University of Science and Technology. I am conducting a research study on the use of **Interpersonal Communication as a Tool for Enhancing Women's Uptake of Cervical Cancer Screening in Uasin Gishu County, Kenya** You have been selected as one of the respondents for this study. Kindly complete this questionnaire as honestly and precisely as possible to assist me get data. The information you give is purely intended for academic purposes and will be treated with utmost confidentiality. Your participation is entirely voluntary and the questionnaire is anonymous. Your contribution in facilitating this study will be highly appreciated.

SECTION A: Demographic information

Please indicate your age bracket (Tick the appropriate box)

1. Age:

- 1) 18- 28years
- 2) 29- 39 years
- 3) 40- 50 years
- 4) 50- 65 years

2. Please indicate your marital status (Tick the appropriate box)

- 1) Single (Never married)
- 2) Married
- 3) Widow
- 4) Separated
- 5) Divorced

3. Please indicate your highest education level (Tick the appropriate box)

- 1) None
- 2) Primary
- 3) Secondary
- 4) College/Polytechnic
- 5) University

4. Please indicate your current employment status (Tick the appropriate box)

- 1) Unemployed
- 2) Employed

5. Please indicate your level of income (net) per month

- 1). Less than Kshs10, 000
- 2) Kshs 10,000 to 30,000
- 3). Kshs 30,000 to 50,000
- 4). Ksh 50,000 to 70,000
- 6) Above Kshs 70,000

6. Please indicate your denominational affiliation (Tick the appropriate box)

- 1) Protestant
- 2) Islam
- 3) Catholic
- 4) Others (please specify)

7) Please indicate the number of children born to you (Tick the appropriate box)

- 1) None
- 2) 1-4 children
- 3) 5 or more children

SECTIOB B: CERVICAL CANCER AWARENESS AND KNOWLEDGE

8) Knowledge and awareness of cervical cancer (Tick the appropriate boxes)

- 1) Have you ever heard of cervical cancer? Yes No
- 2) Have you ever heard of cervical cancer screening? Yes No
- 3) Is cervical cancer a sexually transmitted disease? Yes No
I do not know
- 4) Is cervical cancer preventable? Yes No I do not know
- 5) Is cervical cancer is preventable through vaccination of girls? Y No
I do not know
- 6) Early screening helps in prevention of cervical cancer Yes No
I do not know
- 7) How many times in three years should one be screened for cervical cancer?
Once Twice Thrice I do not know

h) Are the following factors responsible for development of cervical cancer?

NO	ITEM	YES	NO	I do not know
1	Human Papilomma Virus			
2	Having multiple sexual Partners			
3	Being sexually active at a young age (below 17)			
4	Smoking			
5	Family history			
6	Using drugs/medicine that suppress immunity			
7	Having multiple pregnancies			
8	Giving birth before the age of 17			
9	Having high levels of mental stress over a sustained period			
10	Being infected with some sexually transmitted diseases			

i) State whether the following are symptoms of cervical cancer (Tick the boxes)

No.	Symptoms	YES	NO	I do not know
1	Bleeding between menstrual periods			
2	Bleeding during or after sexual intercourse			
3	Bleeding in post-menopausal women			
4	Discomfort during sexual intercourse			
5	Bad smelling vaginal discharge			
6	Discharge with some blood			
7	Lower abdominal pain			
8	Unconditional passing of Urine			

	and stool			
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j) Do you agree with the following statements about cervical cancer?

NO	ITEM	Yes	NO	I do not know
1	Cervical cancer is the leading cause of death among women in reproductive age in Kenya			
2	Anyone including me can get cervical cancer			
3	Cervical cancer screening is not expensive			
4	If I got cervical cancer symptoms, I would go for screening			
5	Adequate information on cervical cancer will make me go to the screening			
6	Cervical cancer can be cured if found in early stages			
7	If a woman has cervical cancer then it means she has HIV			
8	The womb will be removed if found with cervical cancer			
9	Being found with cervical cancer means death			
10	Getting screened exposes, me to unnecessary health risks/other diseases			
11	Screening destroys the ability of a woman to have a baby			
12.	Family planning methods like Intrauterine device (copper coil) cause cervical cancer			

SECTION C: SOURCES OF INFORMATION ON CERVICAL CANCER AND THEIR EFFECTIVENESS

Instructions

Using the scale of 5-1 where Very Frequently =5(daily); Frequently =4(weekly); Occasionally =3(monthly); Rarely=2 (once a year); Never=1(I don't use), please tick (✓) to show the extent to which you access and use the communication sources.

9) a) How often do you access and use the following communication channels/sources for health information.

No	Item	Very Frequently	Frequently	Occasionally	Rarely	Never
1	Health workers					
2	Family/Relatives					
3	Church/Mosque/Temple					
4	Friends					
5	Self – help group					
6.	Neighbours					
7	Workmates					
8	Cancer survivor					

b) Through which communication source (s) or channel(s) did you get information on cervical cancer and screening? (Tick where appropriate; you can tick more than one)

- 1. Health workers
- 2. Family/Relatives
- 3. Church/Mosque/Temple
- 4. Friends
- 5. Self-help group
- 6. Neighbours
- 7. Workmates
- 8. Cervical cancer survivor
- 9. Television

- 10. Radio
- 11. Internet
- 12. Social media
- 13. Newspapers/magazines
- 14. I do not have the information
- 15. Others, specify.....

9b). Using a scale of 5-1 where, Most effective =5, Effective =4; Neutral =3; Less effective=2; Ineffective =1, please tick (✓) against the following interpersonal communication channels to show your opinion on the most effective channel in uptake of cervical cancer screening (in terms of adequate information dissemination, trustworthiness and convincing nature).

No	Item	Most effective	Effective	Neutral	Less Effective	Not effective
1	Health workers					
2	Family/Relatives					
3	Church/Mosque/Temples					
4	Friends					
5	Women Self – help group(<i>chamas</i>)					
6.	Neighbours					
7	Workmates					
8	Cervical cancer survivors					

SECTION D: ROLE OF INTERPERSONAL COMMUNICATION CHANNELS IN UPTAKE OF CERVICAL CANCER SCREENING

10 a) Please tick (✓) against the following statements to score your extent of agreement on the role(s) of interpersonal communication channels in cervical cancer awareness and uptake of screening among women.

No	Item	SA	A	U	D	SD
1.	Healthcare workers like doctors and nurses educate women on cervical cancer risk factors and motivate them to be screened during clinic visits					
2	Community health workers and volunteers are useful in community outreach by informing members about cervical cancer screening.					
3.	Families and relatives influence cancer prevention and control by providing moral support.					
4.	Friends provide information or advice about the purpose of cervical cancer tests and the benefits of testing.					
5	Religious institutions like churches, mosques and temples view health promotion as part of their mission hence provide health programs which aid in cervical cancer program delivery to women.					
6	Learning institutions like schools, colleges reach a wider population through learners by informing them on the need for screening of women of reproductive age					
7	Opinion leaders like politicians, chiefs and assistant chiefs have high credibility and are ideal sources for delivering and reinforcing cervical cancer messages.					

8	Group meetings like self-help groups, work place meetings, club meetings and <i>barazas</i> help in reaching the intended audience (women) with cervical cancer screening messages.					
9	Educational seminars educate women on the benefits of cervical cancer screening.					

SECTION E: INTERPERSONAL COMMUNICATION BARRIERS TO UPTAKE OF CERVICAL CANCER SCREENING

11.a) Using the scale of 5-1 where Strongly Agree(SA)=5, Agree(A)=4, Undecided(U)=3, Disagree(D)=2, Strongly Disagree(SD)=1 please tick (✓) against the following items to show your extent of agreement on the reasons why women do not participate in cervical cancer screening.

No	Item	SA	A	U	D	SD
1	Lack of knowledge about cervical cancer ie causes, risk factors					
2	Lack of awareness that screening is meant for all sexually active women of reproductive age					
3	Limited understanding about where to be screened, the purpose of screening and benefits					
4	Language barriers					
5	Misconceptions and myths about cervical cancer					
6	Cultural beliefs about cancer					
7	Gender of the healthcare provider					
	Other factors					
8	Religious beliefs					
9	Fear of finding cancer					
10	Fear of vaginal examination					
11	Negative attitude towards screening					

SECTION F: UPTAKE OF CERVICAL CANCER SCREENING

12.a) Have you ever been screened for Cervical Cancer? 1. Yes 2. No

b) i) If you answered yes in question 12 (a), was the cervical cancer screening done within the past 3 years? 1. Yes 2. No 3. I do not know

NB: Thank you for your participation.

APPENDIX IIB: DODOSO LA WANANAWAKE

Siku

Codi

Mpendwa Mhojiwa,

Jina langu ni Chepngeno Judy B. mtahiniwa wa shahada ya uzamifu, taaluma ya mawasiliano katika chuo kikuu cha Masinde Muliro ya Sayansi na Teknologia. Ninafanya utafiti juu ya utumizi wa mawasiliano baina ya watu kama chombo cha kimkakati cha kuimarisha wanawake kuchunguza kansa ya kizazi katika kaunti ya Uasin Gishu. Umechaguliwa kama mhojiwa wa utafiti huu. Tafadhali tamatiza dodoso kwa uaminifu na usahihi kunisaidia kupata data. Maelezo amabayo utatoa ni ya kimsingi yanayotokana na madhumuni ya kitaaluma ya academia na utatendwa kwa usiri mkubwa. Ushiriki wako ni kwa hiari. Kutoa maoni kwako kwa kusisitiza utafiti huu utatambuliwa.

SEHEMU A: MAELEZO YA DEMOGRAFIA

Tafadhali onyesha Umri wako kwa kikapu (sahihisha sanduku sahihi)

1. Umri:

1) Miaka 18- 28

2) Miaka 29- 39

3) Miaka 40- 50

4) Miaka 50- 65

2. Tafadhali onyesha hali ya ndoa yako (Jibu katika sanduku linalofaa)

1) Sijawahi kuolewa

2) Ndoa

4) Mjane

e) Tumetengana

f) Nimepewa talaka

3. Tafadhali onyesha kiwango chako cha juu cha elimu (Jibu katika sanduku linalofaa)

1) Hakuna

2) Msingi

3) Sekondari

4) Chuo anwai

4) Chuo kikuu

4. Tafadhali onyesha hali yako ya ujira (Jibu katika sanduku linalofaa)

1) Ajiriwa

2) Bila ajira

5. Kama Jibu lako Q4 ni NDIO, onyesha unapata mshara wa pesa ngapi (wavu) kila mwezi. (Jibu katika sanduku linalofaa)

1). Chini ya shilingi 10, 000

2). Shilingi 10,000 -30,000

3). Shilling 30,000 -50,000

4). Shilingi 50,000 -70,000

5) Juu ya Shilingi 70,000

6. Tafadhali onyesha dini lako ((Jibu katika sanduku linalofaa)

1) Protestanti

2) Mwislamu

3) Mkatoliki

4) Mengineyo

7) Tafadhali onyesha idadi ya watoto uliowazaa (Jibu katika sanduku sahihi)

1) Sina watoto

2) Watoto 1-4

3) Watoto 5 au zaidi

SEHEMU B: UFAHAMU NA UJUZI WA KANSA YA NJIA YA KIZAZI NA UJUZI

8) Ufahamu na ujuzi wa kansa ya uzazi (Jibu katika sanduku sahihi)

a) Je, umewahi kusikia ju ya kansa ya kizazi Ndio La Sijui

b) Je umewahi kusikia kuhusu uchunguzi wa saratani ya njia ya kizazi?

Ndio La Sijui

c) Je saratani ya kizazi ni ugonjwa unaoambukizwa kupitia ngono?

Ndio La Sijui

d)Je saratani ya kizazi ni ugonjwa inaweza ukuzuiliwa?

Ndio La sijui

e) Je saratani ya kizazi inaweza kuzuiliwa kupitia chanjo ya wasichana wadogo?

Ndio La Sijui

f) Je uchunguzi wa mapema husaidia kuzuua saratani ya kizazi?

Ndio La Sijui

g) Je ni mara ngapi katika miaka mitatu lazima mmoja apimwe saratani ya kizazi?

Moja Mbili Tatu Sijui

h) Je sababu zifuatazo zinawajibika kwa maendeleo ya saratani ya kizazi?

No	Item	Ndio	La	Sijui
1	Virusi vya papilomma vya binadamu			
2	Kuwa na washiriki wengi wa ngono			
3	Kuwa na msisimko wa ngono katika umri mdogo (chini ya miaka 17)			
4	Uvutaji wa sigara			
6	Historia ya familia			
7	Utumizi wa dawa/Mihadharati			
8	Kuwa na mimba mingi			
9	Kuzaa kabla ya miaka 17			
10	Kuwa na kiwango kikuu cha mkazo wa akili kwa kipindi kirefu			
11	Kuambukizwa na magonjwa mengine ya ngono			

a) Tazama iwapo zifuatazo ni dalili za saratani ya kizazi (Sahihisha kwa sanduku linalofaa)

Namba	Dalili	Ndio	La	Sijui
1	Kutokwa na damu katika kipindi cha hedhi			
2	Kutokwa na damu kati ua baada ya kujamiana			
3	Kutokwa na damu katika kipindi cha kumaliza kuzaa			
4	Usumbufu wakati wa kujamiana			
5	Harufu mbaya kutoka kwa uke			
6	Kutekelezwa na damu fulani			
7	Maumivu chini ya tumbo			

j) Je unakubaliana na kauli zifuatazo kuhusu saratani ya njia ya kizazi?

Nambari	Kipengee	Ndio	La	Sijui
1	Saratani ya njia ya kizazi ni sababu kuu ya kifo kati ya wanawake katika umri wa kuzaa Kenya			
2	Mtu yeyote, (hata mimi) naweza pata saratani ya njia ya kizazi			
3	Uchunguzi wa saratani ya njia ya kizazi si ghali			
4	Iwapo nitapata dalili ya kansa ya njia ya kizazi nitaenda kuchunguzwa			
5	Habari za kutosha kuhusu kansa ya njia ya kizazi zitanifanya niende kuchunguzwa			
6	Kansa ya njia ya kizazi inatibika ikitambuliwa mapema			
7	Iwapo mke ana kansa ya njia ya kizazi inamaanisha yupo na virusi vya HIV			
8	Chupa la uzazi (womb) itatolewa iwapo utapatikana na kansa ya njia ya kizazi			
9	Kupatikana na kansa ya njia ya kizazi inaashiria kifo			
10	Kupata uchunguzi wa kansa ya njia ya kizazi hunitia katika hatari za kiafya isiyohitajika			
11	Uchunguzi unaharibu uwezo wa mwanamke kupata motto			
12.	Njia ya kupanga uzazi kama kutumia shaba husababisha kansa			

SEHEMU YA C: VYANZO VYA HABARI KUHUSU KANSA YA NJIA YA KIZAZI

Maagizo

Ukitumia mizani ya 5-1 wakati ambapo:5=Mara nyingi sana (kila siku) 4 =Mara nyingi (kila juma) 3=Mara chache (kila mwezi) 2=Mara moja kila mwezi (Nadra) 1=Hapana (sijawahi),Tafadhali onyesha kwa mkwaju (✓) kuonyesha ni kwa kiwango kipi unapata habari na kuzitumia

8) a) Ni mara ngapi wewe hupata habari na kutumia njia zifuatazo za mawasiliano katika ujumbe wa kiafya

Nambari	Kipengee	5	4	3	2	1
1	Wafanyakazi wa afya					
2	Familia/jamaa					
3	Kanisa/Msikitu/Hekalu					
4	Marafiki					
5	Vikundi vya kujisaidia					
6.	Majirani					
7	Wafanyikazi wenza					
8	Wenye wamepona kansa kutoka kansa					

b) Je ulipata habari za uchunguzi kuhusu kansa ya njia ya kizazi kupitia njia ipi ya mawasiliano (jibu katika kisanduku sahihi, unaweza tia mkwaju zaidi ya mmoja)

- 1) Wafanyakazi wa afya
- 2) Familia/jamaa
- 3) Kanisa/Msikitu/Hekalu
- 4) Marafiki
- 5) Vikundi vya kujisaidia
- 6) Majirani
- 7) Wafanyikazi wenza
- 8) Wenye wamepona kansa
- 9) Televisheni
- 10) Redio
- 11) Mtandao wa inteneti
- 12) Mtandao wa kijamii
- 13) Magazeti/majarida
- 14) Sijapata habari

**SEHEMU YA D: JUKUMU ZA NJIA ZA MAWASILIANO BAINA YA WATU
KWA KUIMARISHA WANAWAKE KUCHUNGUZA KANSA YA NJIA YA
KIZAZI**

10 a) Onyesha kwa mkwaju (✓) njia za mawasiliano baina ya watu zinazo weza kutumika kuboresha ufahamu na kuchunguswa kwa kansa ya njia ya kisasi

	Kipengee	5	4	3	2	1
1.	Wahudumu wa afya kama madaktari na wahuguzi wanaweza kuwaelimisha wanawake kuhusu hatari za saratani ya kisasi na kuwamotisha kuchunguzwa wakati wa kliniki					
2	Wahudumu waafya ya jamii wanaweza kuwafikia wanajamii na kuwafunza kuhusu kansa ya njia ya kisasi na jinsi ya kuzuia na kugusa maswala ya kiafya					
3.	Familia na jamaa wanahadhiri uzuiaji wa saratani ya njia ya kisasi na kukinga kwa kupena msaada wa kimawazo					
4.	Marafiki hupeana habari kuhusu sababau za kuchunguswa na umuhimu wa kuchunguswa					
5	Madini mbali mbali kama misikiti, kanisa na mahekalu inachukua masomo ya kiafya kama sehemu yao ya injili, hivyo wanatoa msaada inayo wafaa kina mama kuhusu kansa ya njia ya kisasi					
6	Taasisi za elimu kama shule na vyuo zinaweza kutumika kupeana habari za watu wengi kuhusu kansa ya njia ya kisasi					
7	Viongozi kwa sababu ya ushawishi wao wanaweza kutia moyo zaidi habari kuhusu kansa ya njia ya kisasi					
8	Vikundi mbali mbali kama barasa, vyama vya kusaidiana na vya kazini vinatumika kuwafikia wanawake zaidi					
9	Warsha zinaweza kuandaliwa kuwaelimisha kina mama kuhusu faida ya uchunguzi wa saratani ya njia ya kizazi					

SEHEMU YA E: UFANISI WA VYANZO VYA MAWASILIANO BAINA YA WATU KWA KUHMIZA KINA MAMA KUFANYA UCHUNGUZI

11.Ukitumia mizani ya 5-1 ambapo Unashawishi sana=5, Unashawishi =4; Wastani =3; Inashawishi kidogo =2; haishawishi=1, tafadhali jibu kwa mkwaju (✓) kuonyesha njia ya mawasiliano yanayoshawishi kina mama kufanyiwa uchunguzi (kwa njia ya uwasilianaji, uaminifu na ushawishi)

Nambari	Kipengee	5	4	3	2	1
1	Wafanyakazi wa afya					
2	Familia/jamaa					
3	Kanisa/Msikitu/Hekalu					
4	Marafiki					
5	Vikundi vya kina mama					
6.	Majirani					
7	Wafanyikazi wenza					
8	Waliopona kutokana na kansa					

SEHEMU YA F: VIZUZI VYA VYANZO VYA MAWASILIANO BAINA YA WATU KWA KUHMIZA KINA MAMA KUFANYA UCHUNGUZI

12.a) Ukitumia mizani ya 5-1 ambapo Nakubali sana=5, Nakubali =4; Wastani =3; Ina Sikubali=2; Sikubali sana=1, Tia mkwaju (✓) dhidi ya kauli zifwatazo kuonyesha kiwango cha makubaliano juu ya sababu ambazo zinafanya kina mama kutokubali uchunguzi

Nambari	Kipengee	5	4	3	2	1
1	Ukosefu wa maarifa kuhusu kansa ya njia ya kizazi kama vile vyanzo, sababu za hatari					
2	Ukosefu wa ufahamu kwamba uchunguzi ni wa wanawake wenye wanajihusha na maneno ya ngono					
3	Uelewa mdogo kuhusu pahali pa kupata uchunguzi, madhumuni ya uchunguzi na faida zake					
4	Vizuizi vya lugha					
5	Dhana potofu na hadithi kuhusu kansa ya njia ya kizazi					
6	Imani za kitamaduni kuhusu kansa					
	Zinginezo					
7	Imani za kidini					
8	Kuhofia kupatikana na kansa					
9	Hofu ya uchunguzi wa uke					

10	Mtazamo mbaya kuhusu uchunguzi					
----	--------------------------------	--	--	--	--	--

SEHEMU G: KUITIKIA KUCHUNGUZA KANSA YA NJIA YA KIZAZI

13.a) Je, umewahi kupimwa kansa ya njia ya kizazi? 1. Ndio 2. La

b) i) Kama ndiyo kwa swali 13 (a), je ni kwa miaka 3 (tatu) iliyopita?

1. Ndio 2. La Sijui

TARUBIHI: Asante kwa kuchangia kwa utafiti huu.

APPENDIX IIIA: FOCUSED GROUP DISCUSSION QUESTIONS

Questions to guide focused group discussions with women.

SECTION A: Awareness and knowledge of cervical cancer

1. Let us discuss about cancer
.....
2. Tell me what you know about cervical cancer? ie causes, risk factors, symptoms.....
3. Where do you think women can access cervical cancer screening services?
.....
4. Through which channels/sources did you get information on cervical cancer and screening?
5. How many of us have been screened for cervical cancer?
6. Basing on the sources/channels of information on cervical cancer that you
7. stated earlier, which one:
 - a) Was convincing enough for you to go for cervical screening?
 - b) Would empower you with adequate information that you require for screening?
8. According to you, what roles do the following interpersonal communication channels play in the uptake of cervical cancer screening:
 - Healthcare workers like doctors and nurses
 - Community health workers and volunteers
 - Families and relatives
 - Friends.
 - Religious institutions
 - Learning institutions
 - Opinion leaders like politicians, chiefs and assistant chiefs.
 - Group meetings like self-help groups, work place meetings, and barazas.
 - Educational seminars
8. Please tell me some of the reasons why women find it hard to be screened for cervical cancer.

APPENDIX IIIB: MASWALI YA VIKUNDI VYA WANAWAKE

1. Tujadiliane kuhusu saratani/kansa?
2. Tafadhali mniambie kuhusu saratani ya njia ya kizazi? sababu, hatari na dalili
3. Wanawake wanaweza kupata huduma za uchunguzi wa kansa ya njia ya kizazi wapi?
4. Ni njia zipi za mawasiliano miliopata habari kuhusu saratani ya njia ya kizazi?
5. Ni njia zipi za mawasiliano baina ya watu zinazoweza kuwashawishi wanawake kufanyiwa uchunguzi wa saratani ya kizazi?
 6. a) Wangapi wetu tumeweza kupimwa saratani ya njia kizazi?
 - b). Ikiwa umepimwa, ni njia ipi ya mawasiliano baina ya watu iliyokushawishi upimwe?
 - c). Ikiwa hujapimwa, ni njia ipi ya mawasiliano baina ya watu inaweza kukushawishi uweze kupimwa ugonjwa wa saratani ya njia ya kizazi?
7. Kwa maoni yako, hizi njia za mawaziliano baina ya watu zinafanya kazi gani kuhusu upimaji wa ugonjwa wa saratani ya njia ya kizazi?
 - Wafanyakazi wa afya
 - Familia/jamaa
 - Kanisa/Msikitu/Hekalu
 - Marafiki na majirani
 - Vikundi vya kina mama na Wafanyikazi wenza
 - Waliopona kutokana na kansa
8. Je, ni sababu zipi zinazofanya kina mama wasiweze kupimwa ugonjwa wa saratani ya njia ya kizazi?

APPENDIX IV: INTERVIEW GUIDE FOR HEALTH CARE PROVIDERS

Questions guiding interviews with health care providers

Section A: Cervical cancer awareness and knowledge

1. Tell me about the current level of awareness of cervical cancer among women seeking healthcare services at MCH-FP clinic in MTRH?
2. How is the uptake level of cervical cancer screening among women seeking healthcare services at MCH-FP clinic in MTRH?

Section B: Sources of information on cervical cancer

3. a) As health care providers how do you participate in information dissemination about cervical cancer and screening?
b) What are some of the key cervical cancer messages being communicated to the women?
c) Tell me about other interpersonal sources that the women seeking healthcare services at MCH-FP clinic can utilize for cervical cancer information?

Section c: Effective interpersonal communication channels of information

4. In your day-to-day practice, which interpersonal communication channels are effective in reaching the women in order to inform and improve their participation in cervical cancer screening programs?

Section D: Role of interpersonal communication channels/sources in uptake of cervical cancer screening

5. Tell me some specific roles that the interpersonal communication channels/sources you are using play in uptake of cervical cancer screening?

Section E: Interpersonal Communication barriers to uptake of cervical cancer screening.

- 6.a) As healthcare providers, what communication-related barriers do you face when enlightening women about cervical cancer and screening?
b) In your opinion, why do women fail to go for cervical cancer screening?

APPENDIX V: INTERVIEW GUIDE FOR COUNTY OFFICERS

Questions guiding interviews with County Reproductive Health Coordinator and County Health Records and Information Officer.

Section A: Cervical cancer awareness and knowledge

1. Tell me about the current level of awareness of cervical cancer among women seeking healthcare services at MCH-FP clinic in Uasin Gishu County?
2. How is the uptake level of cervical cancer screening among women seeking healthcare services at MCH-FP clinic in Uasin Gishu County?

Section B: Sources of information on cervical cancer/communication channels used disseminating cervical cancer information.

- 3 a) How does the county participate in information dissemination about cervical cancer and screening?
- b) What are some of the key cervical cancer messages being communicated to the women?
- c) Tell me about other interpersonal sources that the women seeking healthcare services at Uasin Gishu County can utilize for cervical cancer information?

Section C: Effective interpersonal communication channels.

- 4 In your day-to-day practice, which interpersonal communication channels are effective in reaching women in order to inform and improve their participation in cervical cancer screening programs?

Section D: Role of interpersonal communication channels/sources in uptake of cervical cancer screening

- 5 Tell me some specific roles that the interpersonal communication channels you are using play in uptake of cervical cancer screening?

Section E: Interpersonal Communication barriers to uptake of cervical cancer screening.

- 6.a) What communication-related barriers do you face when enlightening women about cervical cancer and screening?
- b) In your opinion, why do women fail to go for cervical cancer screening?

APPENDIX VI: INFORMATION SHEET TEMPLATE

(Additional Guidance for Specific Issues: Interviews and Focus Group Discussions)

Audio taping

This research project involves making audiotapes of you. This is because I and the research assistant may not be able to write every thing during the interview. After the interview, data will be kept in a safe place having locked filing cabinets and storage areas, using identification codes only on data forms, and using password-protected computer files.

I agree to be audiotaped during my participation in this study.

Sign-----

I do not agree to be audiotaped during my participation in this study.”

Sign-----

APPENDIX VII: MMUST IREC APPROVAL LETTER



MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY
Tel: 056-31375 P. O. Box 190-50100
Fax: 056-30153 Kakamega, Kenya
E-mail: ierc@mmust.ac.ke
Website: www.mmust.ac.ke

Institutional Ethics Review Committee (IERC)

Ref: MMU/COR: 403012 vol2 (1) **Date:** 14th October, 2018
Judy Chepngeno B
Masinde Muliro University of Science and Technology
P.O. Box 190-50100
Kakamega

Dear Miss. Chepngeno

RE: Interpersonal communication as a strategic tool for enhancing Women's uptake of Cervical Cancer screening In Uasin Gishu County, Kenya - Ref: MMUST/IERC/11/18

Thank you for submitting your proposal entitled as above for initial/continuation review. This is to inform you that during the 14th IERC meeting held on the **12th October, 2018**, the committee conducted the initial review and approved (**with minor revisions**) the above Referenced application for one year.

This approval is valid from **12th October, 2018 through to 12th October, 2019**. Please note that authorization to conduct this study will automatically expire on **12th October, 2019**. If you plan to continue with data collection or analysis beyond this date please submit an application for continuing approval to the MMUST IERC by **12th September, 2019**.

Approval for continuation of the study will be subject to submission and review of an annual report that must reach the MMUST IERC secretariat by **12th september, 2019**. You are required to submit any amendments to this protocol and any other information pertinent to human participation in this study to MMUST IERC prior to implementation.

Please note that any unanticipated problems or adverse effects/events resulting from the conduct of this study must be reported to MMUST IERC. Also note that you are required to seek for research permit from NACOSTI prior to the initiation of the study.

Yours faithfully,

Dr. Gordon Nguka (PhD)
Chairman, Institutional Ethics Review Committee

Copy to:

- The Secretary, National Bio-Ethics Committee
- Vice Chancellor
- DVC (PR&I)
- DVC (A & F)

APPENDIX VIII: NACOSTI AUTHORIZATION LETTER



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 3310571, 2219420
Fax: +254-20-318245, 318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/18/33497/26974**

Date: **14th December, 2018**

Chepngeno Judy B.
Masinde Muliro University of Science and Technology
P. O Box 190-50100
KAKAMEGA

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Interpersonal communication as a strategic tool for enhancing women’s uptake of cervical cancer screening in Uasin Gishu County, Kenya”* I am pleased to inform you that you have been authorized to undertake research in **Uasin Gishu County** for the period ending **14th December, 2019**.

You are advised to report to **the County Commissioner, the County Director of Education and the County Director of Health Services, Uasin Gishu County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.



**GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner
Uasin Gishu County.

The County Director of Education
Uasin Gishu County.

National Commission for Science, Technology and Innovation is ISO 9001:2015 Certified

APPENDIX IX: NACOSTI PERMIT

THIS IS TO CERTIFY THAT:

MISS. CHEPNGENO JUDY B.

**OF MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY, 0-30100**

**ELDORET, has been permitted to conduct
research in Uasin-Gishu County**

on the topic: INTERPERSONAL

COMMUNICATION AS A STRATEGIC TOOL

FOR ENHANCING WOMENS UPTAKE OF

CERVICAL CANCER SCREENING IN UASIN

GISHU COUNTY KENYA

for the period ending:

14th December, 2019

Permit No : NACOSTI/P/18/33497/26974

Date Of Issue : 14th December, 2018

Fee Received :Ksh 2000



[Signature]

Director General

**National Commission for Science,
Technology & Innovation**

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

**The Grant of Research Licenses is guided by the Science,
Technology and Innovation (Research Licensing) Regulations, 2014.**

CONDITIONS

- 1. The License is valid for the proposed research, location and specified period.**
- 2. The License and any rights thereunder are non-transferable.**
- 3. The Licensee shall inform the County Governor before commencement of the research.**
- 4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies.**
- 5. The License does not give authority to transfer research materials.**
- 6. NACOSTI may monitor and evaluate the licensed research project.**
- 7. The Licensee shall submit one hard copy and upload a soft copy of their final report within one year of completion of the research.**
- 8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice.**

National Commission for Science, Technology and Innovation
P.O. Box 30623 - 00100, Nairobi, Kenya
TEL: 020 400 7000, 0713 788787, 0735 404245
Email: dg@nacosti.go.ke, registry@nacosti.go.ke
Website: www.nacosti.go.ke



REPUBLIC OF KENYA



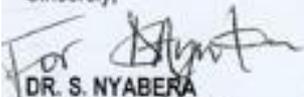
**National Commission for Science,
Technology and Innovation**

RESEARCH LICENSE

Serial No.A 22439

CONDITIONS: see back page

APPENDIX X: IREC APPROVAL

			
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)			
MOI TEACHING AND REFERRAL HOSPITAL P.O. BOX 3 ELDORET Tel: 33471023	MOI UNIVERSITY COLLEGE OF HEALTH SCIENCES P.O. BOX 4606 ELDORET Tel: 33471023		
Reference: IREC/2019/20 Approval Number: 0003347	<div style="border: 1px solid black; padding: 5px; display: inline-block;"><p style="text-align: center;">18 JUN 2019</p><p style="text-align: center;">APPROVED P. O. Box 4606 - 30100 ELDORET</p></div>		
Ms. Judy Chepngeno, Masinde Muliro University of Science & Technology, P.O. Box 190-50100, KAKAMEGA-KENYA,			
Dear Ms. Chepngeno,			
<u>INTERPERSONAL COMMUNICATION AS A STRATEGIC TOOL FOR ENHANCING WOMEN'S UPTAKE OF CERVICAL CANCER SCREENING IN UASIN GISHU COUNTY, KENYA</u>			
This is to inform you that MU/MTRH-IREC has reviewed and approved your above research proposal. Your application approval number is FAN:0003347 . The approval period is 18th June, 2019 – 17th June, 2020 .			
This approval is subject to compliance with the following requirements;			
<ol style="list-style-type: none">i. Only approved documents including (informed consents, study instruments, MTA) will be usedii. All changes including (amendments, deviations, and violations) are submitted for review and approval by MU/MTRH-IREC.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 MU/MTRH-IREC within 72 hours of notificationiv. 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 MU/MTRH-IREC within 72 hoursv. 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 MU/MTRH-IREC.			
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 needed.			
Sincerely,			
			
DR. S. NYABERA DEPUTY-CHAIRMAN INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE			
cc	CEO - MTRH Prindpal - CHS	Dean - SOP Dean - SON	Dean - SOM Dean - SOD

APPENDIX XI: RESEARCH CONDUCTING APPROVAL


An ISO 9001:2015 Certified Hospital

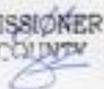

MOI TEACHING AND REFERRAL HOSPITAL

Telephone : +254(0)53-2033471/2/3/4
Mobile: 722-201277/0722-209795/0734-600461/0734-683361
Fax: 053-2061749
Email: ceo@mtrh.go.ke;directorsofficemtrh@gmail.com

Nandi Road
P.O. Box 3 – 30100
ELDORET, KENYA

Ref: ELD/MTRH/R&P/10/2/V.2/2010 19th June, 2019

Judy Chepngeno,
Masinde Muliro University of Science & Technology,
P.O. Box 190-50100,
KAKAMEGA-KENYA.

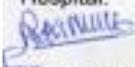
COUNTY COMMISSIONER
UASIN GISHU COUNTY


APPROVAL TO CONDUCT RESEARCH AT MTRH

Upon obtaining approval from the Institutional Research and Ethics Committee (IREC) to conduct your research proposal titled:-

"Interpersonal Communication as a Strategic Tool for Enhancing Women's Uptake of Cervical Cancer Screening in Uasin Gishu County, Kenya".

You are hereby permitted to commence your investigation at Moi Teaching and Referral Hospital.


BY
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CHIEF EXECUTIVE OFFICER
MOI TEACHING AND REFERRAL HOSPITAL

cc - Senior Director, (CS)
- Director of Nursing Services (DNS)
- HOD, HRISM

All correspondence should be addressed to the Chief Executive Officer
Visit our Website: www.mtrh.go.ke
TO BE THE LEADING MULTI-SPECIALTY HOSPITAL FOR HEALTHCARE, TRAINING AND RESEARCH IN AFRICA

APPENDIX XII: MAP OF HOSPITALS IN ELDORET MUNICIPALITY OF UASIN GISHU COUNTY

