BEHAVIOUR CHANGE COMMUNICATION STRATEGIES AND MEN'S RESPONSE TO PROSTRATE CANCER SCREENING IN CENTRAL KENYA

NDUNG'U, SAMUEL KAHURA

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Declaration by the candidate

This thesis is my original work and has not been presented for award of a degree in any other University or for any other award.

…15/07/2021…..

Signature Date

NDUNG'U, Samuel Kahura
Reg. No. B403/2339/15

Declaration by the supervisors

We confirm that the work reported in this thesis was carried out by the candidate under our supervision and has been submitted with our approval as the university supervisors.

Prof. Juliet Macharia
Department of Human Resource Development
School of Business
Karatina University

Signature…… Date……..

Dr Martin Kuria
Department of Communication, Film, Media & Theatre Studies
School of Creative and Performing Arts, Film and Media Studies
Kenyatta University

Signature…… Date……..

Dr. Beatrice Ombaka (PhD in Strategic Management)
Department of Human Resource Development
School of Business
Karatina University

Signature…… Date……..

DEDICATION

I wish to dedicate this work to my family, that is my wife Irene Wairimu, and our sons, Ndung'u Kahura and Thuo Kahura who have been my inspiration and encouragement in my academic pursuits.

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ABBREVIATIONS AND ACRONYMS

ACS- American Cancer Society

ANC-Ante Natal Clinic

AS-Active Surveillance

ACS- American Cancer Society

BCC-Behaviour Change Communication

CBO-Community Based Organizations

DRE-Digital Rectal Examination

EIUL- Economic Intelligence Unit Limited

FBC-Female Breast Cancer

FGDs-Focused Group Discussions

GLOBCAN-Global Cancer Project

HC-Health Communication

HP-Health Promotion

IEC-Information, Education and Communication

IPC- Interpersonal Communication

IPTp-Intermittent Preventive Therapy

KCR- Kenya Cancer Registry

KDHS- Kenya Demographic and Health Survey

KI-Key Informant

KII-Key Informant Interviews

KNCS-Kenya National Cancer Society

KNH- Kenyatta National Hospital

MBC-Male Breast Cancer

MCH-Maternal and Child Health

MDG-Millennium Development Goals

NGOs- Non-Governmental Organizations

NRHP-National Reproductive Health Policy

PCa- Prostate Cancer

PNC-Post-Natal Care

PSA- Prostate Specific Antigen

PSF-Family Health Programme (Spanish)

P.S-Purposive Sampling

SBCC-Social Behaviour Change Communication

SSA-Sub-Saharan Africa

STDs-Sexually Transmitted Diseases

TRUS- Trans rectal ultrasound

US- United States

USAID-United States Agency for International Development

USPSTF- United States Preventive Services Task Force

WHO- World Health Organization

Abstract

Effective communication has been proven to influence people's attitude and approach towards an issue that affects them. The use of Behaviour Change Communication (BCC) has been recommended as one of the strategies that can help create awareness of Prostate Cancer (PCa) and encourage its early screening and treatment. However, there is little evidence that this strategy has been used in Central Kenya region to address the PCa problem. The main objective of this study therefore was to investigate the influence of BCC strategies on men's response to PCa screening in Central Kenya. Specifically, the study aimed to: investigate the influence of interpersonal communication on men's response to PCa screening in Central Kenya, determine the influence of message framing on men's response to PCa screening, examine the influence of mass media campaigns on men's response to PCa screening and to identify the influence of participatory communication on men's response to PCa screening. The study further sought to determine the moderating influence of culture and gender on men's response to PCa screening. The study was guided by Cognitive Dissonance Theory, Theory of Reasoned Action and Health Belief Model. It was anchored on the Pragmatist philosophical paradigm and it used the Exploratory Sequential Mixed Method design. The target population of the study was 700,010 men aged 40 years old and above from Central Kenya. A sample of 384 men was selected using the Finite Population Correction for Proportions (n_0) formula by Kothari. Quantitative data was collected using a semi-structured questionnaire while qualitative data was collected using interviews and focus group discussions. Qualitative data was analysed thematically and presented in both non-linear and narrative forms. Descriptive and inferential statistics were used to analyse quantitative data to show the relationship between variables and their significance. The findings indicated that interpersonal and participatory communication, message framing and mass media campaigns have a statistical significant influence on men's response to PCa screening. The values for each objective were: Mass Media, R^2=0.654, p-value=0.000<0.05, Message Framing, R^2=0.644, p-value=0.000<0.05, Participatory Communication, R^2=0.714, p-value=0.000<0.05, and Interpersonal Communication, R^2=0.605, p-value=0.000<0.05. It was further established that culture has a statistical significant moderating influence on men's attitude to PCa screening, it had R^2=0.572, p-value=0.000<0.05. The study concludes that although mass media was used to disseminate information about PCa, it was not adequate and the PCa messages were poorly framed and ineffective. The study therefore recommends the use of participatory and interpersonal communication to equip community and health workers, and peer counsellors with basic education on PCa and communication skills to supplement efforts by health and communication officials. There is also need for use of intensive mass media campaigns and correct message framing for effective PCa screening awareness.

CHAPTER ONE

INTRODUCTION

Overview

This chapter gives an introduction and background to the study by explaining the academic and social contexts in which the study was conducted. It looks at the use of behaviour change communication strategies in health communication and the state of Prostate Cancer (PCa) in the rest of the world, in Africa and Kenya. Various studies that have recommended the use of behaviour change communication to influence community decisions in dealing with the disease have also been highlighted. The problem that prompted this study, research objectives, research questions, scope, limitation and rationale for the study have also been explained.

1.1 Background to the Study

Effective communication can be used to influence a people's attitude and response towards a health problem and behaviour change communication (BCC) is one of the approaches used in health communication (Schiavo, 2016). BCC is defined as 'a research-based consultative process of addressing knowledge, attitudes and practices through identifying, analysing and segmenting audiences and participants in programmes by providing them with relevant information and motivation through well-defined communication strategies, using an audience appropriate mix of interpersonal, group and mass media channels including participatory methods' (WHO, 2014).

PCa which mostly affects men aged 40 years and above (though a few cases of men as young as twenty seven years have been reported) is one of the leading causes of death

among men in the world. Nevertheless, health experts explain that if detected early through screening and testing, the disease can be treated or managed. However, studies such as the one by Mburu (2016) indicate that very few men in Kenya go for early screening and therefore most of PCa sufferers discover that they have the cancer when it is too late. Cultural barriers and poor communication strategies are to blame for men's fear for early PCa screening and treatment (Woods, Montgomery, Belliard, Ramírez-Johnson, & Wilson, 2014). But as Ngigi and Busolo (2018) opine, early screening can be encouraged by the use of effective Behaviour Change Communication (BCC) strategies, advocacy and message framing. This is the main argument of the current study.

Behaviour Change Communication (BCC) has been recommended as one of the best strategies of impacting a people's behaviour response to health issues. This is because according to WHO (2014) BCC is an interactive process with communities that can be used to develop tailored messages and approaches using a variety of communication channels to develop positive behaviour, promote and sustain individual, community and societal behaviour change and maintain appropriate behaviours. This interaction encourages healthy debate with and among community members about an issue that affects them.

In addition, Nair *et al,* (2016) emphasize the use of BCC to influence people's response to a health issue, by asserting that behaviour change communication can be used in public health to include interventions that focus on communicating health messages to individuals, households or communities through various mediums and in ways that can tangibly impact health behaviour. These sentiments are supported by (McCormack et al., 2019) who says that community-based interventions can increase

knowledge about prostate cancer screening. Clinicians need to take careful account of what their patients understand and correct misconception.

The main method of delivering BCC is through Interpersonal Communication (IPC)/ counselling or group discussions; mid-media or edutainment such as songs, folk dances, street shows, drama and the multifarious use of the fine and performing arts and mass media including print media such as newspapers, posters, flyers, leaflets, booklets etc., electronic media including radio, television and on-line/digital platforms and the internet (Niar *et al.*, 2016) This study also included participatory and interpersonal communication as some of the strategies of BCC.

The role of participatory communication in our everyday life has been stressed by Gamble and Gamble (2020) who look at communication as the process that occurs whenever someone observes or experiences a certain behaviour and attributes meaning to that behaviour. “Through communication, we share meaning with others by sending and receiving messages, sometimes intentionally and sometimes unintentionally.”

On the other hand, while emphasizing the role of interpersonal communication in human health, Rogers, Enemugwem, Eze, Ukamaka, Eme and Alafaka (2019) argues that IPC has a great bearing in health communication. The focus here is on health-related transactions and the factors that influence them. Effective health promotion campaigns require different communication skills and strategies from those involved in one-to-one or small group interactions.

According to World Health Organization (WHO, 2014), late diagnosis of prostate cancer is the second most likely after the late diagnosis of lung cancer. Nonetheless, as mentioned earlier, regular testing has shown that prostate cancer can be nipped in

the bud if detected early. As Wanyagah (2014) asserts, screening is the most common method for early detection of the disease in asymptomatic populations. Researchers further argue that early screening and detection of prostate cancer can help victims seek early treatment in good time. The WHO (2014) report indicate that about 30% of cancers are curable if detected early while 30% of cancers are treatable with prolonged survival if detected early and 30% of cancer patients can be provided with symptom management and palliative care.

But most men who are at risk of cancer are apathetic towards testing. Evidently, this lack of interest towards testing has contributed to late diagnosis and the subsequent difficulties in treatment. During its worst stage, prostate cancer will require a combination of surgery, chemotherapy, hormonal therapy, and radiation (Wanyagah, 2014).

In supporting PCa screening, Rogers et al., (2019) assert that PCa screening could assist to find the cancer at an early stage when it can easily be cured. They recommend health promotion on the risk population, potential harms and benefits. This view is further supported by recent data from the U.S. Preventive Services Task Force (USPSTF) report of 2018 that documented that PSA screening offers a potential benefit of reducing the chance of death from PCa in some men aged 55-69 years.

An observation by Wray (2012) supports this notion that the argument for PCa screening rests on the rationale that screening can be expected to save lives because survival correlates with disease stage at the time of diagnosis. Recent research has bolstered this argument, showing a survival benefit for men actively treated compared to what Wong *(*2006) refer to as 'watchful waiting'.

But for cultural reasons most men in Kenya do not go for PCa screening because the disease is considered a taboo. This therefore undermines early detection and

integrated-care solutions. Mburu (2016) argues that traditionally, seeking preventive health care is not perceived as a 'manly' undertaking. Socially, prescriptive norms for masculinity dictate that "men should be self reliant, strong, robust, and tough; that men should welcome danger; and that they should not reveal vulnerability" (Courtenay, 2011).

For many men, a PCa diagnosis is associated with death and feelings of dread and hopelessness. These feelings go directly against the 'traditional masculine' value of invincibility. The subject of PCa brings together both sexual concerns and cancer fears that can cause men to agonize over the physical and emotional effects of the disease on their lives. Therefore, many men usually opt out of screening even when such screening is available (Conde, Landier, Ishida, Bell, Cuaresma & Misola, 2011).

Reviewed literature for this study indicate that in Central Kenya, the main problem is not awareness, rather it is cultural. And as Devito (2016) argues, culture shapes people's attitude and response to an issue such as PCa screening.

However, attitude can be changed using Behaviour Change Communication (BCC). Strategic use of BCC applies targeted messages and tailored approaches to promote healthy behaviours and reduced risk taking. BCC, also known as social and behaviour change communication, encompasses health communication, social and community mobilization, and it evolved from information, education and communication (IEC) strategies (Koenke *et al.*,, 2017).

With components ranging from interpersonal communication between a community health worker and their client to multi-level mass media campaigns, evidence-based and theory-driven BCC interventions are an integral part of all types of health promotion and disease prevention, and have been shown to significantly improve

behaviours, notably in the areas of family planning and HIV prevention, hygiene and sanitation, nutrition, and other disease areas (Wagle, 2019).

Strategically targeting messages and approaches allow BCC to focus on specific individuals, households, or communities to maximize results of health interventions. This results-based approach to control and prevention has been used in a variety of settings to assess or change behaviour related to PCa , and strong evidence suggests that quality BCC can improve PCa screening and treatment behaviours (Hallward, Chemtob, Lambert & Duncan, 2020).

1.2 Role of Behaviour Change Communication (BCC) in Health Communication (HC)

As explained earlier, BCC is one of the areas of study in Health Communication (HC) and as Ngigi and Busolo (2018) argue, health communication attempts to persuade the affected group to engage in certain behaviour through accessing information. For effective behaviour change in health, researchers such as Rogers et al., (2019) insist on behaviour change programmes that aim at increasing knowledge, stimulating dialogue, promoting attitude change, reducing stigma and improving skills among others. Schiavo (2016) further defines Health Communication as the study and practice of communicating promotional health information, such as in public health campaigns, health education, and between doctor and patient. The purpose of disseminating health information is to influence personal health choices by improving health literacy. Ngigi and Busolo (2018) further justify the use of health communication as it attempts to persuade the affected group to engage in a certain behaviour through accessing information. This can be made possible by use of various BCC interventions.

Nair *et al.*, (2016) hold that BCC is the whole range of processes and methods used to encourage positive health outcomes by making planned and strategic usage of communication to strengthen health seeking behaviour through literacy, and can either be focused at the community or individual level. In addition, as Greenfield et al., (2016) observe, BCC can be used for community mobilization, health education and different public outreach programmes.

BCC can also be targeted at different levels of community such as local, regional and national levels through wide varieties of mechanisms delivered by different modes of channels and forms (Greenfield *et al.,* 2016). This implies that communication strategies can be formulated and applied to a specific group of people aimed at achieving certain results. For example, communication health experts and health support groups can craft messages that only target men at the "risk" age bracket of contracting PCa.

These messages can be conveyed using the appropriate communication channels suitable for particular groups for effective results. BCC can be delivered in a diversity of ways to individuals and communities through Interpersonal Communication (IPC), counselling or group discussions; mid-media or edutainment such as folk dances, street shows, drama and the multifarious use of the fine and performing arts, and mass media including print media such as newspapers, posters, flyers, leaflets and booklets, electronic media that may include radio, television and on-line/digital platforms and the internet.

According to Ngigi and Busolo (2018), the success of communication is determined by a variety of factors that may include; how much access the target audience has to

information, and if the target audience has acquired sufficient knowledge and skills to perform the behaviour, among others.

BCC is an interactive process of any intervention with individuals, communities and/or societies to develop communication strategies to promote positive behaviours which are appropriate to their settings (Ngigi & Busolo, 2018). Strategic use of communication to promote positive health outcomes is based on proven theories and models of behaviour change. As Nair *et al.,* (2016) explain, factors that affect change of behaviour include individual perceptions, beliefs or emotions as well as interpersonal factors such as family influences and community norms.

As Ngigi and Busolo (2018) further observe, social factors that influence people's thoughts and behaviours towards an issue can be impacted by use of communication strategies such as peer to peer approaches which may include on-line forums, positive testimonials from others who have adopted a particular behaviour, targeting campaigns at respected, authoritative opinion leaders or recruiting them as brand or behaviour ambassadors and use of word of mouth.

Worldwide, there have been a number of studies that support the use of BCC as one of campaign strategies for change in communities' behaviour response towards various diseases. For example, a study that was conducted by Koenker *et al.,* (2014) in Zanzibar and Swaziland sought to identify the use of BCC in malaria control. They sought to determine how BCC could be used to encourage families to hang and use their mosquito nets regularly, care for them and repair them when they are torn, or create demand for replacing nets on a continuous basis or as part of distribution campaigns as a way of combating the malaria menace.

In the study mentioned above, BCC was found to be vital for creating demand for testing and to build trust in results, particularly when patients receive malaria-negative results and are unsure of what to do next. As malaria dynamics change, malaria will cease to be the primary cause of fever and there is an urgent need to improve provider skills in communicating with, and counselling patients. Koenker *et al,.* (2014) observed that communication campaigns that use Interpersonal Communication (IPC) are recommended to improve treatment adherence and demand for recognition of quality drugs. BCC promotes Ante-Natal Clinic (ANC) and Intermittent Preventive Therapy (IPTp) uptake, and training in interpersonal communication is critical for improving the quality care providers give pregnant women. As countries scale up malaria control and the epidemiology of malaria changes, many areas are seeing decreased transmission and progress towards elimination declines. For example, BCC promotes testing and treatment in hotspot areas within Zanzibar and Swaziland. It was observed that BCC can encourage protective behaviour such as net use even when the risk of malaria is greatly diminished.

The above study concluded that BCC is likely to be crucial for convincing asymptomatic individuals that testing and treatment will help them as well as their communities and for informing about changes in the optimal timing of interventions and the use of new occupation based vector-control products. It is clear that BCC interventions are most effective when a combination of approaches is used that involve weaving together mass media, IPC and structural approaches to promote new or modified behaviours. In addition, hearing information from trusted sources has significant effects on behaviour; when combined with evidence of social norms promoted through mass media, these behaviours and attitudes are reinforced.

Another study that was commissioned by USAID in 2016 and developed in Nepal, Bhutan, Cambodia, Vietnam and Laos sought to identify how BCC could be used to promote sustainable sanitation and hygiene for all. The campaign ran from 2008 until 2016 and was implemented in over 75 districts across 15 countries. The focus of the project was on development of capacities and approaches that could be scalable through a government-led district wide approach.

The said programme comprised four complementary components supported by knowledge and learning for both rural and urban contexts. In the approaches, evidence-based behavioural change communication is a key component. After the programme, the study concluded that hygiene promotion should be behaviour-centred with focused messaging.

Another study was done in America by Rivers, Luque, Gwede and Meade in 2011 to establish how the barber health advisers could be used to increase PCa screening as one of the IPC strategies in behaviour change towards the disease. The study was based on the American Cancer Society (2012) report that indicated that the PCa incidence rate was 58% higher for African Americans compared with the whites.

The above study found out that the barbershop represents an accessible setting for many African American men whereby customized information can be disseminated in trusted environment. As a result the researchers recommend concentrating health promotion efforts on PCa for African-American men in valued community venues such as the barbershop. The barbershop was found to be a culturally relevant, feasible, and appropriate venue for community-based PCa education programmes, and barbers are ready participants in such programmes.

The study concluded that developing culturally appropriate cancer educational materials and programmes has been found to dispel myths, eliminate misconceptions and change fatalistic attitudes about cancer and cancer screening and treatment. There is increasing need to decentralize our cancer prevention and control educational efforts, historically from the clinical setting, and begin to consider familiar community-based, non-threatening and respected venues for cancer communications. The high response rate, receptivity of the barbers, and engagement of community health agency indicate that when African-Americans are approached in a culturally and linguistically appropriate manner, they are adherent and receptive to participation in research.

In India a study was conducted by Thakur, Jaswal and Grover, in 2014 on the Information Education Communication/Health Promotion/Behaviour Change Communication (IEC/HP/BCC) activities in Punjab and Haryana. It revealed that although health promotion has been an integral part of all national programmes, it has been a low priority in India. This has resulted in a failure to achieve the desired results. The study therefore concluded that IEC/HP and BCC require strengthening for better implementation of the national health programmes.

In Africa, a research was conducted by Schiavo (2016) on the status of Ebola infection in Congo. It was observed that community-based health communication interventions have been instrumental in the control of Ebola crisis and past outbreaks in Congo. They also helped improve self-care and treatment satisfaction among low-income populations in Tennessee, U.S.A. The approach has also been associated with improved use of family planning methods among women in rural communities in Ethiopia and contributed to strengthening health systems in Zambia and Japan.

A related study was carried out in Uganda by Robert Otim in 2017 on the role of BCC in the National Hand Washing Initiative to mitigate diseases like cholera. He observed that after an aggressive mass media campaign in the country it managed to change the attitude towards hand washing with soap as 95% of the population no longer thought that hand washing was a trivial thing as they did before.

In Tanzania, a study was conducted by Beauclair, Delva, Roelens, Van Rossem and Temmerman in 2012 on the Impact of Mass Media Campaigns on Intentions to use the Female Condom in Fighting HIV/AIDS. The objective of the study was to determine whether a mass media campaign to promote the use of the female condom had an impact on intention to use the condom among men and women of reproductive age.

The study used data on 21,712 sexually experienced men and women in Tanzania from an existing survey conducted at outlets that sell the female condom. The Pathway analysis was used to determine the impact of mass media, peer education and a provider's explanation on intentions to use the condom. The results were that only 6% of the respondents were reached by a peer educator and another 6% were given an explanation by a provider on the use of the condom. In contrast, 38% were exposed to mass media campaigns promoting the use of the condom.

The study concluded that mass media campaigns (which are part of BCC strategies) are likely to increase an individual's motivation to use condoms because they encourage the discussion of condom use with a partner. While mass media campaigns do not have as strong an impact on a particular individual as do peer educators or providers, mass media campaigns have a substantial impact at the population level because of their considerably high reach. This conclusion was based on Rogers *et al.,*

(2019) claim that Diffusion theorists postulate that mass media affects contraceptive use by stimulating the discussion of its use between partners.

In Kenya, Oriaso carried out a study in 2013 on the Role of Interpersonal Communication in Changing Behaviour Response towards HIV/AIDS among young women from low socio-economic status in Karachuonyo West District. He observed that poverty and low education are mere predisposing factors which have no serious impact where there are appropriate and effective forms and strategies of communication. The researcher concluded that if the appropriate interpersonal communication strategies were put in place, they could help promote behaviour and attitude change to reduce risky sexual practices associated with HIV infection among the target population.

In Nairobi, Dickey, Ouma and Salazar (2019) carried out a study on The Nexus between Participatory Communication and Prostate Cancer Screening Among "at-risk" Population. He observed that participatory communication will allow for authentic active listening, which will foster trust between men "at risk" and prostate cancer service providers much more than incessant mono-directional talking and enhance the uptake of prostate cancer screening.

1.3 Global Perspective

According to the European Alliance for Personalized Medicine White Paper (EAPM) (2015), some 3 million European men are living with prostate cancer and the number will grow due to the EU's ageing population. There are in the region of 105.5 new cases per 100,000 men across the European Union each year. But there are significant differences between member states with, for example, as many as 123 cases per

100,000 in Ireland. The incidence of prostate cancer rocketed up since the 1980s and mortality is going down in many EU 28 countries.

In Latin America, the US Economist Intelligence Unit (2017) observes that PCa is placing an ever-growing burden on the already strained Latin American health care systems, as both the incidence of the disease and mortality rates rise. Prostate cancer is the leading cause of male cancer-related deaths in the region, and the disease and economic burden is set to rise in tandem with longevity and changes in lifestyle and diet, the report observes.

Prevalence and determinants of prostate cancer screening are influenced by different socio- demographic factors. For instance, prostate cancer testing in South Australian men has shown that beliefs about vulnerability to prostate cancer and efficacy of screening and socio demographic variables play a role in health seeking behaviour on PCa screening. However, beliefs in personal vulnerability to prostate cancer remain a significant component of reported future testing, suggesting a focus for community education and interpersonal communication (Dickey, 2019).

A study by Wood *et al* (2014) indicate that in the United States of America, PCa is the leading cancer diagnosed among men. Rogers *et al.,* (2019) add that in the US, PCa represented 14% of all new cases of cancer in the year 2014. Additionally, in the same year there was an estimated 233,000 PCa cases and 29,480 PCa deaths reported.

The above study by Wood *et al.,* (2014) further indicate that Black men in America continue to have the highest incidence rate of prostate cancer in the world at180.6 per 100,000 populations. Between 2009 and 2014, in the United States, the age-adjusted death rate of prostate cancer among black men (73.0 per 100,000 populations) was more than double that of non-Hispanic white men (30.2 per 100,000 populations). The

causes of higher rates of prostate cancer among black men are largely unknown. However, higher mortality is associated with late detection.

In its report titled *"Tackling the Burden of Prostate Cancer in Latin America, the prospect for patient-cantered care"*, The Economist Intelligence Unit Limited (EIUL, 2017) observes that prostate cancer is of particular concern in Latin America because of its high prevalence among males in the region and its continuing upward trajectory. It is the leading cause of cancer-related deaths among Latin American males.

In Brazil men over 65 years old accounted for a greater share of the male population in 2012 (at around 7%) than in Colombia (5.9%), Costa Rica (6.8%) or Mexico (6.6%). Furthermore, the Brazilian population is ageing fast, and a larger proportion of Brazil's population is of African descent, at roughly one-half (including those of mixed ethnic background); Mexico's population, by contrast, is mainly American-Indian/Spanish (69%) and American-Indian (30%)—ethnic groups that have a lower risk of prostate cancer than African-American men.

The economic burden of the disease in the region is growing**.** If the growing disease burden is not brought under control, Latin American healthcare systems could come under intense pressure, given that they are already financially stretched. For example, forecasts show that the economic costs of PCa in Brazil could rise by 50% to US$1.8bn per year by 2022, driven mainly by population dynamics and healthcare spending patterns (EIUL, 2017).

1.4 Regional Perspective

In Nigeria, a study was done on the prevalence and the characteristics of PCa among the participants of a community-based prostate cancer awareness programme in Lagos

by a team of researchers from Lagos State University College of Medicine, led by Ikuerowo, Ajala, Abolarinwa and Omisanjo (2016). It concluded that prostate cancer is a leading cancer diagnosis and cause of cancer-related deaths among men. It is the most commonly diagnosed cancer among Nigerian men.

An estimated hospital prevalence of 127 per 100,000 men in Lagos, Nigeria was reported in 2013. A recently published data from south-western Nigeria also reported a hospital prevalence rate of 182.5 per 100,000 male admissions in the hospital. However, the true prevalence in the Nigerian community is not known. But this study demonstrated that there is a high prevalence of prostate cancer in the community in Lagos, much higher than the previously known. The majority of the men already have advanced and high grade disease and have not even sought for medical treatment (Ikuerowo *et al*., 2016).

Although higher awareness levels on PCa have previously been reported among Nigerian men aged 50 or more years, their knowledge levels on PCa were low (less than 40%) (Oladimeji, Bidemi, Olufisayo & Sola, 2010). Similar studies in Senegal also showed low levels of specific knowledge on PCa (Gueyet *et al.*, 2011).

Unlike in Nigeria, there is scanty data on prostate cancer in Ghana. More than 70% of Ghanians presenting with prostate cancer do so very late with locally invasive and metastatic disease. In Ghana close to 800 men die yearly of prostate cancer out of the 1000 diagnosed. Apaw (2020) conducted a retrospective analysis of the frequency and pattern of genitourinary (GU) cancers seen at the Korle-Bu Teaching Hospital, in Accra, between 2010 and 2015. According to this study, PCa accounted for 349/479 cancers in males (81.4%).

In Uganda, according to Makori (2015), PCa is the commonest cancer among men with an age-standardized incidence rate for prostate cancer of 39.6 per 100,000 which is one of the highest rates observed in Africa. The median age at which Ugandan men are diagnosed with prostate cancer is 70 years, which is similar to the age at which most African American men are diagnosed. The prognosis of men diagnosed with the disease in Uganda is poor, only 46.9% will live 5 years after diagnosis compared to 98% among African Americans in the United States of America. In the developed world, the probability of being diagnosed with cancer is more than twice as high as in developing countries. However, there are no published data on the prevailing knowledge, attitudes and practices regarding prostate cancer in Uganda (Makori 2015).

1.5 Local Perspective

In Kenya, the health sector through the National Reproductive Health Policy (2007) and the National Reproductive Health Strategy (2009-2015) provide the policy framework, with cancers of the reproductive organs being priority components. But in spite of the favourable policy in place and efforts towards enhancing PCa screening, the data still shows that PCa is diagnosed when it's already advanced among Kenyan men. This is further aggravated by the fact that PCa screening is not a common practice and patients go for it when the disease is quite advanced (Makori 2015).

A study done at Kenyatta National Hospital (KNH) in 2014 has shown that patients diagnosed with PCa present late with as great as noted in Black men in the United States, Jamaica, Nigeria and Cameroon which may suggest some common enhancing genetic predispositions (Wasike & Magoha, 2007).

In addition, the Kenya Demographic and Health Survey of 2017 report confirm that 96 % of men in Nairobi have not been tested for prostate cancer. But ironically, 66 % of men in all age groups have heard about the disease. However, according to the Cancer Awareness Centre of Kenya (2016) report, the level of PCa awareness is currently highest in the Central Kenya region although testing remains very low and the region boasts the highest number of PCa cases in the country.

1.6 Problem Statement

According to KDHS (2017) report, prostate cancer accounts for 17.3% of all male cancers and 10.2% of all the other cancers in Kenya. Between 4.1% and 11% of males are screened for prostate cancer annually. Furthermore, the majority (87.5%) of patients who attend the Kenyan health facilities do so when the cancer is at an advanced stage, that is, stages III(C) and IV(D).

The KDHS (2017) report indicates that Central Kenya is one of the leading regions in PCa prevalence and low levels of early screening and testing. The report puts the screening rate in the region at 3.2% and the prevalence rate at 7.8%, the second highest after Nairobi. This high PCa prevalence rate, the report says, results in early deaths and a high cost of medical care which strains the already overstretched medical services in the region at the same time robbing the region of human resource.

According to Mburu (2016), research has proved that early detection of Prostate cancer can facilitate its early and timely treatment. This therefore necessitates early screening of men at the age of forty years and above who are said to be at a higher risk of contracting the disease, (Woods *et al.*, 2014) .The justification for early screening is supported by WHO (2014) report which indicates that about 30% of cancers are curable if detected early while 30% of cancers are treatable with

prolonged survival if detected early and 30% of cancer patients can be provided with symptom management and palliative care.

It's interesting to note that the prostate cancer awareness level in the country is at 75% according to Mbugua, Oluchina and Karanja (2021). This is attributed to massive education campaigns on the disease awareness in the country. But despite the high awareness levels, the screening rate is still low. As a result, as Mburu (2016) puts it, most victims discover very late that they are suffering from the disease when it is almost at its final stage and therefore difficult to treat. Indeed most of them go to hospital seeking treatment for a different disease only to realize that they are also suffering from prostate cancer.

Globally, PC screening remains a much-debated issue with various discrepancies regarding recommendations for the uptake of screening. Nevertheless, screening remains the key strategy for the reduction of mortality through early detection of PC among men considered at risk. The cancer screening guidelines in Kenya recommend informed shared decision making among men aged 40–69 years. However, despite high mortality occurring in developing countries like Kenya due to PC, the screening rates are still very low. This has been associated with various barriers including low knowledge and awareness level and negative beliefs. Early detection is a key pillar to the achievement of the goal of the cancer control strategy 2017–2022 in Kenya. Unfortunately, the rate of uptake of screening remains very low among Kenyan men.

Assessment of PC awareness and screening among at-risk men in the community is a critical step toward enhancing early detection. There is a paucity of studies on PC awareness and screening among Kenyan men. There exists no study to our knowledge that has included men considered eligible for PC screening from a rural community.

Qualitative studies on PC awareness are important for further exploration of the utilization of screening services. The study, therefore, used a mixed-method approach to assess the level of PC awareness and screening among men aged 40–69 years in a rural community.

The question therefore is, why are so few men being screened despite the knowledge? Is this an issue of personal and behavioural factors or is it associated with broader social and contextual factors, such as cultural influence which shape attitude and behaviour response to the disease?

If the above is the case, men's attitude and behaviour response towards PCa can be impacted with the right Behaviour Change Communication (BCC) interventions to encourage men to go for early screening which would lead to timely treatment if detected. This is because, as Nair *et al*. 2016) put it, BCC involves processes and methods used to encourage positive health outcomes by making planned and strategic usage of communication to strengthen health seeking behaviour through literacy.

The main question that begs for answer therefore is, is there adequate use of behaviour change communication strategies in the said PCa campaigns in the region? For instance, what media channels are used for the campaigns and how are the messages framed? Is there effective use of interpersonal and participatory communication strategies to change the attitude and behaviour response to PCa screening? This therefore forms the basis for this study.

1.7 Research Objectives

1.7.1 Main Objective

The main objective of this study was to investigate the influence of Behaviour Change Communication strategies on men's response towards PCa screening in Central Kenya.

1.7.2 Specific Objectives

The specific objectives were to:

i) Investigate the influence of interpersonal communication strategies on men's response to PCa screening in Central Kenya.

ii) Examine the effect of message framing on men's response towards PCa screening in Central Kenya..

iii) Determine the influence of mass media campaigns on men's response towards PCa screening in Central Kenya.,

iv) Identify the impact of participatory communication on men's response to PCa screening in Central Kenya.

v) Determine the moderating effect of culture on men's response to PCa screening in Central Kenya.

1.8 Research Questions

The study sought to answer the following questions:

i) To what extent do interpersonal communication strategies influence men's response to PCa screening in Central Kenya?

ii) Does message framing affect men's response towards PCa screening in Central Kenya.?

iii) To what extent do mass media campaigns influence men's response to PCa screening in Central Kenya?

iv) Does participatory communication impact men's response to PCa screening in Central Kenya?

v) What is the moderating effect of culture on men's response to PCa screening in Central Kenya?

1.9 Justification of the Study

It was expected that the findings of this study would help identify behaviour change communication strategies that have been used to influence men's attitude towards PCa and increase its screening rate in Central region of Kenya. The findings may also be used to explain the same problem in the rest of the country. Subsequently, the study recommends the most appropriate communication strategies that may be used to change men's attitude and behaviour response towards the disease with more emphasis on interpersonal and participatory communication. Policy makers, communication and health experts in the region may use the study findings and recommendations in formulating behaviour change communication interventions that could help to improve the rate of PCa screening and testing in the region and the rest of the country in general. In addition, researchers and scholars may use the findings of the study as the basis for further studies on prostate cancer and related areas. The findings may also be applied in the studies of other types of cancer. The study outcomes therefore add to the stock of knowledge on PCa in the academic field.

1.10 Scope of the Study

In this study, scope has been used to mean how deep or wide the researcher dealt with the topic. In view of this, three aspects of the scope of the study are presented namely: content, contextual and methodological scope.

The study was conducted in the Central region of Kenya. This is because as it has been explained in the Kenya National Health Demographic Survey (KNHDS) (2017) the region has been leading in the PCa prevalence in the country. In addition, Ng'ethe (2014) says that nearly all men in Kenya have not been tested for PCa even though they are aware of the disease and its impact. Only three per cent of men in the region had been tested for prostate cancer overall, according to the 2017 Kenya Demographic and Health Survey (KDHS*)*. According to KDHS the low rates of testing mean that detecting cancer early, when the disease is most easily cured, is less likely. The target population of the study was 700,010 men aged 40 years and above from Central Kenya. A sample of 384 men was selected for the purpose of data collection.

Another question that the study endeavoured to answer was, what are the men's attitudes that affect their behaviour response to PCa screening? To answer this question the study looked at cultural issues that shape the entire society's perception on men's health with special reference to PCa screening and testing. An understanding of these issues would help come up with the requisite communication strategies for behaviour change specifically targeting the identified areas. Another question was, what are the BCC strategies used to promote PCa screening and what is their impact? In trying to answer this question, the current BCC strategies, their strengths and weaknesses were identified. Answers to this question enabled the researcher recommend the most appropriate BCC strategies that might help impact men's behaviour response towards PCa which was the main objective of this study.

As stated above, this study was focused on men aged 40 years and above in Central Kenya. The logic of picking this age bracket is that PCa mainly afflicts men in that age bracket although there have been some rare cases of younger men contracting the

disease. The main variable of the study was the use BCC strategies in changing men's attitude towards PCa screening. Specifically, the study explored the relationship between mass media campaign, message framing, participatory communication and interpersonal communication and men's behaviour response to PCa screening. Although the study was done in Central Kenya region, the findings could be applicable in the region as well as the other regions of Kenya.

1.7 Limitations of the Study

The content of this study was limited to the use of Behaviour Change Communication in influencing men's behaviour response towards Prostate Cancer. In relation to this, the study sought to identify factors that influence men's attitude and behaviour response to PC testing, screening and treatment and how these can be impacted with BCC strategies. To achieve the afore-mentioned objective, the study sought to answer this question: What are the information sharing practices on PCa screening in Central Kenya region? In a bid to answer this question, data was collected on communication strategies applied by the concerned government departments such as the Ministry of ICT, Information and Broadcasting and the Ministry of Health at National and County levels of government. The study also sought to determine the kind and nature of messages communicated in the identified strategies.

As regards to methodology, this study was limited to the mixed method approach and it was anchored on the pragmatist philosophical paradigm. In addition, Focus Group Discussions were used in order to gain a deeper understanding of ways in which BCC has been used to change men's behaviour response towards PCa, Move to Limitation

The researcher encountered a limited accesses to data to some extent. For instance, it was not easy to access statistics on PCa prevalence and screening rate in the counties

from the level 5 hospitals because such information is handled with secrecy. Secondly, there was poor record keeping regarding the disease in the Level 5 hospitals, and data storage was not centralized. The researcher was left to his devices to access the information.

Another limitation regarding data was in organizing face-to-face interviews with Key Informants (senior health officers especially the medical officers of health and hospital superintendents), owing to their busy schedules. However, this limitation was not a serious one because those Key Informants who could not make to give an interview delegated the work to their juniors who also did a good job. The senior officers would have been better placed to give insights into government policy issues regarding the use of BCC strategies in addressing the PCa screening issue. They would have also given their informed opinion on men's health-seeking behaviour and possible reasons for low uptake of PCa screening in the region.

Owing to the nature of Prostate Cancer and the cultural and attitudinal issues around the disease, it was not easy to identify and get victims to participate in interviews and FGDs as most of them did not want to reveal their identity. This was countered by assuring anonymity and confidentiality to the few who volunteered for interviews.

Lack of previous research studies on the topic was another limitation that the researcher had to contend with. Although there were quite a number of studies on PC, specific studies on culture and use of BCC strategies to change men's attitude to PC screening in Kenya and specifically in Central Kenya region were limited. The researcher therefore had to review literature on the use of BCC strategies on other diseases such as breast cancer, malaria, HIV/AIDS, breastfeeding and hand washing. This enabled a comparison of those health issues with prostate cancer.

The main limitation to do with the researcher was related to the geographical scope of the study. As stated earlier, the study covered the five counties of the vast central region of Kenya. It was not possible for the researcher to single handedly cover all those counties to collect data and he had therefore to rely on research assistants. Although research assistants supported the researcher by conducting interviews with key informants and FGDs, the researcher would have been in a better position to personally probe for more information outside the questionnaire using his research skills and knowledge of the tropic under study.

1.9 Summary

One of the key issues arising from the discussion in this chapter is that behaviour change communication strategies and interpersonal communication can be used to persuade men to go for early and timely screening for Prostate Cancer, one of the leading killer diseases globally. It has been argued that screening can help mitigate the effects of the disease because there is empirical evidence that the disease can be treated if it is discovered early. But despite this awareness, most men in the risk age bracket rarely go for voluntary PCa screening.

One of the assumptions of the study was that this attitude is cultural and that it can be impacted by use of the right BCC strategies. These include interpersonal and participatory communication, mass media, folk media and social media campaigns for effective behaviour change towards the disease because public lectures alone cannot have the desired effect.

Next chapter which is on literature review looked at the situation of the study in the field of communication studies. The concept of behaviour change communication in attitude and behaviour change towards PCa screening, theories relating to health

communication and behaviour change strategies were discussed. Relevant literature on recent research on behaviour change communication strategies, and behaviour response towards health promotion campaigns were also reviewed.

1.8 Operational Definition of Key Terms

For the purpose of this study, the following terms were used as explained below:

Advocacy –campaign aimed at changing a situation in the society.

Behaviour Change Communication-an intervention process with communities to develop tailored messages and approaches using a variety of communication channels to develop positive behaviours; promote and sustain individual, community and societal behaviour change; and maintain appropriate behaviours.

Health Communication-study and practice of communicating promotional health information, such as public health campaigns, health education and communication between doctor and patient.

Interpersonal Communication-communication between two or more people on a face to face basis as happens between a patient and a health care provider. It has also been used to include cancelling and communication/discussions within small groups.

Intervention- programme of arresting a situation like spread of a disease such as cancer.

Participatory communication-approach based on dialogue which allows for sharing of information, perception and opinions among various stakeholders and facilitates their empowerment.

Prostate Cancer- cancer that affects the male prostate gland.

Uptake of Prostate Cancer Screening-having ever been tested for PCa by any of the methods.

Target Population-a group within a population who share similar characteristics and behaviours and upon whom BCC activities are focused.

Traditional media-channels of communication that are usually culture or community-specific.

CHAPTER TWO

LITERATURE REVIEW

Overview

Chapter one discussed the background to the study and presented the problem that prompted this study. This chapter discusses the concept of behaviour change communication in changing men's response to PCa screening, situating it in the field of communication studies. A review of literature is done on previous studies on PCa prevalence, the role of screening, men's perceptions towards PCa screening and treatment. The literature is reviewed under different thematic areas based on the objectives of the study. These include; the role of mass media, message framing, participatory and interpersonal communication in shaping people's attitude towards health issues and more specifically in changing men's behaviour response to the PCa, and the moderating effect of culture on men's response to PCa screening.

In the theoretical framework, the Theory of Reasoned Action, Cognitive Dissonance Theory and the Health Belief Model (HBM) are discussed in relation to the study. The two theories and a model are used to provide an understanding of factors that affect people's understanding of an issue and how communication strategies can be used to influence their understanding and decision making regarding the issue. A conceptual framework of the study has also been presented in which we have the independent, dependent and moderating variables.

2.1 Empirical Literature Review

2.1.1 Introduction

Situating Behaviour Change Communication in the field of Communication studies

As mentioned earlier, the topic of this study falls under Health Communication which is one of the areas of study under Development Communication; others include Environmental and Science Communication. Schiavo (2016) defines Health Communication as the study and practice of communicating promotional health information such as public health campaigns, health education and communication between doctor and patient. The purpose of disseminating health information is to influence personal health choices.

Health communication according to Devito (2016) seeks to increase audience knowledge and awareness of a health issue, influence behaviour and attitudes towards a health issue, demonstrate the benefits of behaviour change to public health outcomes, increase support for health services and argue against misconceptions about health.

Health communication relies on strong interpersonal communication in order to influence health decisions and behaviours. The most important of these relationships are the connection and interaction between an individual and their health care provider (e.g. physician, therapist, and pharmacist) and an individual's social support system (family, friends and community). According to Hussain *et al*., (2013), these connections can positively influence the individual's decision to make healthy choices. Patients are more prone to listen when they feel invested emotionally into the

situation. If they feel as if they understand what is being said, they are more prone to make objective decisions based on the information heard.

One of the most pertinent challenges health communication faces is the general gap that has formed between the population's health literacy and the use of health communication. While the goal is that health communication will effectively lead to health literacy, issues such as the use of unexplained medical jargon, ill-formed messages, and often a general educational gap have created a gap. In some populations majority of the people have difficulty understanding written health materials, understanding health care and policies, and they generally do not comprehend medical jargon.

The role of BCC through interpersonal and participatory communication is also important in health communication as it is further explained by Toronto Consensus Statement report (2010). The report says that on the relationship between communication practices and health outcomes, communication problems in medical practices are important and common. Patient anxiety and dissatisfaction are related to uncertainty and lack of information, explanation and feedback. It further asserts that doctors often misinterpret the amount and type of information that patients want to receive forgetting that improved quality of clinical communication is related to positive health outcomes.

As Hussain *et al*., (2013) observe, health care providers who communicate well with patients are more likely to secure positive outcomes for patients, themselves and others. This is emphasized by Whiley, Keegan, Fallowfield and Ross (2014) who assert that, “Patients who are dealt with by professionals with good communication skills have been shown to have improved health indices and recovery rates.”

Greenfield *et al.*, (2016) also noted that good communication between a patient and medical staff is important from the first encounter, because it forms the basis of all future transactions. Effective communication therefore needs to be patient-centered and informative, and needs to promote trust and confidence.

Communication is a process for a mutual understanding to come at hand during interpersonal connections. A patient's communication with their healthcare team and vice versa, affects the outcome of their health. This is so because as Samovar, Porter and McDaniel (2015) puts it, strong, clear, and positive relationships with physicians can chronically improve and increase the condition of a certain patient,

However, there is need for health communicators to understand certain factors that determine the efficacy of health communication as a strategy for behaviour change; one of these factors is culture. To emphasize how culture impacts our communication outcomes, Gamble and Gamble (2020) argue that culture is the lens through which we view the world; it is the mirror we use to reflect and interpret reality. It teaches us how to think, and what to think about. By instructing members, culture guides behaviour and communication, revealing to them how to act, think, talk and listen.

The effect of culture on communication is further emphasized by Pearson, Nelson, Titsworth and Harter (2011) who say that culture has a strong dependence on communication because of the help it provides in the process of exchanging information in the objective to transmit ideas, feelings, and specific situations present in the person's mind. Culture influences our thoughts, feelings and actions, and when communication is occurring there should be an awareness of this. This means that the more different an individual's cultural background is, the more different their styles of communication will be.

Therefore, when tailoring health messages, communicators must be aware of the people's background, ideas, traditional practices, philosophy and beliefs before interpreting their behaviours in relation to communication. There is need for cultural safety which is the recognition of social, economic and political positions of individuals before beginning communication.

The use of participatory communication is also important in the foregoing aspect. This is one of the approaches used in health communication that helps to involve communities in their own development. This approach allows members of the community to understand the problem and through dialogue they come up with solutions to the problem (Schiavo, 2016). This approach conforms with the assertion by Gravina *et al*., (2013) that communication is a process of mutual understanding that comes at hand during interpersonal connections.

2. 1.2 Message Framing and Prostate Cancer Screening and Testing

The effectiveness of a message on a people's behaviour and attitude to a health issue depends on, among other factors, the way it is framed. This point of view is supported by Keyworth, Nelson, Griffiths, Cordingley and Bundy (2015) who claim that message framing is important in health communication research to encourage behaviour change. In emphasizing the importance of framing in persuasion, Parvanta, Nelson, Parvanta and Harner (2014) say that framing a message involves giving it a context or even suggesting a point of view or an interpretation with which it is to be understood. The frame itself has been demonstrated to have a direct impact on how someone hears, processes and acts on information. The concept of framing is important for successful communication of messages especially in persuasion for behaviour change towards an issue like PCa careening. This is because as Corner

(2018) puts it, framing involves emphasizing certain elements of an issue over others, shaping the way the issue is understood. For example, framing can be done to emphasize the benefits of PCa screening despite the discomforts that go with it especially when one goes through the Digital Rectal Examination (DRE) screening method.

The principles of the Message Framing Theory are applicable here. The theory suggests that message effectiveness is influenced by the *type* of behaviour promoted and the *framing* of the health message (Rothman, 2012). Gain-frame messages emphasize the *benefits* of behaviour change (for example, taking an early PCa screening lowers your risk of early death, and loss-frame messages emphasise the *costs* of failure to act (by not taking an early screening, you increase your risk of death from the disease).

To achieve the desired behaviour change to PCa screening by men, this study maintains that it is important to recognize that men communicate in different ways to women and that the discourse of the messaging should reflect that. As Gamble and Gamble (2020) argue, there is such a thing as gender specific communication campaigns. When distributing men's health messages it is important to be realistic about how to reach men too. Distributing health messages in pubs and service stations is arguably a more realistic way to engage with men than distributing messages via GP surgeries. Other places could be at regional rugby and football league matches (MWC, 2014).

2. 1.3 Mass Media Campaigns and Men's Response to Prostate Cancer Screening

Communication experts have advocated for the use of entertainment channels, media and created arts to communicate health messages for behaviour change (Devito, 2016).

The use of the entertainment industry as a platform for advocating health information and education is a communication strategy that has become increasingly popular. It is the most utilized strategy for health communication professionals to create partnerships with storyline creators so that they can create customized messages (Schiavo, 2016).

Media advocacy use strategic mass media tools combined with widespread organization in order to advocate for healthy public policies or lifestyles. This can include the use of text messaging and email to spread messages from person to person, and using social networking venues to promote health information to a wide ranging audience. As technologies expand, the platforms for health communication through media advocacy will undoubtedly expand as well (Schiavo, 2016).

Media effects theorists such as McCombs and Shaw demonstrate that media have the ability to create awareness and influence the salience of topics on the public agenda. However, if media themselves have no awareness concerning an issue or an emerging trend, the larger public will equally remain unaware of it.

Mass communication is used to promote beneficial changes in behaviour among members of populations. A major criticism of the use of mass media as a method of health communication is the unfortunate ability for false and misinformed messages to spread quickly through the mass media, before they have the chance to be disputed

by professionals. This issue may generate unwarranted panic amongst those who receive the messages and be an issue as technology continues to advance.

However, health communication faces many challenges. While problems can be attributed to many factors, some of the most essential issues have to do with the gap between health literacy and health communication, flaws in communicating through the mass media, and a lack of trained professionals.

2.1. 4 Participatory Communication and Behaviour Change

As Tufte (2013) explain, participatory communication is an approach based on dialogue which allows sharing of information, perceptions and opinions among various stakeholders and it facilitates their empowerment. It is also an exploration and generation of knowledge aimed at addressing situations that need to be improved. In this study, stakeholders in the prostate cancer problem are assumed to be men themselves, their immediate family members, volunteer heath support groups and the government through its workers who include community workers, health and communication experts.

This study explored how participatory communication methods and strategies such as campaigns, entertainment and advocacy, folk, mass and social media, new technologies and interpersonal communication have been used in Central Kenya region to convey health messages as a way of encouraging behaviour change among men towards prostate cancer screening.

The above approach is anchored on the premise that if used in a health campaign, participatory communication can help involve the community members in discussing their own problems because they understand them as they also share knowledge,

attitudes and perceptions that impede men in the community from going for PCa screening.

The use of participatory communication (PC) for behaviour change has been supported by other scholars such as Rogers et al., (2019) who posits that PC is an exploration and generation of knowledge aimed at addressing situations that need to be improved to empower communities to visualize aspirations and discover solutions to their development problems and issues.

Schiavo (2016) also encourages the use of participatory communication in solving health problems among members of the community. He says that participatory communication provides for collective voices in decision-making processes related to health and social issues among disadvantaged communities.

Focus Group Discussion is one of participatory approaches that involve members of the community in finding solutions to their own problems. It can be used to examine the society's knowledge, attitude and approach to their myriad health issues including prostate cancer. The same can be used to encourage community ownership and participation in health and social issues such as PCa, focusing on local contexts in an attempt to address the locally situated nature of health issues. Lubombo, Adebayo and Mkhize (2010) supports this approach, that when the lines of communication are open in a community and all voices are encouraged to express themselves; with the expectations that their ideas will be acknowledged and considered where more solutions and more creative ones can emerge.

2. 1.5 Interpersonal Communication and Behaviour Change

Scholars such as Fishbein and Joseph (2012) have pointed out attitudes and behaviour as the variables which can be impacted more by some forms or strategies of

communication than other forms. They suggested that forms and strategies of interpersonal communication are more effective in promoting attitude and behaviour change than the linear approaches. The former approach recognizes the impact of culture, poverty and low education on effective communication strategies. Some of the interpersonal communication interventions that can be used to influence attitude and behaviour change towards PCa include patient-centered care and use of communication channels as discussed here.

According to the World Health Organization (WHO), "integrated health care is a concept that brings together inputs, delivery, management and organization of services related to diagnosis, treatment, care, rehabilitation and health promotion. Integration is a means to improve services in relation to access, quality, user satisfaction and efficiency." Indeed, the WHO considers integrated care and patient focus as two sides of the same coin: "Integrated people-centred health services means putting the needs of people and communities, not diseases, at the centre of health systems, and empowering people to take charge of their own health."

Patient-centred care requires more integrated healthcare and a more collaborative and participatory relationship between patients and healthcare providers, including doctors and hospitals. For doctors, it implies a change in the role of the physician, from being the source or expert to acting as the interpreter of the often overwhelming amount of information available and the co-coordinator of the patient's interaction with the whole healthcare delivery ecosystem. Thus, integration is a key element of patient-centred care, which also incorporates family involvement and pain management.

Significant progress is needed in pain management and training in palliative care in order to improve the quality of life of prostate cancer patients. Oncologists need to be

trained to deal with pain-related issues and provide better advice and guidance to patients (such as referring them to pain clinics like hospices where available).

Efforts to train families to support patients can also contribute to better integration of care. Across the region, many families play the role of caregivers, although they are generally unprepared for the task; in practice, they have to learn by themselves.

The family environment plays an important role in Latin America. Hence, more support, guidance, advice and training for family members on how to become effective caregivers could be a crucial element of a more patient-centred approach to prostate cancer care in the region.

The World Health Organization (WHO, 2014) report says that "integrated people-centred health services means putting the needs of people and communities at the centre of health systems, and empowering people to take charge of their own health". However, integrated and patient-centred healthcare has seen a slow rate of adoption in the Latin America region.

The WHO (2014) report continues to say that the notion of patient-centred care is still in its early stages in many parts of Latin America. This is primarily due to the fact that healthcare systems are unable to keep up with demand, given the limited resources currently available in some countries and the major differences in quality between public and private healthcare systems in other countries.

Dobbinson, Wakefield and Jamsen (2012) argues that lack of multi-disciplinary teams and/or integration of these teams in many hospitals is also holding back a shift towards putting the patient at the centre of health decision-making. For example, in Brazil fewer than 20% of public hospitals and roughly one-half of private hospitals

have capacity for multi-disciplinary care. By contrast, Costa Rica is moving faster in the direction of integrated, patient-centred care. Patient advocacy groups have been calling for early detection; expansion of prostate-cancer registries and the adoption of integrated care across the region (Parvanta *et al*., 2014).

In their study, Woods *et al.*, (2014) found that lack of culturally appropriate linguistic and symbolic information is a barrier to appropriate communication with black men. The participants expressed a desire to communicate with their provider. However, they felt verbal and non-verbal communications, either in general or regarding prostate cancer, were discouraging to them.

According to the study cited above, lack of sufficient and respectful interaction with healthcare providers, health facility staff, and the professional health community emerged as a significant determinant of men's preventive health action. A lack of overt communicated health messages tailored towards black men sent the message that they did not need to be concerned about prostate cancer prevention. In Kenya, Mburu (2016) also found out that there is lack of health communication strategies with messages that specifically target men with a view to encouraging them to uptake PC testing voluntarily.

Woods *et al* (2014) continue to argue that most men trusted that if prostate cancer was indeed a potential problem for them, their healthcare providers would explain the seriousness of this to them. However, few healthcare providers had done so. Respondents in the study equated poor provider-patient communication with a lack of understanding and respect of their culture. If the black man perceives a lack of appreciation of the uniqueness of black culture, attempts to communicate with him about prostate cancer early detection and screening will have limited success.

In developed countries, screening for PSA has led to early detection and management of the disease. However, in developing countries particularly in Africa, routine screening has remained low, leading to reduced detection rates, poor management and increased mortality from the disease (Ajape, Kura, Ojo, Ibrahim & Obiano, 2012).

2.1.6 Culture and Men's Response to PCa Screening

Men's slow uptake of PCa testing can partly be explained from a cultural and gender point of view because these are some of the factors that affect people's attitude and especially men's perception of health messages and response to those messages. Gamble and Gamble (2020) argue that culture guides behaviour and communication and determines how men and women communicate about health issues.

On men's self disclosure, DeVito (2016) asserts that different cultures view self-disclosure in different ways. Some cultures especially those high in masculinity view disclosing inner feelings as weakness for a man. DeVito further says that the popular stereotype of gender differences in self-disclosure emphasizes males' reluctance to speak about themselves especially on issues that may expose their weakness. This therefore explains why men are reluctant to disclose their health status to other members of the family or community, especially on a sensitive issue such as PCa which touches on their sexuality.

Gamble and Gamble (2020) further argue that through interaction with our parents, teachers, peers and others we internalize the lessons of appropriate male and female behaviour. These lessons frame our perceptions and teach us how society expects us to behave. Our perceptions of self are therefore affected by what we have come to believe about our gender. Since men are expected to be strong, resilient, ambitious, in control of their emotions, be successful and unlike women, they are reinforced for

displaying these qualities, independence is central to their lives. Male characteristics are typically more highly valued by our society than are female characteristics. Thus men often feel better about themselves than do women, Gamble and Gamble (2020). That is why Woods *et al.*, (2014) and Mburu (2016) argue that most men go for cancer testing and treatment when it is too late, when they have reached a point of no return because to most of them, showing pain is a sign of weakness.

Braithwaite and Smith (2012) discusses the concept of "stoicism" as a possible explanation of why black men are disconnected from the American health care system and are reluctant to participate in health-related activities. The theory of stoicism suggests that black men become "indifferent to pain or discomfort and do not seek healthcare services until when it is absolutely necessary, and even then, most often, it is in the emergency room", (Braithwaite & Smith, 2012).

For cultural reasons PCa is a taboo issue in many parts of Latin America and Africa, undermining early detection and integrated-care solutions. Men are reluctant to go to the doctor and they often refuse to talk about prostate-related issues with the other community members. Their wives and partners have a role to play in encouraging them to address the issue. For example, a leading Mexican anti-cancer activist has suggested that women who go to test for breast cancer take their partners with them to test for PCa (Conde *et al*., 2011).

For many men, a cancer diagnosis is associated with death and feelings of dread and hopelessness. These feelings go directly against the "traditional masculine" value of invincibility. The subject of prostate cancer brings together both sexual concerns and cancer fears that can cause men to agonize over the physical and emotional effects of

prostate cancer on their lives. Therefore, many men opt out of screening even when such screening is available (Conde *et al.,* 2011).

Traditionally, seeking preventive health care is not perceived as a "manly" undertaking (Mburu, 2016). Socially, prescriptive norms for masculinity dictate that "men should be self-reliant, strong, robust, and tough; that men should welcome danger; and that they should not reveal vulnerability" (Courtenay, 2011).

In a survey on men's attitude towards PCa screening, Nyawira (2015) reported that during a PCa screening outreach sponsored by the Seventh Day Adventist (SDA) church in Nyeri, physician Fatuma Chelimo said that many men from the region tended to shy away from screening due to cultural reasons which prevent the disease from being diagnosed early. She said early diagnosis of the disease was central to treating it, and that its screening was crucial in ensuring timely intervention.

In yet another survey, Nyawira (2015) argues that attitude is the main hindrance to PCa testing and treatment, this is based on a survey where over 600 men from Mount Kenya region underwent screening for prostate cancer on September 24th 2014 after they attended a men's health open day at Outspan Hospital in Nyeri.

Nyawira (2015) quotes the hospital director Dr. Macharia Kiruhi who says, "Men do not openly seek medical attention in this region because of their pride and also because they fear that they will be considered weak by their families." Dr Kiruhi further explained that male patients seek medical attention when the prostate cancer is in its third and fourth stages and cannot be treated.

Unfortunately, values of self reliance and rugged individualism may do more harm than men realize. "Men's practice of high risk behaviours and lack of preventive self

care practices have contributed to shortened lifespan for men, living five years less than women on average" (Singleton, Aitkin, Jinks & Warhurst, 2012).

Galdas *et al.,* (2015) confirmed that beliefs of "traditional masculinity" have contributed to a delay in medical help-seeking behaviour. This trend is unfortunate because delays in cancer screening clearly increase the risk of not detecting cancer until it is at more advanced stages.

Attitude is another issue that compounds the problem of testing and treatment of PCa because men consider PCa a sexual illness. From his survey, Mburu (2016) explains, "One pharmacist asked his patient to consider taking a PCa test but he rubbished the idea saying that there was no way he was suffering from such a problem that is associated with sexuality", Mburu adds that by the time the patient decided to take the test two years later, his prostate cancer had gone too far.

In one of the cases quoted in the survey conducted by Mburu (2016) in Kenya, one man went for treatment when he could no longer perform sexually, a factor that was attributed to his PCa status. In another survey by Wood *et al.,* (2014), a participant explained how his seventy-five year old uncle refused to seek prostate cancer treatment because he feared that the treatment might render him sexually inactive, making him a 'lesser' man.

Nevertheless, there are other reasons that hinder men from going for PCa screening. For example, in a survey by Conde *et al*., (2011), men who opted out of screening reported that they did so because of cost and time inconvenience. Others opted out due to limited understanding of PCa and the need for early diagnosis. According to Conde *et al.*, (2011), some men may also have a general lack of trust in health care professionals, a fear of a cancer diagnosis, or a concern that the screening is a threat to

their “manhood”. Darton *et al*., (2008) also argues that personal factors which are intrinsic to the individual such as their level of knowledge or their belief in their ability to change their behaviour determine their behaviour response to health messages.

2.2 Theoretical Review

Theories are valued in the field of health promotion communication because of their use in explaining influences on health alongside the ability to suggest ways in which individual change could be achieved (Parker *et al.,* 2001). Effective communication strategies should be grounded in a sound theory (Airhihenbuwa & Dutta, 2012). As Tones, Woodall, Cross and Green (2004) put it, theories can be used to design and plan health promotion strategies and to generate decisions and solutions, ensuring that all variables are taken into consideration. As Lewin surmises, ‘there is nothing more practical than a good theory’. A theory enables the practitioner to predict the outcomes of interventions and the relationships between internal and external variables. Underpinning communication in health promotion should be an understanding of how and why people change their behaviours and at what point of intervention it is best to target a message. This allows identification of the actions needed to change that behaviour and highlights the pathways of influence that hinder (or promote) that behaviour. For this study, the Theory of Reasoned Action, Cognitive Dissonance Theory and Health Belief Model were used to explain how and why people approach their health issues the way they do and the the role of behaviour change communication in influencing people’s decision making regarding health issues.

2.2.1 Theory of Reasoned Action by Ajzen and Fishbein (2004)

The Theory of Reasoned Action is also referred to as the Behavioural Intentions Model. It was designed to identify elements that can predict human behaviour and thus guide behaviour change. The theory relies on several causal variables, such as behavioural intention, attitude, and motivation to predict how someone is going to behave (LittleJohn, Karen & Oetzel, 2017) The theory predicts behavioural change by examining attitudes, beliefs and behaviour intentions. It postulates that attitude, perceptions of the social norms and perceived behavioural control interact to affect a person's behavioural intentions, which in turn affects actual behaviour. The theory was developed to explain influences on behaviours that involve conscious decision making. Its focus on voluntary behaviour is practical when targeting behavioural change in interventions because intentions are not independent, but result from underlying attitudes and subjective norms (LittleJohn *et al.*,2017).

According to Ajzen and Fishbein (2004) your intention to behave in a certain way is determined by your attitude toward the behaviour and a set of beliefs about how other people would like you to behave. Culture and gender are some of the factors that affect people's attitude and especially how men perceive health messages and how they react to those messages. Indeed, culture determines how men and women communicate health issues.

This point of view is supported by DeVito (2016) who asserts that different cultures view self-disclosure in different ways. Some cultures especially those high in masculinity view disclosing inner feelings as weakness for a man. DeVito (2016) further says that the popular stereotype of gender differences in self-disclosure emphasizes males' reluctance to speak about them. Therefore, from a cultural perspective, men in most cases are reluctant to disclose their health status to other

members of the community because culture discourages them from openly discussing their health status. As a result, it becomes difficult for health workers, health support groups and care givers to discuss issues related to prostate cancer with those afflicted due to lack of self-disclosure.

An attitude is determined by identifying a set of relevant beliefs, measuring the strength or certainty of these beliefs and measuring their evaluation as well. Once these steps are taken, the researcher sums these measures together, resulting in an attitude

measurement.

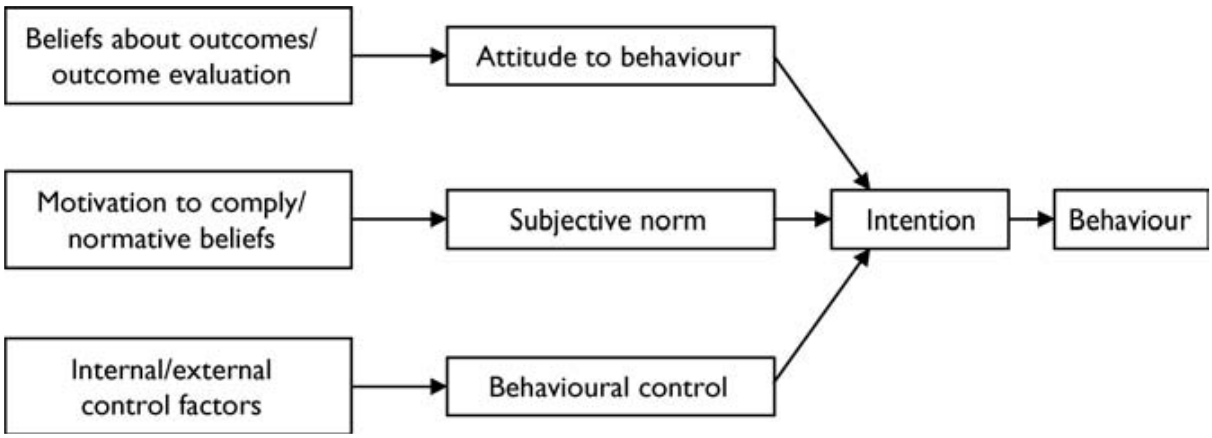


Figure 2.1: Theory of Reasoned Action (source: researchgate.net)

The Theory of Reasoned Action can aptly be used to explain how culture affects men's attitude towards prostate cancer screening and treatment. This attitude in turn affects their behaviour response towards that disease (a masculinity issue). Men tend to perceive prostate cancer as a sexual illness which affects their sexuality. In an African culture where men's open discussion about their health is considered a sign of weakness, it becomes difficult to address the disease.

Self-disclosure is a vital step in the treatment and management of prostate cancer although it is a sensitive issue. In this regard, Samovar *et al.*, (2015) argue that

effective health care demands that the patient trust the health care professional and both parties exchange essential medical information. Yet, cultural customs may strongly influence patients' self-disclosure and communication but in some cultures personal information is considered private and may be difficult to obtain. This explains why African men are reluctant to discuss health issues especially their prostate cancer status with health workers because they are socialized to believe that such issues are so private that they should not be discussed with strangers.

As shown in the model above, there must be some kind of motivation for men to take an uncomfortable decision such as discussing their health and more so, their affliction by prostate cancer. The motivation for men's acceptance to prostate cancer screening is that it would lead to treatment and management of the disease, if it is discovered early. This motivation could also lead to behaviour change and subsequent PCa screening and treatment. However, there are several internal and external intervening factors that determine the said decision making and behaviour change. Once identified, these factors can be addressed by use of behaviour change communication interventions.

The issue of perception and attitude are explained better by Gamble and Gamble (2020) who say that through interaction with parents, teachers, peers and others we internalize the lessons of appropriate male and female behaviour. These lessons frame our perceptions and teach us how society expects us to behave. Our perceptions of self are therefore affected by what we have come to believe about our gender. Men are more apt to develop an independent sense of self. Since they are expected to be strong, resilient, ambitious, in control of their emotions and successful and unlike

women, men are reinforced for displaying these qualities and independence is central to their lives.

The above argument confirms that lack of prostate cancer screening is basically a result of attitude which is culture and gender constructed. This can be addressed by use of effective behaviour change communication interventions such as participatory and interpersonal communication, mass media campaigns and appropriate message framing.

2.2.2 Cognitive Dissonance Theory by Leon Festinger (1957)

The theory is concerned with how perceptions and cognition influence are influenced by motivation and emotion. Festinger theorized that when an individual holds two or more elements of knowledge that are relevant to each other but inconsistent with one another, a state of discomfort is created (dissonance). People are therefore motivated by the unpleasant state of dissonance to engage in cognitive work so as to reduce the inconsistency.

One of the ways of reducing dissonance is to change attitudes. Attitude change in response to a state of dissonance is expected to be in the direction of the cognition that is most resistance to change. Dissonance caused by a decision can be reduced by viewing the chosen alternative as more attractive and /or viewing the rejected alternative as less attractive. Dissonance is typically aroused when a person acts in a way that is contrary to his or her attitudes, especially when no one provides encouragement or incentive for doing so. individuals may reduce this dissonance by changing their attitudes to be more consistent with their actions. Dissonance can also be aroused by exposure to information that is inconsistent with beliefs and attitudes.

In the case of prostate cancer prevalence in Central Kenya, studies indicate that the level of awareness among men about the disease is relatively high compared to other regions in the country but the rate of screening and testing is not equally high. Attitude has been identified as one of the causes of low screening rate in the region. Though many men are aware of the disease and its risks, and the need for screening and testing, they still do not go for it. Cognitive dissonance theory can be used here to explain men's behaviour response towards PCa where an individual is aware of a certain risk and what they are supposed to do to avoid the risk yet they do not adopt the desired behaviour, this is due to their attitude towards that issue.

The argument of this study therefore is that behaviour change communication strategies can be used to change men's attitude towards PCa screening and treatment. This can in return reduce men's dissonance towards the disease and increase the rate of PCa screening and treatment. In this case the motivation for men to change their health behaviour is to reduce the discomfort of not screening for PCa as well as reaping the benefits of behaviour change.

2.2.3 Health Belief Model (HBM) by Becker (1974)

The model was developed by Becker in 1974 from the work of Rosenstock (1966). This model can be used as a pattern to evaluate or influence individual behavioural change. The model proposes that a person's behaviour can be predicted based on how vulnerable the individual considers themselves to be. 'Vulnerability' is expressed in the HBM through risk (perceived susceptibility) and the seriousness of consequences (severity). These two vulnerability variables need to be considered before a decision can take place. This means a person has to weigh up the costs/benefits (Naidoo & Wills, 2010) or pros/cons of performing a behaviour.

A person's decision to perform the health-promoting (or damaging) behaviour will be based on the outcome of this 'weighing up' process. Self-efficacy is also added to the HBM to enable prediction of behaviour. Self-efficacy is a person's perceived confidence of their ability to perform that behaviour. The HBM includes four factors that need to take place for a behaviour change to occur; the person needs to have an 'incentive' to change their behaviour, they must feel there is a 'risk' of continuing the current behaviour, the person must believe change will have 'benefits' that outweigh the 'barriers' and they must have the 'confidence' (self-efficacy) to change their behaviour.

The HBM additionally suggests that there is a 'cue to action' to prompt the behaviour change process. The prompt, however, has to be appropriate to that person or, as Naidoo and Wills (2010) suggest, this cue needs to be 'salient or relevant'. The HBM also considers 'modifying factors' important to behaviour change. These include demographic variables, socio-psychological variables and structural variables that influence how a person perceives the disease severity, threats and susceptibility. Factors such as age, gender, peer pressure or prior contact with the disease also impact on the decision-making process.

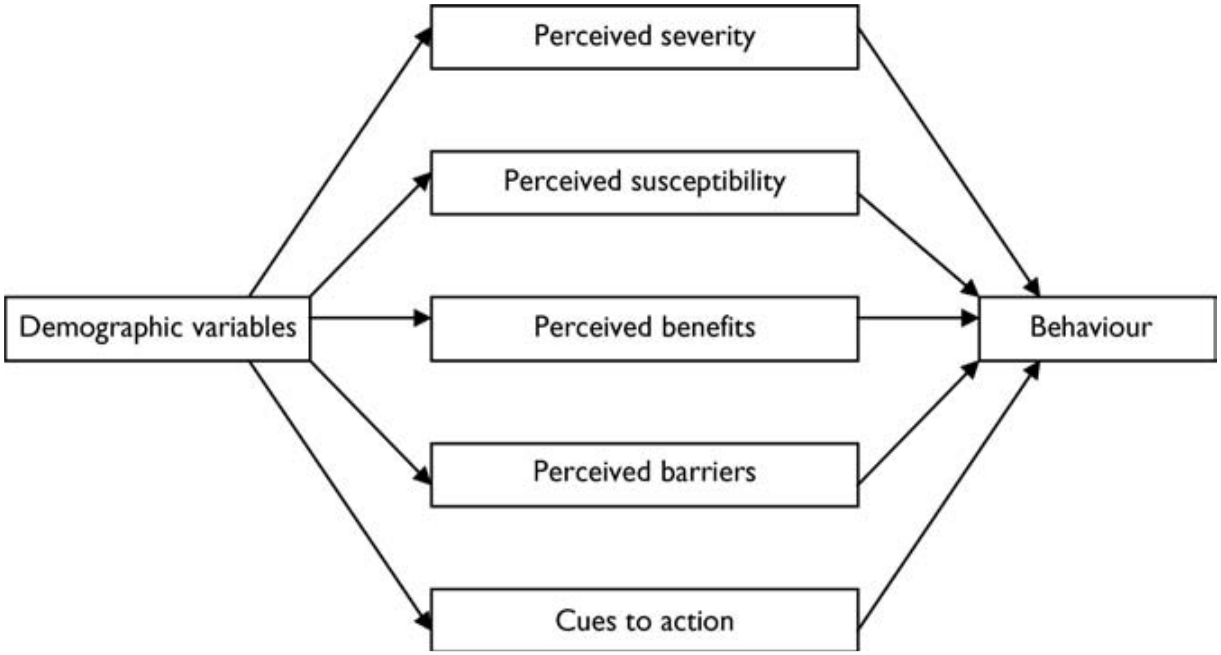


Figure 2: Health Belief Model (source:researchgate.net)

2.2.4 The Health Belief Model in Practice

The model can be applied to a variety of health situations, including prostate cancer. Interventions that use this model usually aim to influence the 'perceived threat of disease' variable and hence change the susceptibility/severity balance. The main way of doing this tends to be directing information that has an emotional appeal or that contains a strong fear or emotional response. As the Health Belief Model suggests barriers may be more important than benefits (Lajunen & Räsänen 2014), barriers may also provide a focus for targeting communication. For example, studies indicate that concern about pain in screening for preventive behaviours (Weinberg, Freese & McElhattan, 2014) can be a significant barrier to overcome

. If a practitioner can identify barriers to performing behaviours, an intervention can focus on these so as to promote a behaviour change.

This model can be applied in men's behaviour response towards prostate cancer screening, testing and treatment where culture and attitude are seen as the main

barriers that need to be tackled first in order for any behaviour change intervention to succeed. Men must first perceive the benefits of PCa screening so that they may agree to adopt the behaviour change to go for screening and also agree to openly discuss the disease. The benefits include early detection and treatment and subsequent return to normal life by the sufferers. Therefore, there is need to address the cultural practices and attitudes (that affect men's behaviour and attitude towards prostate cancer and related messages) first which would lead to testing, screening and treatment for easier management of PCa.

2.3 Conceptual Framework

Conceptual framework helps the researcher to create awareness and understanding of the area being researched on and communicate the same. It explains the various interactions between variables of the study (Kombo & Tromp, 2014). Kombo and Tromp explain that there are three main variables that combine into a group of factors to form the conceptual framework of a study; independent, dependent and the intervening/moderating variables. This study therefore had independent, dependent and moderating variables. Based on the objectives of the study, the independent variables are; Message Framing which includes nature and sources of messages, their credibility, language and language level used to frame the messages, Mass Media Campaigns that include traditional and new mass media, folk media (drama, dance, songs) , posters, billboards & road shows, Participatory Communication that include, dialogue, public information sharing, talks, debates, seminars, lectures & workshops on PCa and Interpersonal Communication which includes**,** information sharing in the family, between patient & care givers, friends & health professionals, at school parents' meetings, sports facilities & religious gatherings. All these variables combine to influence the Dependent Variable which is, Men's Response to PCa screening

which can be determined by increased timely voluntary PCa screening, treatment and management as well as reduced reports of PCa cases and deaths. The moderating variables are Culture Influences which are; gender, stereotypes, masculinity, stoicism, men's self-disclosure, gender stereotypes, taboos on PCa and men's attitude to PCa screening.

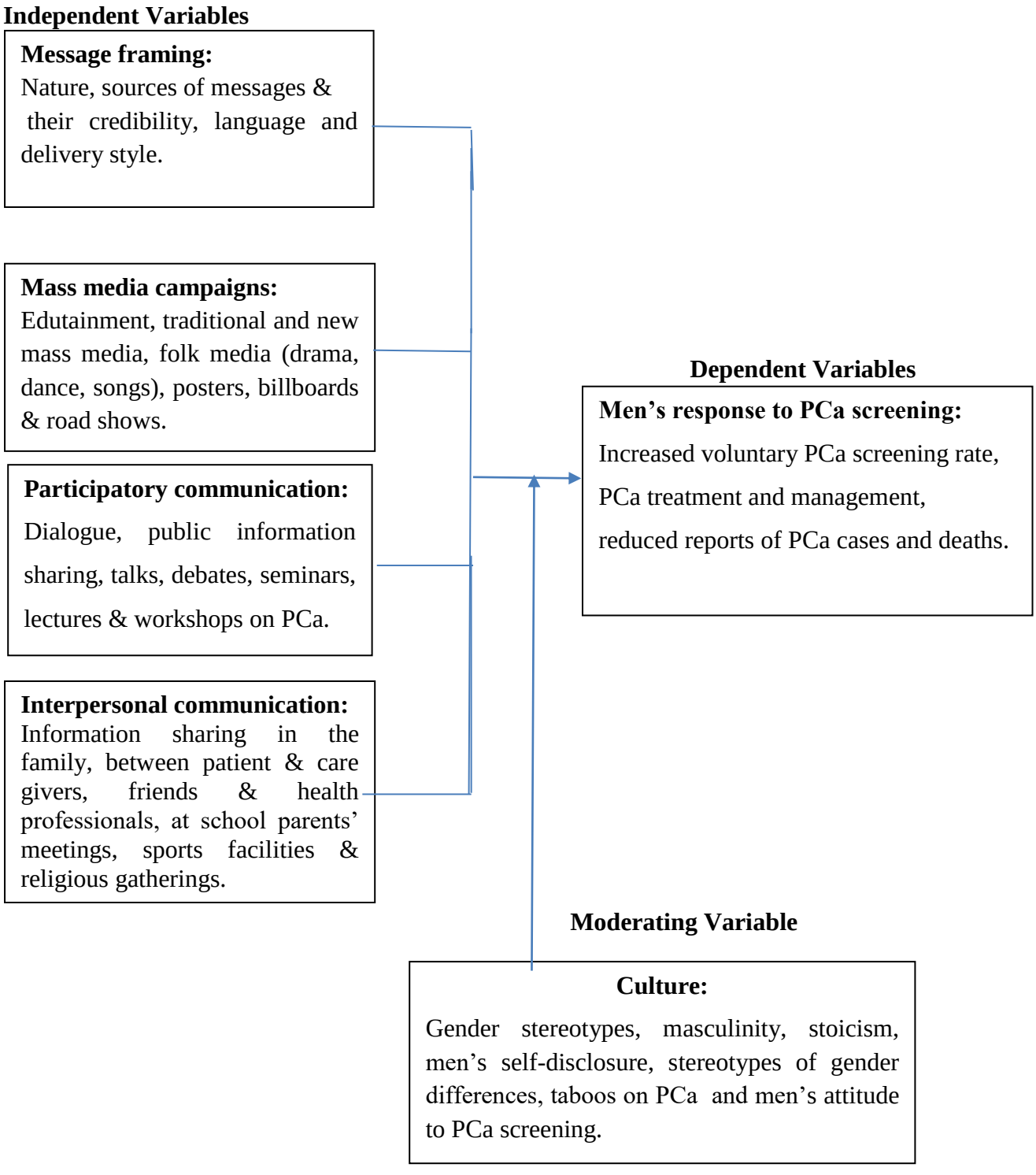


Figure 2.2: Conceptual Framework (Source: Author, 2021)

This conceptual framework assumes that a combination of the independent variables that have been mentioned above can increase men's awareness about PCa and change their attitude towards the disease. This can influence men's behaviour response to PCa whereby more men would go for PCa screening which is assumed to help in early detection and timely treatment and/or management of the disease. The framework therefore lays much emphasis on the use of various BCC strategies such as message framing, various forms of mass media, participatory and interpersonal communication for improved knowledge, increase in awareness, meaning-making, attitude change and improved decision-making that are socially created in every day interactions through effective communication. It is this knowledge that informs behaviour response to PCa screening among men aged 40 years and above as well as the society in general when providing home care to PCa patients. However, there are moderating variables such as cultural and gender influences that shape people's attitude about PCa that should be addressed.

The argument in this conceptual framework is that messages on PCa screening should be framed in the right manner for effective behaviour change. For example, the messages should carry adequate information about the disease and they should be positive and encouraging by giving hope that there is chance of survival if PCa screening is taken in good time. But if the messages are framed in a threatening manner and do not contain adequate information about the disease, they might scare and discourage men from up-taking PCa screening.

Mass media is important in facilitating communication of PCa messages but when used alone it is likely to be less effective. It has to be used alongside other communication strategies such as participatory and interpersonal communication.

Participatory communication gives community members an opportunity to participate in the issues affecting them such as PCa. It allows them to discuss and understand the problem and eventually come up with workable solutions to the problem. When a solution comes from those affected by a problem, it is likely to be more effective than having the solution given to them by experts and government officials without their involvement.

The use of interpersonal communication involves those with crucial information on PCa sharing it directly with community members. These could be community health workers, community-based care givers, health volunteers and health experts. When messages are communicated this way, they have been found to be more effective though this method cannot be applied on a larger scale as mass media would do. Therefore, a combination of the three communication approaches (mass media, participatory communication and interpersonal communication) is likely to be more efficient than when one strategy is used alone.

But as the above strategies are being used, we should be aware of the influence of moderating variable which is culture. This might affect the way messages are perceived by members of the community and more specifically men and acted upon regardless of the communication strategies used. This is because culture shapes a people's attitude such as PCa. It must therefore be considered when choosing and planning for the most appropriate communication strategies to influence the way men perceive and behave towards PCa screening, management and treatment.

2.4 Summary

In this chapter we have carried out an empirical literature review whereby literature relating to the concept of behaviour change communication in health communication

and its role in influencing people's attitude to health issues especially men's response towards PCa screening was done. Literature on various studies based on the objectives of the study was also reviewed. We have also discussed theoretical framework in which Theory of Reasoned Action, Cognitive Dissonance Theory and Health Belief Model were analysed and applied to the study. A conceptual framework was also carried out showing the relationship between the variables of the study and their influence.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the research methodology that was used in the study and the theoretical principles and practical issues that guide the decisions. The research paradigm, research methods and sampling procedures are also discussed. Data generation techniques, piloting of research instruments, data analysis, validity and reliability, of the study and ethical considerations are also discussed.

3.2 Research Philosophical Paradigm

A research paradigm world view constitutes a way of looking at the world and interpretation of what is to be studied. According to Creswell (2014) and Wimmer and Dominick (2011) a research paradigm or world view is a set of beliefs held by a researcher, beliefs based on a set of shared assumptions, concepts, values and practices. As Anderson (2012) argues, world views are a philosophy deeply rooted in our personal experiences, our culture, and our history. They may change during our lives and be shaped by new experiences and new thoughts.

This study adopted the pragmatist research paradigm which views knowledge and the world generally as being both realist and relativist. Consistent with this paradigm therefore, the study adopted both quantitative and qualitative approaches because according to Rubin, Rubin and Haridakis (2015), a philosophical paradigm indicates how research ought to be carried out, by whom, and the degree of involvement and interpretation. The use of mixed method approach enabled the collection of statistical data such as the levels of knowledge of health messages and awareness about the disease and screening rate. Qualitative approach on the other hand provided data on

impact of culture and attitude and men's behaviour response to prostate cancer screening. It was also used to fill in the gap that may have been left by quantitative data.

The paradigm a researcher chooses is guided by two main philosophical elements which are; ontology and epistemology (Little John, *et.al* 2017). Ontology is the nature of reality or assumptions we have about reality or knowledge (Creswell, 2014 & Jwan and Ong'ondo, 2011). This study therefore took the pragmatic view of the world which provides singular and multiple realities and researchers provide multiple perspectives (Creswell and Clark 2012). In the study, the use of participatory communication allowed the subjects in their Focus Group Discussions (FGDs) to discuss the health issues affecting them with the main focus being on PCa and come up with possible solutions to the problem. Interviews were also used to examine the society's understanding of and approach to the disease. These multiple perspectives helped the researcher get an in-depth understanding of the problem under study.

On the other hand epistemology refers to the way reality or knowledge is studied (Jwan & Ong'ondo, 2011). Research literature reveals three major research paradigms, namely: realism-positivism, relativism-constructivism/interpretivism and pragmatism (LittleJohn *et al.,* 2017, Creswell, 2014). Out of the world views, there are many expositions of research paradigms and where three major research approaches have emerged which are quantitative research, qualitative research and mixed research (Christensen, Johnson, Branscum & Hanson 2010). Jwan and Ong'ondo (2011) also observe that the world view of the researcher will determine the approach a researcher adopts, whether qualitative, quantitative or mixed method approach and the method to be used.

The realists paradigm (simply referred to as positivists and post-positivists in some texts) see the world as one reality with one body of knowledge (Cresswell, 2014). Here, the researcher uses quantitative approach where he or she collects and analyses numerical data to describe, explain, predict or control contextual factors that may interfere with data collection and identify a sample that will provide meaningful data on the phenomena of interest (Gay *et al*, 2012). In this study, the phenomena of interest is men's attitude and response to PCa screening. Therefore, the sample of those to participate in the study were purposively selected to ensure that only those with relevant information were interviewed or participated in the FGDs.

Examples of research methods that use quantitative research approach are survey, experimental and correlation. On the other hand, relativists normally apply the qualitative approach (Creswell, 2014). Relativists posit that the world has multiple realities and knowledge is socially constructed where the researcher interacts with the participants. Qualitative researchers seek to probe deeply and interact with the participants to have deeper knowledge of the way things are, why they are that way and how they perceive them (Yin, 2014).

In this study therefore, FGDs and face to face interviews were used in order to have a deeper probe of the issues under study and to enable the researcher interact with the participants. These enabled participants discuss the issues as they understood them, giving the researcher a view of their understanding of issues revolving around PCa and the role of its screening.

Pragmatism that informed this study, combines positivism and constructivism, and applies what works best. The pragmatic approach involves using the method which appears best suited to the research problem. It considers multiple realities and

knowledge as being socially constructed. This view is explained by Creswell (2014), as freedom of choice and beliefs in what works at a given time. The researcher can use an already existing theory or he/she can generate one. Open-ended and closed-ended questions can also be used to combine experiments or surveys with interviews. This is in line with Creswell (2014) argument that pragmatists base their enquiry on the rationale for mixing both qualitative and quantitative approaches either at the data collection or analysis stage.

This study therefore took the pragmatists paradigm which is consistent with the mixed method research approach adopted for the study. To achieve this, questionnaires that were used in the survey to collect both qualitative and quantitative data included both open-ended and closed-ended questions while the question guide for FGDs mainly contained open-ended questions.

3.3 Research Design

Research designs are types of inquiry within qualitative, quantitative, and mixed methods approaches that provide specific direction for procedures in a research design (Creswell, 2014). This study used the Exploratory Sequential Mixed Method design approach which involves a combination or integration of qualitative and quantitative approaches in a research study. The justification for using mixed methods is that all methods have bias and weaknesses, and the collection of both quantitative and qualitative data neutralizes the weaknesses of each form of data. Mixed method design involves triangulating data sources; a means for seeking convergence across qualitative and quantitative methods (Neuman, 2014; Yin, 2014).

The Exploratory Sequential Mixed Methods design, according to Creswell (2014), involves two-phase projects in which the researcher collects quantitative data in the

first phase, and analyses the results to plan (or build on to) the second qualitative phase. The quantitative results inform the type of participants to be purposefully selected for the qualitative phase and the type of questions that will be asked in the survey. In this study, quantitative data was used to identify men's knowledge level of PCa messages and their response to those messages, their attitude towards health in general and PCa screening in particular. Quantitative data was further collected to explain men's PCa screening rate. It also helped explain the health communication strategies used by both the County and National governments in communicating PCa messages, for example, the type of mass media outlets that are commonly used to convey health messages and other strategies and their impact on men's response to the disease were interrogated.

Creswell (2014) further explains that the overall intent of the design is to have the qualitative data help explain in more detail the initial quantitative results. A typical procedure might involve collecting survey data in the first phase, analysing the data, and then following up with qualitative interviews to help explain the survey results. In this study, the qualitative interviews were used to explain men's attitude and behaviour response towards PCa screening, the role of culture and other factors in shaping men's health-seeking behaviour.

In the current study, qualitative data was collected using interviews and Focus Group Discussions while quantitative data was collected using questionnaires with closed and open-ended questions. The reason for including FGDs was that participants were free to discuss issues, giving their own perspectives, attitude and understanding of the issue at hand which in this case is PCa and its screening. The method is therefore referred to as Exploratory Sequential because it enables the researcher to explore an

issue in order to achieve a deeper understanding of the issue in sequence (Neuman, 2014).

The rationale for using mixed methods approach as Creswell (2014) postulates, is that qualitative data tends to be open-ended without pre-determined responses while quantitative data usually includes closed-ended responses such as found on questionnaires or psychological instruments. The two approaches therefore complemented each other effectively.

The above approach also enabled the researcher to generate both quantitative and qualitative data in analysing people's perceptions on PCa in general and its screening in particular and how BCC has been used to impact those perceptions. This helped in understanding the context, hear participants' voices about the problem and get a suitable sample for the study as well.

In addition, the use of questionnaires, in-depth interviews and FGDs enabled the researcher to get comprehensive data on cultural issues that shape people's perceptions towards men's health and behaviour response towards PCa which are assumed to affect men's PCa testing and screening rate. A review of literature as discussed in Chapter Two, also showed that very few studies have been conducted using mixed method approach in behaviour change and PCa testing and screening. Many of the studies that were reviewed are mainly qualitative.

3.4 Study Area

The study was conducted in Central Region of Kenya which was formerly known as Central Province in the old constitutional dispensation before the constitutional review of the year 2010. The region covers five counties which are, Kiambu, Murang'a, Nyandarua, Nyeri and Kirinyaga. The justification for selecting this study

area was that empirical studies indicate PCa screening rate in the region is among the lowest in the country although the region has the highest prevalence rate of PCa as well as the highest awareness levels of the disease in the country. This assertion is based on the Kenya Demographic and Health Survey (KDHS) report of 2017 that states, "Although Central Kenya boasts the highest prevalence level of PCa in the country only 3% had been tested by the end of the year 2017."

Key informants were health and communication managers drawn from all the five counties who gave data on policy issues regarding PCa in the region. Health officials were expected to give data on the PCa prevalence level, screening rate and treatment trend in their counties and the underlying reasons for the trend. On the other hand, communication managers in the counties were interviewed about the BCC strategies used to communicate health messages, the nature of message framing, media campaigns and other communication strategies used to encourage men to go for early PCa screening in their respective counties. They were also expected to provide data on health communication strategies used by the national government especially in influencing men's response to PCa screening.

3.5 Study Population

Creswell (2014) defines study population as a possible group from which consistent information can be obtained. It is the group that a researcher has in mind from whom he/she can obtain information. The target population of this study was 700,010 men aged 40 years and above in Central Kenya. These statistics were obtained from the Kenya Demographic Census results of 2019. The reason for selecting men in the said age bracket is that according to studies, prostate cancer mostly affects men aged 40 years and above though there have been a few cases of younger men below that age reported to have contracted the disease.

The above choice was based on the report by the National Guidelines for Prevention and Management of Cervical, Breast and Prostate Cancers (2014) which was compiled by the Ministry of Health in Kenya and which concluded that prostate cancer affects mainly men aged 40 years and above and that the cancer risk grows rapidly after the age of 50, and by age 65, the risk has risen to two out of every three men. Therefore, men in the said age bracket are the ones referred as "at risk" in this study.

4.6 Sample Size and Sampling Design

A sample of 384 men was selected from the said total population using stratified random sampling. Out of this sample, 50 men were selected to participate in Focus Group Discussions (FGDs). When the sample size is larger than 5% of the total population it's best to apply a finite population correction formula**.** The following Finite Population Correction for Proportions (n_0) formula was used as recommended by Kothari (2012) to determine the sample size:

$$n_0 = \frac{Z^2 pq}{e^2}$$

At 95% confidence level,

$$n_0 = \frac{1.96^2 \; X \; 0.5 \; X \; 0.5}{0.05 \; X \; 0.05} = 384.164$$

To calculate the sample size (n), the following formula was be applied:

$$n = \frac{n_0}{1 + {}^{(n_0 + 1)}/_{N}}$$

$$n = \frac{384.16}{1 + {}^{(384.16+1)}/_{700{,}010}}$$

$$n = \frac{384.16}{1 + \ 0.0001425}$$

$$n = \frac{384.16}{1.0001425}$$

$$n = 384.11$$

n $\cong$ 384 respondents

n_0_ stands for finite population

n_ stands for sample size

e_ stands for marginal error of + or – 0.5

Z_ stands for standard validated at a given confidential level is probability of success and Q

Stratified random sampling was used to select the sample from the five counties in Central Kenya. In addition, 50 men were picked from the same sample to participate in the five Focus Group Discussions (FGDs using the snowball method.

Snowball sampling method was also used to select those to participate in the FGDs. As Crotty, 2009 explains, snowballing is a chain referral process where the subjects of the study are unknown to the researcher or are difficult to identify due to the sensitivity of the matter under study. A few known cases are interviewed, and

thereafter they are asked to refer the researcher to other cases who are also interviewed. Then these are asked to refer others and the process is repeated until the desired results are attained. Snowball sampling method is used to select a sample when it becomes difficult to access the respondents especially if the study involves a sensitive topic such Prostate Cancer and it requires some level of confidentiality.

Purposive sampling was used to pick community leaders such as local administrators, village elders, social workers and community members in general. These were requested to discreetly help identify participants who were known to have relevant information on PCa so that they could also be included in the sample. Those selected to participate in the study were not necessarily PCa victims, anybody in the required age category, or had an experience relating to PCa such as care-giving to a victim, was included to participate in the FGDs. Purposive sampling is used to interview only those respondents who are known to have the required information due to their experience about the issue at under investigation.

On the other hand, Key Informants were selected for interviews as follows: 5 communication managers from the five counties and 5 chief health officers from the five counties in the region; making two informants from each county. The health workers were expected to give quantitative data on the rate of PCa infection and screening and qualitative data on men's attitude and response towards PCa screening and treatment. They were also expected to explain the men's health seeking behaviour and the reasons for that behaviour and the interventions that were put in place to mitigate the problems. Communication managers on the other hand provided data on health communication policies by their county governments, and the use of BCC strategies such as media campaigns, interpersonal and participatory communication interventions and other strategies that were used by their governments.

County	Population	Percent	Sample
Kiambu	262,875	37.6	144
Murang'a	155,632	22.2	85
Nyeri	116,413	16.6	64
Kirinyaga	91,789	13.1	51
Nyandarua	73,301	10.5	40
TOTAL	**700,010**	**100**	**384**

Figure 4. Sample distribution using stratified random sampling (Source: Author)

3.7 Data Collection Tool

Questionnaires

Questionnaires were used in the survey to collect data on men's knowledge of PCa messages, channels used to convey the messages about PCa, their attitude towards the disease and their uptake of PCa screening and treatment. The questionnaires were administered on sampled men in all the five counties of Central Kenya region with the help of research assistants.

The main method of administration of the questionnaires involved research assistants visiting research sites to distribute them to respondents. Some questionnaires were filled on the spot while some respondents requested to be given more time to fill out the questionnaires which were collected later. On the other hand, some questionnaires were sent via email to respondents who wished to use the on-line method of response due to the distance involved. Completed questionnaires were emailed back to the researcher who downloaded and printed them for analysis.

Respondents who were literate enough were allowed to self-adminster the questionnaires while those who had challenges in understanding certain items in the questionnaire they were helped out by the research assistants.

3.8 Data Collection Methods

The respondents in this study were men aged 40 years and above, other members of the community, county public health officials and communication managers in the region.The study used triangulation method of data collection which allowed for the use of multiple methods of data collection, (Creswell, 2014). This included in-depth interviews, questionnaires and FGDs as explained next in detail.

3.8.1 Interviews

As Daymon and Holloway (2014) explain, interviews have the ability to provide deep and rich details in Communication and Public Relations research.

As indicated earlier, face-to-face interviews with health and communication workers in the counties were conducted to provide quantitative and qualitative data on the men's health seeking behaviour, their attitude towards their own health and the BCC strategies used by both County and National governments to convey PCa messages to promote PCa screening. Questionnaires were used to gather quantitative data on the PCa prevalence and screening rate in the region. Adult men were also interviewed to gather information on PCa awareness and strategies used to communicate health messages by the government.

Interviews were used to help explain trends identified from quantitative data that was collected using questionnaires.

3.8.2 Focus Group Discussions (FGDs)

Daymon and Holloway (2014) justify the use of FGDs by asserting that the essence of FGDs is to provide evidence from many voices. In addition, Kombo and Tromp (2014), and Neuman (2014) argue that the use of FGDs involves allowing participants to freely express their views and beliefs on issues without tension. In FGDs participants are provided with free environment to express themselves which allows deeper understanding of the issue at hand.

Another justification for FGDs according to Creswell (2014) is that people who are known to have certain experiences could be interviewed in a relatively unstructured way about that experience. In this study for instance, those with some experience about PCa (they were either PCa survivors or they knew a victim or a survivor, or had lived with a PCa sufferer) were included in the FGDs so that they could give their insights into the issue. Another reason for using FGDs is that they allow people to probe each others' reasons for holding a certain view. In the process the researcher stands a chance to get a more realistic account of what people think about the problem under study and the reasons for holding those views about the issue at hand.

As Bryman (2012) further stipulates, FGDs offer the researcher an opportunity to study the ways in which individuals collectively make sense of a phenomena and construct meaning around it. This approach was therefore found useful in understanding the community's perception about men's health which influence their attitude and behaviour response to their health. The researcher was also able to bring out the cultural factors that influenced the said attitudes and perceptions on men's health in general and PCa screening in particular.

In explaining how an FGD works, Wimmer and Dominick (2011) define it as "a research strategy for understanding people's attitudes and behaviour. In a group of 6 to 12, participants are interviewed simultaneously, with a moderator leading the respondents in a relatively unstructured discussion about the topic under investigation." The people selected to participate form an adequate representation which caters for the socio-cultural factors that were highlighted in the Cognitive Dissonance Theory and the Theory of Reasoned Action and the Health Belief Model (LittleJohn *et al.,* 2017) that have been used for this study as discussed in Chapter Two. Summarized, the two theories and model argue that people get involved in an issue based on the importance that they attach to the issue and their understanding of that issue, then they take an action towards the issue. Others may decide to steer away from an issue that they consider to be life threatening because they do not want to face it and therefore they go through dissonance. In order to achieve good results, those participating in the FGDs were made to understand that by sharing their experiences and attitudes about PCa they would be contributing to an understanding about barriers to men's response to PCa testing and treatment which may help health planners come up with effective communication strategies to change men's response to PCa screening.

Participants for the FGDs were picked purposively through the snowballing technique. To be included in the groups were men and family members who may have relevant information on PCa. Discussions mainly focused on participants' attitude towards men's health in general, the nature of PCa, its screening and treatment and the role of community members in the management and provision of home care for those afflicted by the disease.

An interview guide was used to guide discussions in the FGDs and also ensure maximum participation by all members. The FGDs were held in free, quiet places such as restaurants, churches and school compounds or any other venue that the discussants and the interviewer found convenient through consultation.

As Stacks and Michael (2019) puts it, the use of interview guides provides a researcher with the control necessary to direct and interview the informants. The presence of the interviewer makes it easier for the respondents to either clarify responses or ask for clarification (Wimmer & Dominick, 2011). The researcher was also able to translate or interpret questions to respondents who were either semi-literate or totally illiterate but they had the necessary information regarding the issue of discussion which was PCa.

In order to cover the entire region adequately, the researcher enlisted the services of research assistants who were residents in specific counties that were selected for the study. It was easier to get the research assistants from former students who are graduates of Communication and Public Relations from Karatina University, many of whom were known to the researcher. Before they embarked on the data collection exercise the research assistants were trained on how to conduct face-to-face interviews and guide FGDs and administer questionnaires. Data collection was estimated to take about four months from the month of February to June, 2020 but due to the Covid 19 pandemic, it went on up to August, 2020 because movement was restricted. Health protocols and restrictions on data collection had also to be observed.

3.9 Measurement of Variables

Inferential statistics were based on coefficient of determination (R^2), analysis of variance (ANOVA) and regression coefficients for the model on the relationship

between independent and dependent variables and the intervening variables and dependent variables. The independent variables are: mass media campaigns, message framing, participatory and interpersonal communication while the dependent variable is men's behaviour response to PCa screening which would be marked by an increase in voluntary PCa screening. Culture on the other hand was the moderating variable. The measurement of the variables is summarized in the table below:

Table 3.1: Operationalization of Variables

Objective	*Variable*	*Type*	*Operationalization*	*Operational definition of variable*	*Measurement*
1	Mass media campaigns	Independent variable	Influence on men's behaviour response to PCa screening	Edutainment, traditional and new mass media, folk media, posters, billboards & road shows.	Direct measure
2	Message framing	Independent variable	Influence on men's behaviour response to PCa screening	Nature&sources of messages,their credibility, language and delivery style.	Direct measure
3	Participatory communication	Independent variable	Influence on men's behaviour response to PCa screening	Dialogue, public information sharing, talks, debates, seminars, lectures & workshops	Direct measure
4	Interpersonal communication		Influence on men's behaviour response to PCa screening	Information sharing in the family, between patient & care givers, friends & health professionals, at school, sports facilities & religious gatherings.	Direct measure
	Culture	Moderating variable	Influence on men's behaviour response to PCa screening	Masculinity,stoicism, men's self-disclosure, gender stereotypes, taboos on PCa and men's attitude to PCa screening.	Direct measure

3.10 Data Analysis and Presentation

Since this study used a mixed method approach, mixed data analysis was used; both quantitative and qualitative analytical techniques were used in a single research study. The justification for this approach was based on Creswell (2014) explanation that mixed data analysis occurs both within the quantitative (inferential or numeric analysis) and the qualitative (content and thematic analysis) approach. The analysis was an iterative process where themes were created from both the quantitative and qualitative data.

3.10.1 Quantitative Data

Descriptive and inferential statistics were used to analyse quantitative data from the survey to show the relationship between variables and their significance. This involved calculating and interpreting descriptive statistics which included numerical counts or frequencies, percentages, measures of central tendency (mean, mode, and median), percentages, standard deviation and measures of relationship. Numerical counts or frequencies described the number of men who have been tested for PCa and those not tested and the reasons for either testing or not testing.

The median, mode and mean were used to summarize findings from the Likert rating scale and the standard deviation or variance was used to measure the degree to which individual values deviate from the mean, for example when measuring the effectiveness of the media used to convey PCa screening messages in the region. In addition to the measures of central tendency and variations, a contingency table or cross-tabulation was used. A contingency table displays relationship between a dependent variable and one or several independent variables (Rubin et al., 2015). In order to test the relationship between the variables of the study, inferential statistics

were applied based on coefficient determinant (R^2), analysis of variance (ANOVA) and regression coefficient for the model on the relationships.

Descriptive and Inferential statistics that included Pearson Product Moment Correlation and t-tests were used to analyse quantitative data to show the relationship between variables and their significance. These variables were; the relationship between message framing and change in men's attitude and behaviour response to PCa screening, mass media campaigns and men's response to PCa, participatory and interpersonal communication influence on men's behaviour response to PCa and moderating influence of culture and gender on men's attitude and response to PCa messages.

Tables, bar graphs and pie charts were used to present findings relating to the objectives of the study. Such information was about marital status and education background of the respondents, and the rate and frequency of PCa screening in the region, the extent to which mass media, participatory and interpersonal communication have been used to create awareness with a view to changing men's attitude and behaviour response to PCa screening.

3.10.2 Qualitative Data

When conducting FGDs for qualitative data, the researcher sets the agenda and guides the discussion toward certain research goals. Good practice calls for a recording and transcription of the recording along with observational notes by either the FGD facilitator, a dedicated observer, or both (Anderson, 2012). In this study, data analysis commenced immediately the researcher went to the field to collect data. Notes were made and ideas marked about potential themes during interviews. Discussions were also recorded especially during the FGDs by a research assistant as the researcher

guided the discussions. After the interviews and discussions, data was transcribed by the researcher with the help of an assistant. Efforts were made to ensure that all the interviews were transcribed verbatim.

Coding, which involved organizing data into meaningful groups, was done after ensuring that all transcription accurately represented the interviews in their original nature. Aspects of the data that were recurring were highlighted and then copied to word document.

After the initial coding, codes were grouped into potential themes, which were refined by ensuring that there was a coherent pattern in each of the themes and that they represented what was in the data. This was necessary because as Anderson (2012) argues, “There are two texts involved: the action text, which is the actual performance of the process, and the oral text, which is the report of the action and its sequencing, motivation, and justification”.

As Creswell (2018) recommends, this study used thematic analysis to analyse qualitative data. Creswell explains that thematic analysis is a method of identifying, analysing and reporting patterns or themes within qualitative data. Thematic data analysis involved transcribing, familiarization with the data, first and second coding and production of a report. In this study, data from FGDs was audio recorded and then transcribed. Then a detailed systematic qualitative analysis was carried out where themes were extracted and listed. The themes were then clustered in a meaningful way by looking for connections between them and developing super-ordinate themes.

The choice of thematic analysis for the study was informed by its flexibility in categorizing data and analysing it. This is because, as Braun and Clarke (2011) argue, thematic analysis can provide a rich, detailed yet complex account of data. It allowed

the researcher to determine themes for analysis which was based on the research objectives and questions. A theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data.

Other information presented include lessons that people learnt from the messages that were conveyed to them through public communication outlets such as chief's *barazas,* school parents' meetings and social networks among others. Message framing and its impact on people's knowledge about PCa has also been presented.

3.11 Validity and Reliability of the tools

This is a mixed method study and therefore its validity and reliability was looked at from both the quantitative and qualitative research approaches.

3.11.1 Validity

Validity in both quantitative and qualitative research is the degree to which data accurately tests or gauges what we intend to measure (Creswell, 2014). The credibility of this research was verified, first by peers who are experts in the field of communication and research who included the thesis supervisors. Their input was incorporated, enhanced and content validated.

The content validity in this study was concerned with whether the items subjected to the respondent's attention were relevant to all the research questions. Jwan and Ong'ondo (2011) point out that credibility as used in qualitative research, is important as it involves experienced researchers (for example, thesis supervisors) in reviewing the key concepts explained in a study. This helps to establish how they were operationalized appropriately in the study.

Consultations with the experts was done throughout the entire research process. Bless, Cooper, Watanabe and Peden (2012), also contend that in order to properly measure complex issues in social science research, one must ensure that information is provided on all the different components. This was achieved by referring to literature and theories applicable in the field of health communication. Literature on the use of behaviour change communication and related theories was considered in the design of the questionnaire in the study.

Further, credibility was ensured by using multiple methods of data collection (triangulation). As explained earlier in data generation, three methods were used for the study, namely: questionnaire, interview guides and FGDs. This also ensured a deeper understanding of the phenomenon under study, that is the use of BCC in changing men's response to PCa screening. To emphasize the importance of triangulation, Stake (2015) explains that it has been considered a process of using multiple perceptions from multiple sources to clarify meaning, verify the repeatability of an observation and interpretation. This therefore allowed the researcher to use different approaches in data collection to enrich the data collected and enhance its validity.

Another aspect that was considered in the external validity of this study was whether the results could be generalized to other similar cases or contexts. In the quantitative part of the study the use of probability sample for survey was meant to ensure that any member of the target population had an equal chance of participating in the study. However, Jwan and Ong'ondo (2011) argue that external validity also known as transferability in qualitative research may not be possible. They add that research findings are always relative. They depend largely on the participants, time and the

process(es) used in the study. Hence for example, even with the same set of participants and similar research processes, a study carried out at different time may yield different results. Similarly, even a study conducted at the same time, using the same process(es) but with a different set of participants could yield different results. This implies that there can never be absolute certainty about generalizability even where statistical formulae are invoked; hence the emphasis on analytic transferability in this study.

3.11.2 Reliability

In quantitative research, reliability serves the same purpose as dependability which is an aspect of trustworthiness of a study in qualitative research (Jwan & Ong'ondo, 2011). Reliability refers to how dependable, stable, consistent and repeatable measures are in a study and across several studies.

In this study, the Cronbach's alpha approach was used to test internal consistency reliability of the questionnaire. Evans, Gruba and Zobel (2014), explain that a reliability coefficient of 0.7 or more implies that there is high reliability of data. The study therefore used 0.70 as a benchmark to determine the reliability of the instruments used.

Therefore, the alpha coefficient for this study means that the instruments used were reliable to achieve the set objectives. Valid and reliable instruments increase the internal validity (Rubin *et al.*, 2015). To ensure dependability of this study the entire research process was carefully conceptualized by use of multiple data gathering techniques such as the FGDs, questionnaires and in-depth interview schedules. In addition, voices of the participants were recorded and field notes taken.

Lastly, the use of a pragmatic approach alongside quantitative and qualitative approaches helped to obtain findings which were objective. Objectivity (in quantitative research), also known as conformability in qualitative research is also another important aspect of ensuring trustworthiness of a research study (Jwan & Ong'ondo, 2011).

3.12 Ethical Considerations

According to Rubin et al., (2015) researchers need to be responsible to their discipline and to the participants in their research projects. They must conform to professional standards of conduct. Research ethics therefore concerns what is right and wrong in the conduct of research.

Evans et al., (2014) posits that all researchers generating data from participants should carefully and systematically consider the ethical dimensions to their study. He points out that it is important to pay attention to ethics in research to ensure democracy, respect for truth and persons and strike a balance between the demands placed on researchers as professionals and the rights and values of their participants.

Wimmer and Dominick (2011) argue that among the most important ethical principles the researcher has to adhere to include informed consent, voluntary participation, confidentiality and privacy, protection from harm and maintenance of the well-being of participants. How these were achieved is explained next.

3.12.1 Informed consent

The researcher first sought permission from relevant authorities in the country to collect data for the study. First, he sought approval from the Dean, School of Business at Karatina University. After the approval was granted, the researcher

applied for a permit from the National Commission of Science, Technology and Innovation (NACOSTI), the body in charge of licensing research in Kenya.

Informed consent was also sought from Key Informants and participants in FGDs after informing them about the purpose of the research and the procedures involved as well as the benefits and risks of participation. They were also informed about their rights to answer or not to answer questions that they found to be sensitive; to ensure that they participated in the study out of their freewill.

3.12.2 Confidentiality

In order to ensure confidentiality, the investigator agrees not to report private data that identify participants. In this study therefore, the researcher assured participants that any private data they gave in confidence would not be reported. This helped to reduce participants' fears and suspicions and encouraged them to freely take part in the research.

3.13 Summary

In this chapter we have highlighted the philosophical paradigm that guided the study, the mixed method approach and the phenomenology approach that was used to collect data, sampling method and data generation and analysis. Ways in which trustworthiness and ethical considerations were ensured have also been discussed.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents data findings, analysis, interpretation and discussion. The main objective of the study was to investigate the influence of behaviour change communication strategies on men's response to prostate cancer screening in Central Kenya.

The chapter is organized in sections based on the variables that are derived from the research objectives. The variables of the study, which form sub-themes are: mass media campaigns, message framing, participatory and interpersonal communication. The response rate and demographic information of the respondents are also given.

4.2 Response Rate

The target respondents for this study were men aged 40 years and above who were selected from the total population of 700, 100 men aged 40 years and above using stratified random sampling. A sample of 384 respondents was selected from across all the five counties of Central Kenya.

Table 4.1: Response Rate

	Sample Size	Responses	Response Rate (%)
Kiambu	144	118	81.9
Murang'a	85	68	80.0
Nyeri	64	51	79.7
Kirinyaga	51	45	88.2
Nyandarua	40	31	77.5
Total	384	313	81.5

As shown in Table 4.1, 313 respondents were able to adequately fill and return their questionnaires, representing a response rate of 81.5%. This is an adequate response rate because according to Edward, Rusconi, Signori and Strudler (2012) a response rate of 80 % and above is excellent. The response rate was distributed as follows: 81.9 %, 80.0 %, 79.7 %, 88.2 %, and 77.5 % for Kiambu, Murang'a, Nyeri, Kirinyaga, and Nyandarua, respectively.

4.3 Demographic Information

Demographic information which was based on the age bracket of the respondents, their marital status, education level and occupations was presented as follows:

4.3.1 Age distribution

The age of the respondents was restricted to only men aged forty (40) years and above as this was the target group of the study. Age is important because people at different stages of life communicate differently and therefore different communication strategies need to be used on different age groups. Age distribution was as presented in table 4.2 below.

Table 4.2: Respondents' Age Distribution

Age bracket	Frequency	Percent
40-50 years	140	44.7
51-60 years	99	31.6
61-70 years	50	16.0
71 years and above	24	7.7
Total	313	100.0

As presented in Table 4.2, 44.7 % of all the respondents were aged between 40 and 50 years with 31 % being aged 51-60 years. Others were aged 61-70 years (16%) and 71

years and above (7.7%). The distribution of men by their age brackets is of high importance in this study given that men at different age brackets would require different communication strategies for effective prostate cancer screening. For example, Smith *et al.*, (2020) stipulates that older adults may reduce their cancer screening intention when a confrontational communication strategy is used to show that they may not live long enough to benefit from the screening. Therefore, the effectiveness of a particular communication strategy may have different effect across various age brackets.

4.3.2 Marital Status of the Respondents

Marital status was thought to be necessary in regard to men's vulnerability to PCa screening, treatment and management. It has been argued severally that married men are likely to get better home care from their wives, children and other relatives if they fall sick than those who are not married.

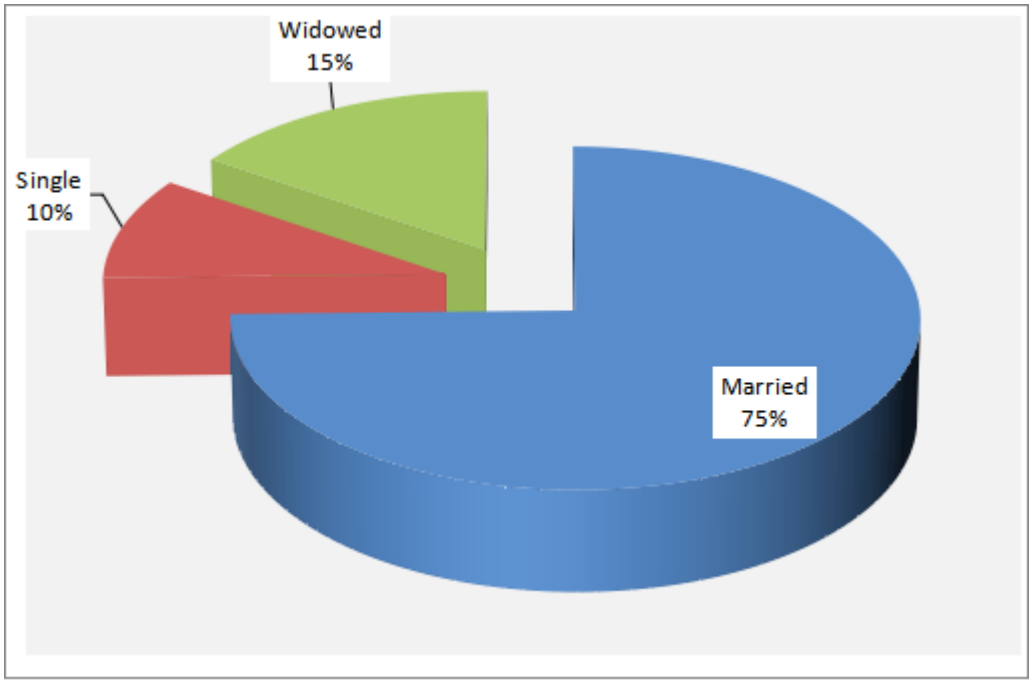


Figure 4.1: Marital Status of the Respondents

Figure 4.1 shows that majority (75%) of the respondents were married while 15 % were widowed. The remaining 15 % of the respondents were single. This is in line with general expectations that majority of men who fall within the age bracket of at least 40 years and above are likely to be married. As postulated by Tyson *et al.* (2021), marital status is an important parameter in prostate cancer screening since it translates to the rate of prostate cancer-specific mortality in men. The study found that unmarried men have a higher risk of prostate cancer-specific mortality compared to married men of similar age, race, stage, and tumour grade.

In the current study, it was revealed (in the FGDs) that married men were likely to get good care at home when they contracted PCa unlike their unmarried counterparts who did not have reliable care givers. This helped to prolong the lives of married men suffering from PCa as they were able to manage the disease. On the other hand, unmarried men who contracted the disease were likely to die earlier and also miserably as they did not receive as good home care as their married counterparts.

A study by Ishino *et al.,* (2021)_found out that PCa patients who were divorced or separated had higher odds of experiencing treatment delay, which may be due to low social support. The impact of social support on treatment delay and overall quality of life among men with PCa and other malignancies has been well documented.

4.3.3 Education Level of the Respondents

The study also sought to find out the relationship between education level and men's attitude and behaviour response to PCa screening.

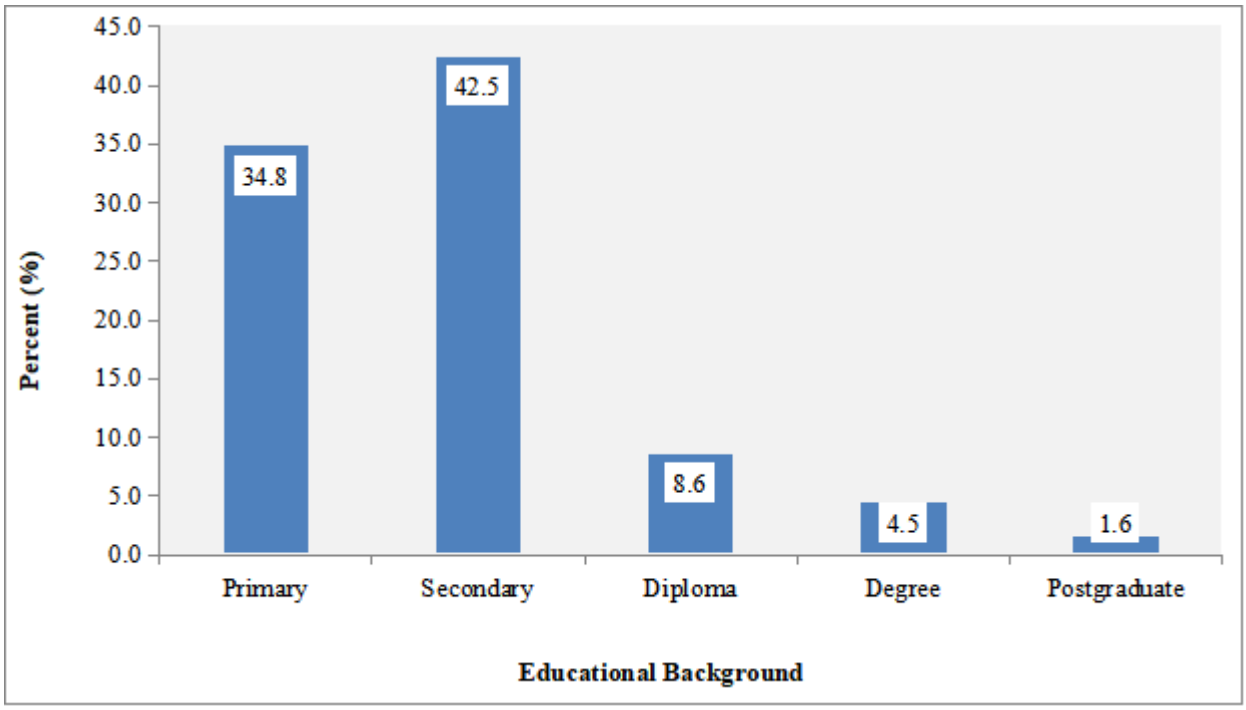


Figure 4.2: Education Background of the Respondent

The respondents were asked about their education background and as figure 4.2 shows, 42.5 % had attained secondary school education with 34.8 % having attained the primary education only. Other respondents were holders of diploma (8.6%), degree (4.5%), as well as postgraduate (1.6). This shows that majority of men in the Central Region of Kenya have attained at least secondary school level of education. Friedman Koskan and Rose (2011) contends that patients with low educational literacy are more likely to be diagnosed with advanced-stage prostate cancer because they are least likely to take voluntary PCa screening. While education background and prior exposure to prostate cancer (family member, friend or self-having the disease) or having had a previous examination may not have a major impact on men's response to prostate cancer screening, Ajape *et al.*, (2012) opine that, advanced education background is believed to be associated with an increased awareness on prevalence of the prostate cancer and eventual willingness to go for screening.

4.3.4 Occupation

This section sought to find out the occupation of respondents in order to establish whether there are any risk factors associated with PCa prevalence and management based on occupation.

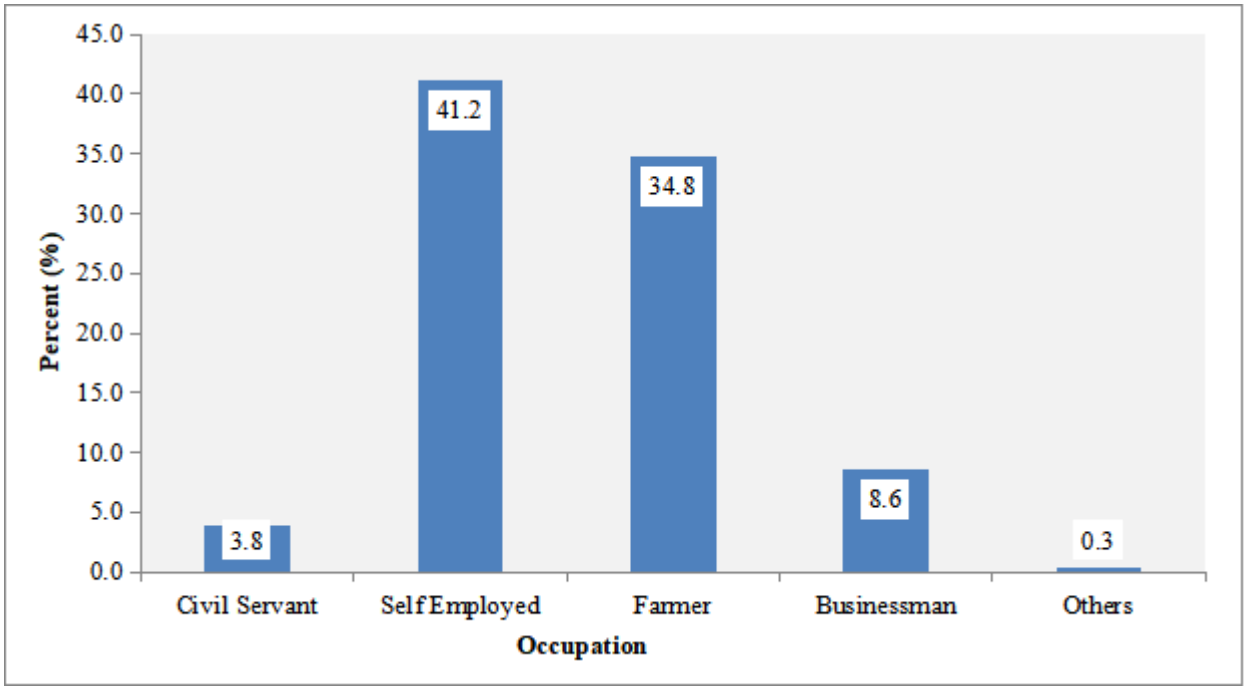


Figure 4.3: Occupation

Figure 4.3 indicates that majority of respondents are self-employed (41.2%) while others are farmers (34.8%), businessmen (8.6%) and civil servants (3.8%) with less than one percent (0.3%) of the respondents having other occupations. Sritharan *et al.*, (2017) argue that there are currently no established occupational risk factors for prostate cancer. However, the International Agency for Research on Cancer (IARC) has concluded that there is limited evidence for arsenic and cadmium compounds, the insecticide malathion, radiation, and the rubber production industry. Other associations have also been observed for agriculture and fire-fighting occupations, shift work, and whole-body vibrations.

Among the socio-economic factors, middle socio-economic status is associated with a greater willingness to participate in prostate cancer screening due to greater knowledge of the disease and screening procedures. Other factors that influence the uptake of prostate cancer screening include: limited knowledge of the disease, lack of access to screening services, beliefs, attitudes, embarrassment and fear of a positive diagnosis. Moreover, levels of knowledge and attitude on prostate cancer, and socio-demographic factors including age, family history, income, educational levels, health seeking behaviour, life-styles, diet and the living and working environment greatly impact on the awareness, knowledge, perception on self vulnerability on prostate cancer and uptake of prostate cancer screening (Arafa, Rabah & Wahdan, 2012).

4.4 Mass Media Campaigns

This section sought to find out whether the respondent had ever heard about prostate cancer and if so, through which mass media channel he got the information. In addition, the section investigated the frequency of the prostate cancer screening messages and sources from which the respondents came across the messages about prostate cancer messages, the most effective media in communicating prostate cancer screening messages, and lessons learnt from the messages on prostate cancer, as well as the influence of mass media messages on men's response to prostate cancer screening.

4.4.1 Source of Information About Prostate Cancer

In this section, respondents were asked where they got information about PCa. The purpose was to establish the most common mediums of communication mostly used to convey PCa messages in the region.

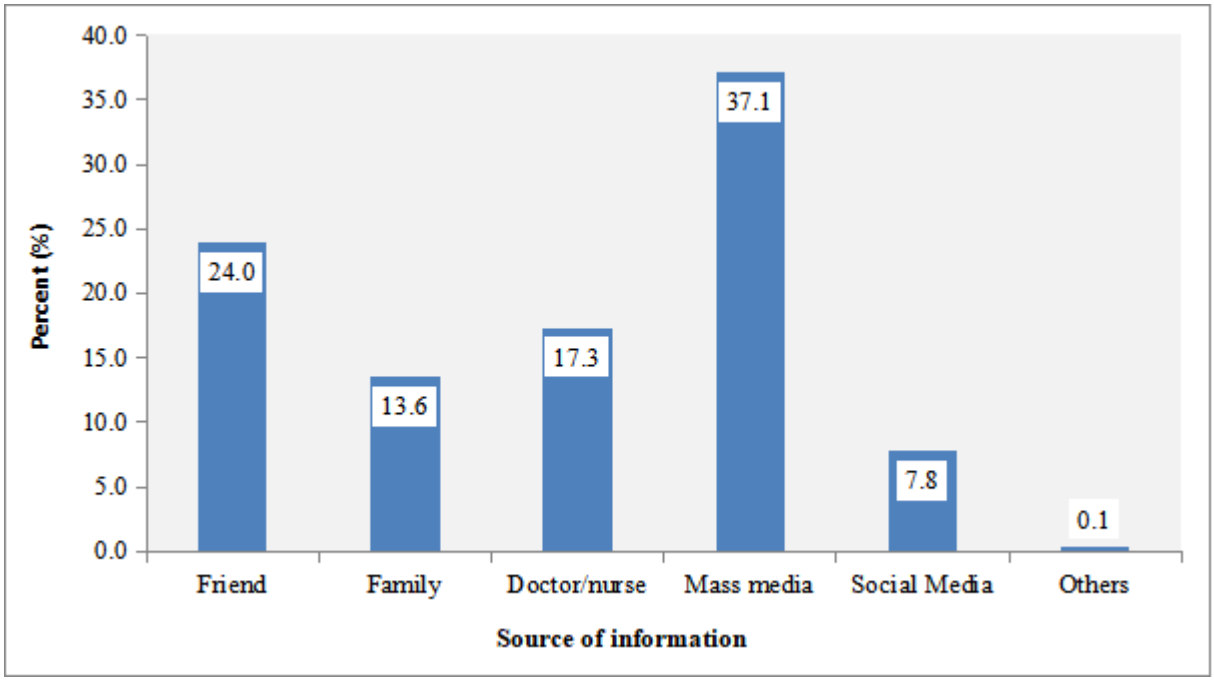


Figure 4.4: Where respondents heard about prostate cancer

From the findings, all respondents indicated that they had heard of prostate cancer before. As shown in Figure 4.4, 37.1% of the respondents had received information about prostate cancer from mass media. Others heard about it from friends (24.0%), doctors/nurses (17.3%) and family members (13.6%) as well as social media (7.8%) and other sources (0.1%). The findings therefore show a lack of adequate awareness on prostate cancer, and its screening through mass media.

Focus Group Discussions (FGDs) also revealed this perceived lack of awareness where a vastly distributed participants' opinion on the rate of prostate cancer prevalence in central Kenya was expressed, with only a few participants having even the slightest impression on the average estimate. There was nonetheless a general feeling among all the participants that a considerable number of prostate cancer incidences do exist in Central Kenya with even one of the health workers interviewed declaring that they did not have tangible data on the PCa prevalence rate *"but it is*

quite high, between 30-40%". This was echoed by two more Key Informants who stated that *"we do not have concrete data but it's a top leading cancer in men especially in the region".* Various other studies also confirm that the prevalence of prostate cancer among men in the region is among the highest in the country. For example, a study by the Kenya Demographic and Health Survey (KDHS) (2017) reported that the Central Kenya region has been leading in PCa prevalence in the country. It further indicated that testing rate in the region has been among the lowest in the country as only 3% of men had tested for PCa. But the studies also indicate a persistent deficit in awareness and knowledge about this prevalence among people within a particular societal set up (Rebbeck *et al.*, 2013).

4.4.2 If the respondents have ever gone for prostate cancer screening

Respondents were also asked if they ever took the PCa screening. This helped identify the screening rate in the region.

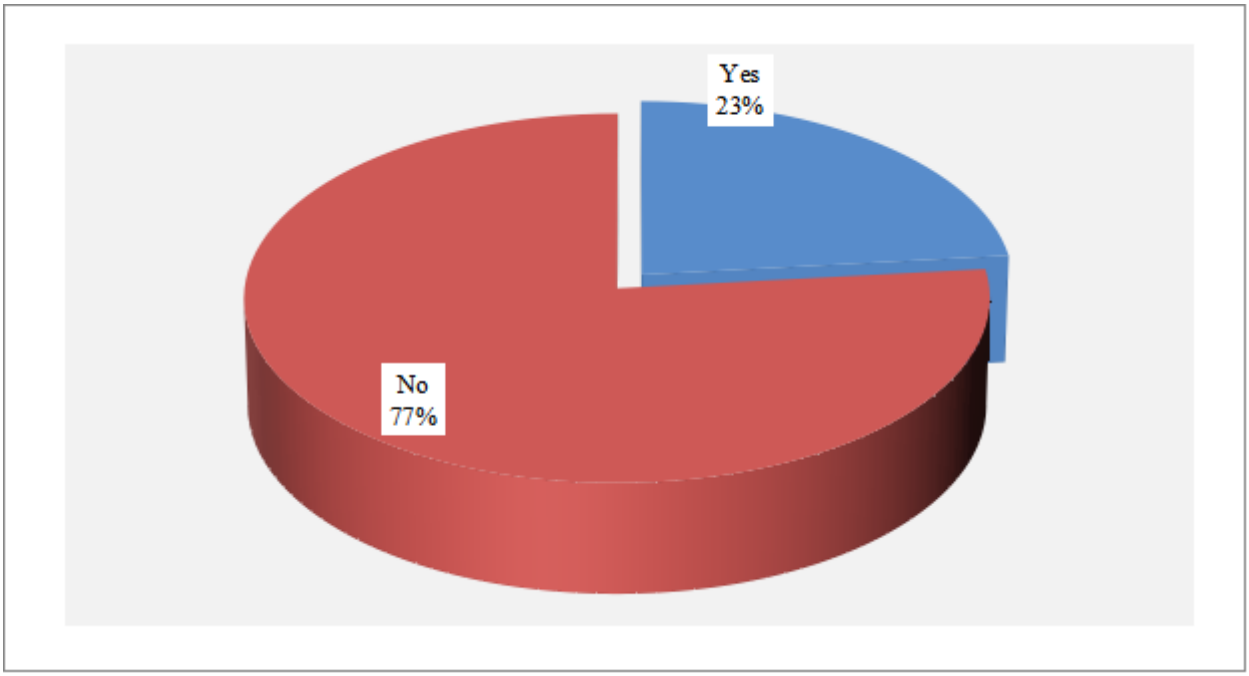


Figure 4.5: If the respondents have ever gone for prostate cancer screening

From the responses captured in Figure 4.5, majority of the respondents (77%) had never gone for prostate cancer screening while (23%) said that they had gone for

screening. The findings of this study are in tandem with findings from other studies that found PCa awareness and the uptake of PCa screening to be abysmally low in the country especially in the Central Kenya region. Men's slow uptake of PCa testing can partly be explained from a cultural point of view because this is one of the factors that affect people's attitude and especially men's perception of health issues, health messages and response to those messages.

To emphasize the role of culture in shaping a people's attitude on a health issue, Gamble and Gamble (2020) argue that, culture guides behaviour and communication and determines how men and women communicate about health issues. Further, DeVito (2016) asserts that different cultures view self-disclosure in different ways. Some cultures especially those high in masculinity view disclosing inner feelings as weakness for a man. DeVito further says that the popular stereotype of gender differences in self-disclosure emphasizes males' reluctance to speak about themselves especially on issues that may expose their weakness. This therefore explains why men are reluctant to disclose their health status to other members of the family or community, especially on a sensitive issue such as PCa which touches on their sexuality.

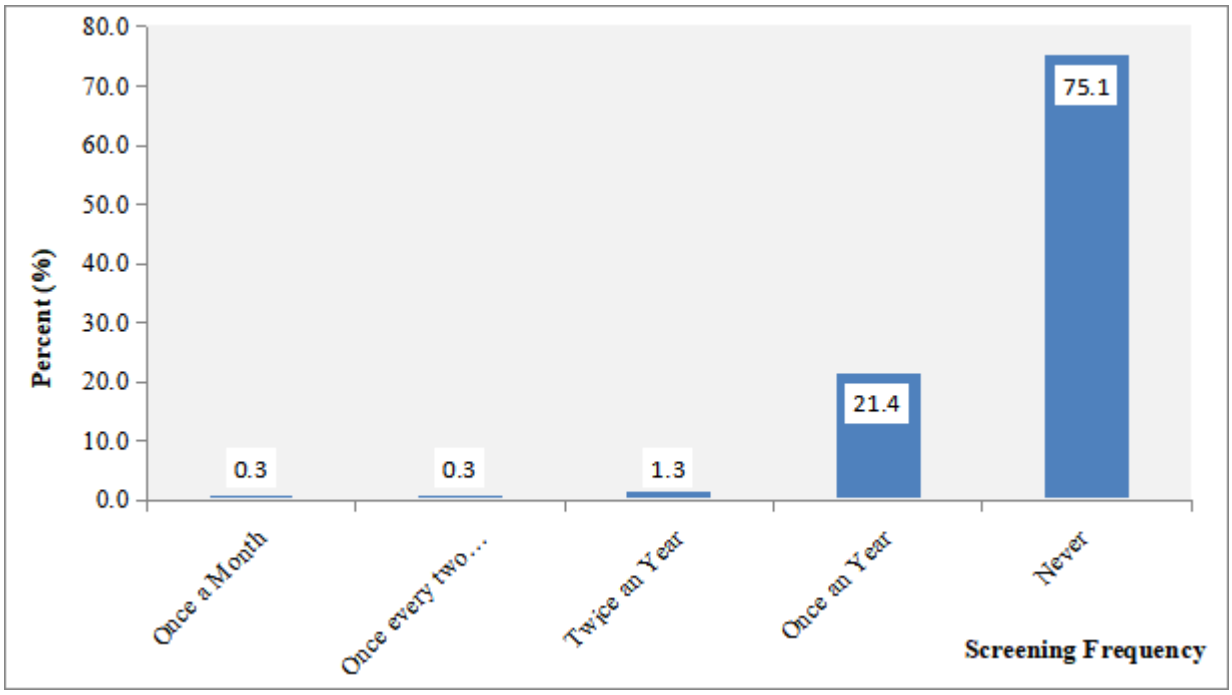
In this study, participants in the FGDs were in agreement that culture and gender influenced people's attitude towards PCa which affected the screening rate. As stated above, most men were said to be reluctant to discuss their health issues with their family members as this could be misconstrued to be a weakness. There was also stigma associated with the disease. Contacting the disease was seen as a certain death as community members believed that there was no cure for PCa and therefore, very

few men were willing to go for testing for fear of being confirmed to have the disease, which they thought to be a clear death certificate.

4.4.3 Frequency of Prostate Cancer Screening

Those who reported to have gone for PCa screening were asked to give their frequency of screening.

Figure 4.6: Frequency of prostate cancer screening



The study also sought to find out the frequency of testing by the few (23%) who admitted to have gone for PCa screening. As shown in figure 4.6, majority (75.1%) of the respondents have never gone for prostate cancer screening while 21.4% took the screening once a year and only 1.3% took the screening at least twice a year while 0.3% took the screening once a month and 0.3% took it at least once in every two months. This implies that majority of men in Central Kenya rarely go for PCa screening. The same was echoed in Focus Group Discussions which revealed that majority of men had not undergone the screening. A Key Informant also noted that, prostate cancer testing is, *"very low even though I don't have actual statistics"* similar

opinion was echoed by another stating that they were not quite sure on statistics but the level of testing is "*quite low".* The few who had undertaken the screening said that they did so when it was absolutely necessary. They had gone to hospital with PCa symptoms and the doctor asked them to take the test before they were treated.

Some of the reasons given for low uptake of PCa screening were captured in the discussions. Some participants in the FGD sited the cost of screening as a deterrent, one participant said:

> *"Because the government doesn't cater for the testing cost, I have never been tested for I don't have the money".*

Others participants in the FGDs attributed the low rates of screening to poor sensitization campaigns. One participant said,

> *"The National and county governments should collectively take it upon themselves to make sure that all "at risk" men go for Prostate Cancer Screening at least once a year instead of waiting until that time when men will voluntarily go for screening after developing the PCa symptoms".*

However, despite the rate of screening being quite low, some participants showed interest to be tested in the near future. One participant said,

> *"I would like to be screened in the near future. Initially I thought such screenings are only for those with PCa signs and symptoms."*

Some of the participants were aware of the benefits of early PCa screening but they admitted that they have been reluctant to go for screening. During discussions in their FGDs the most informed participants helped to enlighten their less informed counterparts. This was explained by one Key Informant (KI) who attributed the low PCa screening rate to men's poor health seeking behaviour. The KI said,

> *"Men rarely come to the hospital or clinic for general check up. In fact, if you see a man coming to hospital to seek treatment, he must be very sick. Most of them try self-medication at home using traditional*

treatments or by buying unprescibed drugs across the counter either from a general shop (mostly pain killers) or a local chemist."

Most of the participants in the FGDs who had good knowledge correspondingly had positive attitude towards PCa in general and PCa screening and vice versa. This is in tandem with sentiments by Tijani (2017) that there is positive correlation between the levels of knowledge and attitudes to prostatic diseases treatment and management.

4.4.4 Media and Communication of Prostate Cancer Messages

Respondents were asked to identify which media they came across PCa messages with a view of identifying the most common media used by the government to communicate PCa messages.

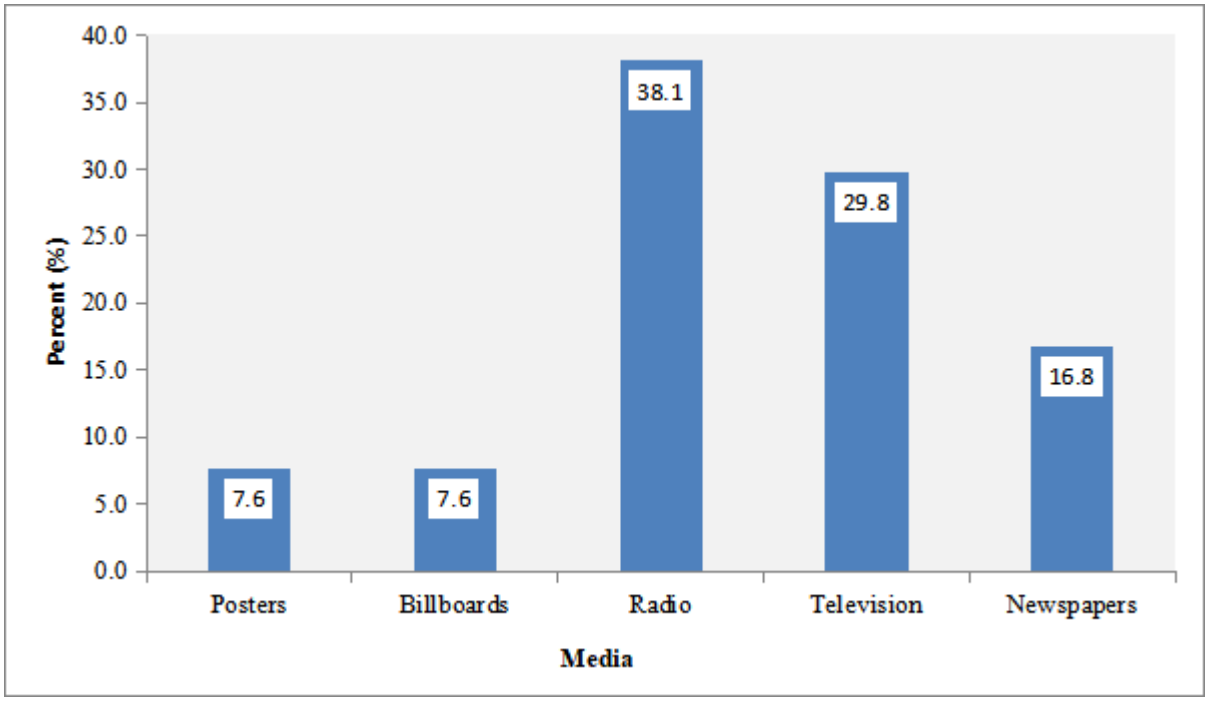


Figure 4.7: Media in which the respondents came across prostate cancer messages

Figure 4.7 shows that majority of the respondents (38.1%) received information through radio while (29.8%) received the information from television while newspapers (16.80 also significantly informed the respondents. Others received information through posters (7.6%) and billboards (7.6%). These findings imply that

most of the men in Central Kenya received information about prostate cancer from radio, television or newspapers.

These findings correspond with findings of most other studies that claim that, generally, the broadcast media are perceived to be offering useful channels for disseminating prostate cancer information to Black men. In a study of healthy Black men, 62% of those who had received prostate cancer information from any source reported receiving such information from broadcast media (Ross *et al.,* 2011). In another study by Griffith, Passmore, Smith and Wenzel (2012), TV was second only to medical service providers as the most commonly mentioned source of prostate cancer information for Black men. Other studies also noted the potential value of radio and television, especially specific radio and TV outlets that target Black audiences, as prostate cancer communication channels.

Even though the current study has placed mass media as the most common channel of communicating health messages especially PCa in the region, it was not the most effective channel mainly because it was not used with other channels of communication such as interpersonal and participatory communication. Through interpersonal relations, individual connections are also very important, connections that can positively influence the individual's decision to make healthy choices (Devito, 2016). Interpersonal relations that could be used in the region include the individual's social support system (family, friends, community) as well as the health care support system (e.g. physician, therapist, and pharmacist). Patients are more likely to listen when they feel they have emotionally invested in the situation. If they feel as if they understand what is being said, they are more likely to make objective decisions based on the information communicated to them.

Niar *et al,* (2016) also opined that the main method of delivering messages on prostate cancer is through Interpersonal Communication (IPC)/ counselling or group discussions; mid-media or edutainment such as songs, folk dances, street shows, drama and the multifarious use of the fine and performing arts and mass media including print media such as newspapers, posters, flyers, leaflets, booklets etc., electronic media including radio, television, on-line/digital platforms and the internet.

In this study, those who participated in the FGDs and the Key Informants also supported the integration of various communication strategies that include mass media, message framing, interpersonal and participatory communication because one strategy alone cannot be effective.

4.4.5 Lessons Learnt from the Media on Prostate Cancer

To determine the effectiveness of the mass media used to convey PCa messages in changing men's attitude towards the disease, respondents were asked to explain the lessons they learnt after receiving the PCa messages from the media.

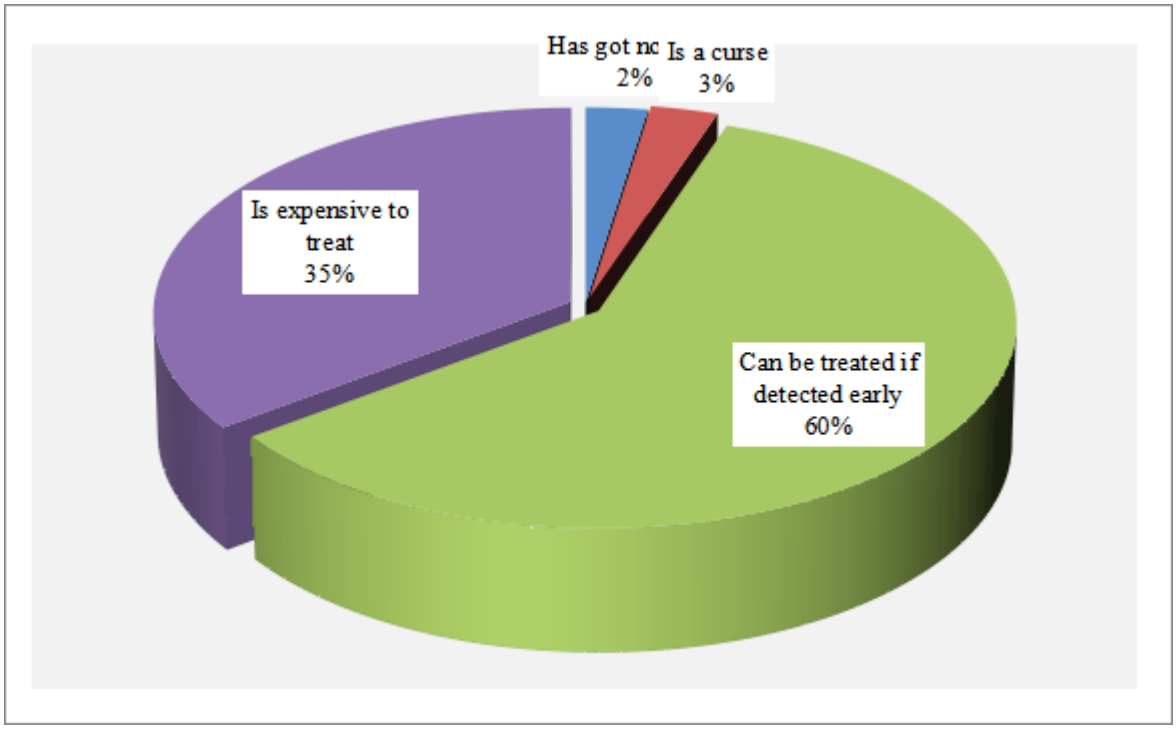


Figure 4.8: Lessons Learnt from the Media On Prostate Cancer

Figure 4.8 illustrates the lessons that respondents learnt from the media on prostate cancer. Majority (65%) of the respondents explained that they learnt that prostate cancer can be treated if detected early whereas 35% said that they believed prostate cancer treatment is expensive. Others believed that the disease has got no cure (2%) while 3% thought that prostate cancer is a curse. From these findings, it is evident that behaviour change communications interventions can be the most effective form of communication in delivering messages and lessons on prostate cancer when a combination of approaches that involve weaving together mass media, IPC and structural approaches to promote new or modified behaviours is used. In addition, receiving information from trusted sources has significant effects on behaviour; when combined with evidence of social norms promoted through mass media, these behaviours and attitudes are reinforced.

4.4.6 Influence of Mass Media on Men's Response to Prostate Cancer Screening

Table 4.3 represents the influence of mass media on men's response to prostate cancer screening. The respondents were asked to give the extent to which they could either agree or disagree on various aspects by which mass media influence men's response to prostate cancer screening.

Table 4.3: Influence of mass media on men's response to prostate cancer screening

Indicator	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard deviation
a) Media is the most effective channel of communicating prostate cancer messages than other channels	1.3	3.2	6.4	61.0	28.1	4.115	0.758
b) Media is accessible by most of the people in the community	1.9	2.9	5.1	53.0	37.1	4.204	0.817
c) Media messages on prostate cancer screening are clear and informative	1.9	8.0	21.7	43.8	24.6	3.812	0.959
d) There is enough information on prostate cancer in the local media	30.7	23.5	10.5	7.3	17.9	2.482	1.443
e) Media messages on prostate cancer made me change my attitude towards screening for the disease	2.6	4.5	16.3	42.2	34.5	4.016	0.957
Average	7.7	10.4	12.0	41.5	28.4	3.726	0.987

In regard to the influence of mass media on men's response to prostate cancer screening, the respondents agreed that mass media is accessible by most of the people in the community at a mean of 4.204 and a standard deviation of 0.817 while it remains the most effective channel of communicating prostate cancer messages than other channels represented by a mean of 4.115 and a standard deviation of 0.758.

Consequently, media messages on prostate cancer made most of respondents change their attitude towards screening for the disease at a mean of 4.016 and a standard deviation of 0.957. Most of the respondents also agreed that media messages on prostate cancer screening are clear and informative (mean = 3.812 Standard deviation = 0.959) yet they moderately disagreed that there is enough information on prostate cancer in the local media (mean = 2.482 Standard deviation = 1.443). On average the influence of mass media on men's response to prostate cancer screening has a mean of 3.726 and a standard deviation of 0.987.

In summary, findings in this study indicate that mass media is an effective channel of communicating prostate cancer messages although the amount of information disseminated needs to be increased and varied. Consistent to the current study, it has been claimed by other studies that mass media can be very effective in passing messages on prostate cancer screening among men. For instance, a related study carried out in Uganda by Robert Otim (2017) observed that after an aggressive mass media campaign in the country it managed to change people's attitude towards hand washing with soap as 95% of the population thought that hand washing was important.

Similarly, in Tanzania, a study conducted by Beauclair et al., in 2011 found that that only 6% of the respondents were reached by a peer educator and another 6% were given an explanation by a provider on the use of the condom. In contrast, 38% were exposed to mass media campaigns promoting the use of the condom.

Therefore, the above study concluded that mass media campaigns (which are part of BCC strategies) are likely to increase an individual's motivation to use condoms because they encourage the discussion of condom use with a partner. While mass

media campaigns do not have as strong an impact on a particular individual as do peer educators or providers, mass media campaigns have a substantial impact at the population level because of their considerably high reach. This conclusion was based on Rogers *et al.*, (2019) claim that Diffusion theorists postulate that mass media affects contraceptive use by stimulating the discussion of its use between partners.

As observed in our literature review, Media Effects theorists such as McCombs and Shaw (1972) demonstrate that media have the ability to create awareness and influence the salience of topics on the public agenda. However, if media themselves have no awareness concerning an issue or an emerging trend, the larger public will equally remain unaware of it. In addition, if used alone, mass media cannot effectively help change people's attitude and behaviour response towards a health issue like PCa screening.

4.4.7 Inferential Statistics for the Relationship between Mass Media and Men's Response to PCa Screening

Inferential statistics were based on coefficient of determination (R^2), analysis of variance (ANOVA) and regression coefficients for the model on the relationship between mass media and men's response to PCa screening.

Table 4.4: R^2 on Relationship between Mass Media and Men's Response to PCa Screening

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.809a	0.654	0.653	0.494	1.781

a. Predictors: (Constant), Mass Media

b. Dependent Variable: Men's Response to PCa Screening

Coefficient of determination (R^2) was used to determine the extent to which mass media explained any change in the predicted variable (men's response to PCa screening). That is the degree to which change in men's response to PCa screening by 1 unit is explained by mass media.

Results in Table 4.4 show an R-Square of 0.654 with the standard error of estimate being 0.494. This implies that mass media explains 65.4 % of any change in men's response to PCa screening. The remaining 34.6 % is explained by other factors. The researcher also tested for auto-correlation using Durbin Watson statistics. The Hypotheses for the Durbin Watson test are:

H_0 = No first order autocorrelation

H_1 = First order correlation exists.

(For a first order correlation, the lag is one-time unit).

A rule of the thumb is that, test statistic values in the range of 1.5 to 2.5 are relatively normal. Values that fall outside this range could be viewed as a cause for concern. According to this study, Durbin Watson statistic was 1.781 which falls within the relatively-normal range and therefore there was no indication of auto-correlation in the residuals from a regression analysis.

Table 4.5: ANOVA on Relationship between Mass Media and Men's Response to PCa Screening

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	143.639	1	143.639	589.097	.000a
Residual	75.831	311	0.244		
Total	219.470	312			

a. Predictors: (Constant), Mass Media
b. Dependent Variable: Men's Response to PCa Screening

Analysis of variance (ANOVA) was generated to determine the spread of the mean of variables, that is, spread between mass media and men's response to PCa screening which gives the regression; and the spread within data (responses) which represents the residuals. As shown in Table 4.5, F-Calculated (1, 311) = 589.097 > F-critical (1, 311) = 3.872 at 0.05 significance level and confidence level. Results also show p-Value = 0.000 < 0.05. This implies that mass media has a statistically significant influence on men's response to PCa screening.

Table 4.6: Regression Coefficients on Relationship between Mass Media and Men's Response to PCa Screening

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	1.180	0.143		8.228	0.000
Mass Media	0.815	0.034	0.809	24.271	0.000

a. Dependent Variable: Men's Response to PCa Screening

From the findings, when the predictor (mass media) is held constant, men's response to PCa screening would remain at 1.180 units. In addition, when mass media increases by 1 unit, men's response to PCa screening would increase by 0.815 units. The model can be summarized as follows:

Y= 1.180 + 0.815X…… *(i)*

Where Y is the dependent variable (men's response to PCa screening) and X = mass media. This therefore confirms that mass media has a significant effect on men's response to PCa screening.

But despite the evidence on the influence of mass media in changing men's attitude towards PCa screening, mass media was rarely used to convey the messages in the region. As explained by a number of Key Informants, their governments used mass media very sparingly like when announcing a health intervention one-off event.

4.5 Message Framing

This section consists questions that sought to understand how message framing affected men's response to prostate cancer screening. Additionally, the section interrogates prostate cancer messaging frequency from the county governments, respondents' opinion about the messages communicated, usefulness of the messages on men's response to prostate cancer screening, other channels used to communicate the prostate cancer screening messages by the government as well as how the information changed men's knowledge and thinking about prostate cancer.

4.5.1 Prostate cancer messaging frequency from the county governments

The respondents were asked the frequency with which they encountered messages from their county government. They gave the following responses:

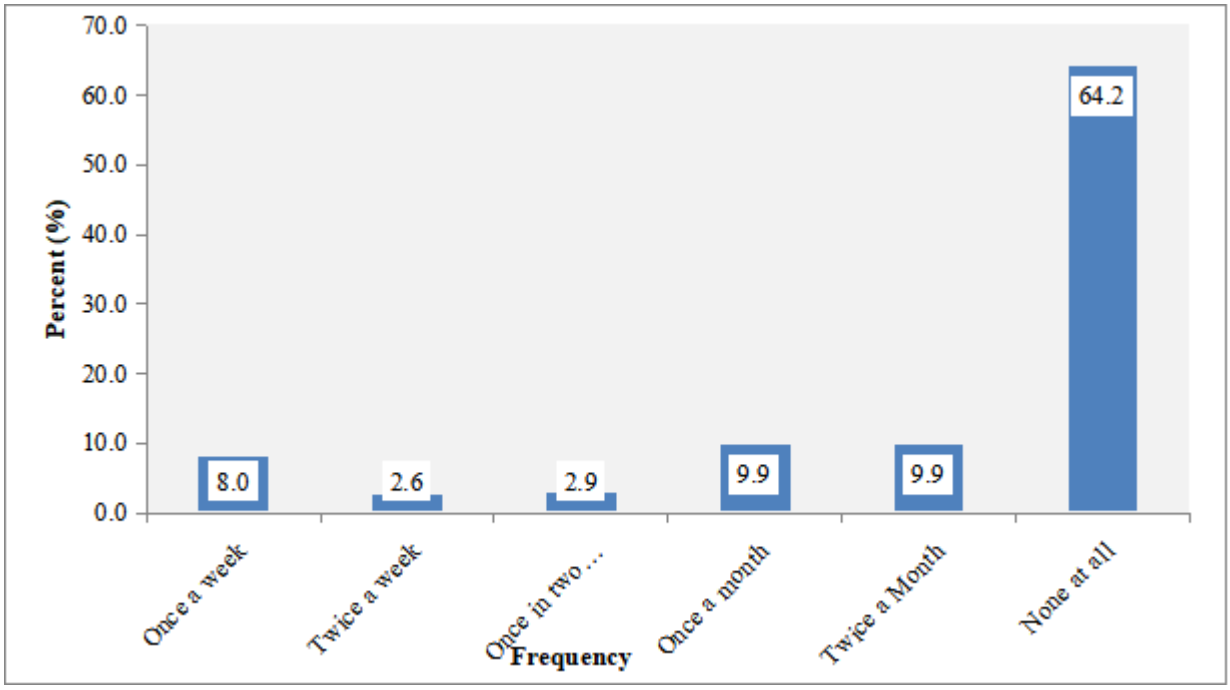


Figure 4.9: Prostate Cancer Messaging Frequency From The County Governments

As shown in Figure 4.9, 64.2% of the respondents did not come across any messages about prostate cancer from their county government, 9.9% came across prostate cancer messages twice a month and another 9.9% came across the messages once a month. Other respondents came across prostate cancer messages twice a week (2.6%) and others once a week (8%). This implies that most of the respondents never came across any information about prostate cancer from their county governments.

Interviews with all the Key Informants (county health and communication officials) disclosed that most counties did not have PCa messages since their governments did not have any health communication strategies while others did not even have prostate cancer awareness campaigns. It was reported that most of the county governments only carried out general health messaging in form of advertisement during the world cancer day which only comes once a year. One Key Informant said,

> *"We have a semblance of what you would call health communication campaign. It is carried out by volunteer groups, most of whom are*

well-equipped because they lack the requisite expertise and adequate resources to cover the entire county as well as do a proper campaign."

Another Key Informant added that there was a volunteer group for family planning intervention in her county that incorporates cervical cancer in their health programmes but not prostate cancer awareness. She said that the reason for this is lack of capacity. She thus observed:

"If the volunteer group was well equipped it would incorporate prostate cancer in their campaign because the little they have done has had a lot of impact. If only our County government could emulate or empower them, they would achieve much more. The government should take advantage of the existence of such groups and finance them so that they could expand their activities to incorporate other diseases such as PCa and other types of cancer."

When asked who designed the messages for their health campaigns the Key Informants were categorical that there was no need for such because as observed earlier those campaigns were almost non-existent. This was confirmed by another KI who said:

"As you have observed, there is not a single poster on prostate cancer in the entire hospital, and this cuts across all the hospitals in the County."

This sorry state of affairs was observed across all counties in the region. There were only a few posters on other diseases, most of which were old, faded and outdated.

One health officer acknowledged that the communication department in their county designs the messages for them when need arises although this happens quite rarely because the county government does not have a health communication strategy. Health officers who were interviewed unanimously observed that they never carried PCa campaigns, one of them said*:*

"We rarely carry out health communication campaigns including prostate cancer and hence there is no need to have experts to design such messages for us."

4.5.2 Opinion about the Messages Communicated

Respondents were interviewed about the clarity of the PCa messages from the county governments.

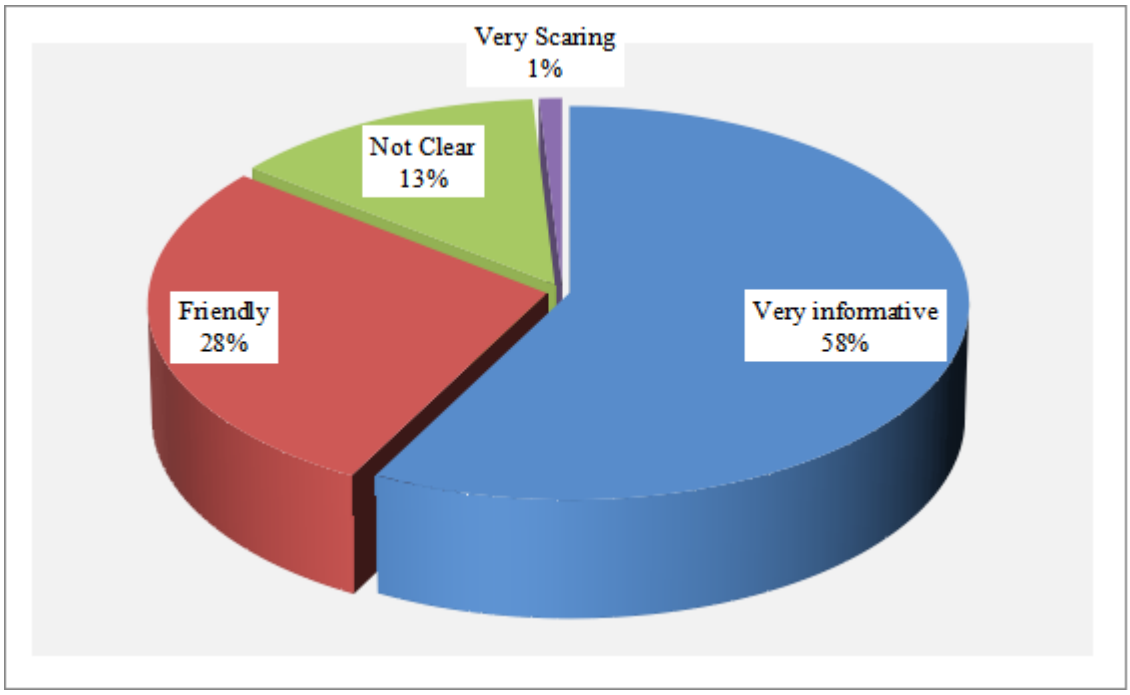


Figure 4.10: Opinion about the Messages Communicated

As shown in Figure 4.10, majority of the respondents (58%) said that the messages were very informative and 28% said that messages were friendly. In contrast, 13% of the respondents indicated that the messages were not clear while 1% said that the messages were scaring. These findings imply that although some respondents indicated that the PCa messages from the county governments were not clear, most of them agreed that the messages were friendly and very informative. But on average those messages did not have much impact because they came very rarely as the campaigns were rarely carried out by the county governments.

The respondents stressed the importance of culturally sensitive messages and suggested that effective communication strategies could include "graphic and visual messages, non fear-evoking messages, messages clarifying myths and misunderstandings, provision of shocking statistics about prostate cancer, provision of general information about prostate cancer, local resources for prostate cancer screening, and statistics supporting early detection."

The above findings were in conformity with those of other similar studies. For example, one study by Nair et al., (2016) used Focus Group Discussion sessions involving 49 black men to identify the message channels and message strategies that would most effectively encourage other black men to seek prostate cancer screening and another by Odedina, Akinremi, Chinegwundoh, Roberts, Yu and Reams (2010). They observed that the men emphasized types of messages that should be avoided, including those that associated prostate cancer screening with negative outcomes, those with jargon-filled language and messages about the Digital Rectal Exam (DRE) method that would prompt fear, embarrassment or an association with homosexuality.

As Gamble and Gamble (2020) argue, there is such a thing as gender-specific communication campaigns. When distributing men's health messages it is important to be realistic about how to reach men too. MWC (2014) also support this idea by saying, "Distributing health messages in pubs and service stations is arguably a more realistic way to engage with men than distributing messages via GP surgeries. Other places could be at local and regional rugby and football league matches."

Therefore, there is need to reach out to men with gender-specific messages on PCa at places that they frequent most in order to reach them easily.

4.5.3 Usefulness of the Messages on Prostate Cancer Screening

Respondents were interviewed regarding the usefulness of the above messages in encouraging men to go for prostate cancer screening. Their responses are captured in the table below.

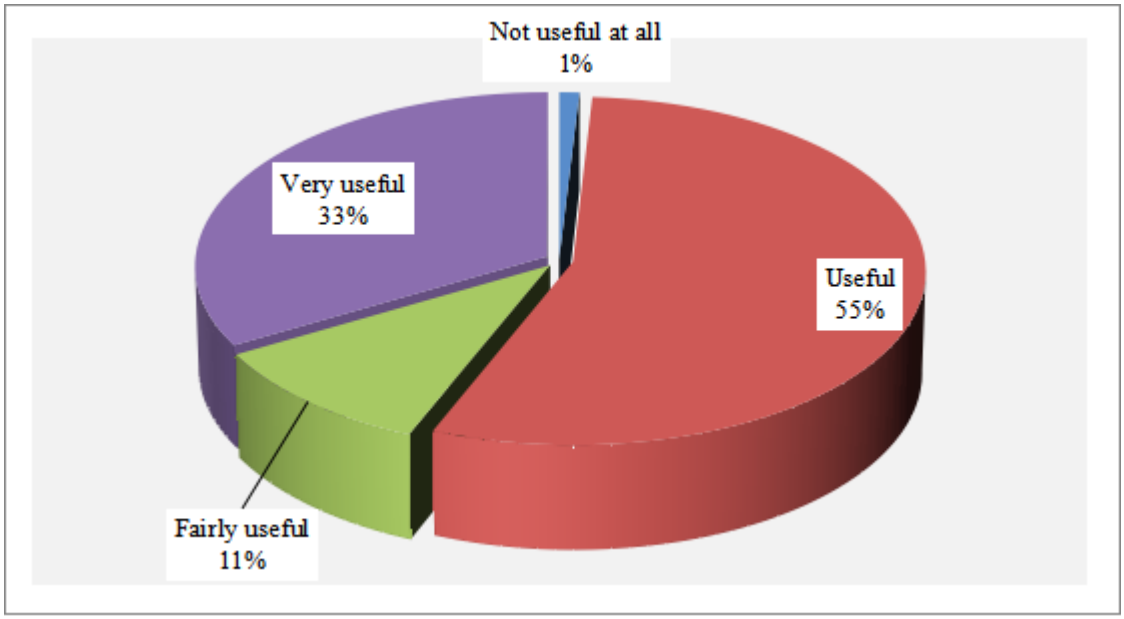


Figure 4.11: Usefulness of the Messages on Prostate Cancer Screening

As shown in Figure 4.11, regarding the usefulness of the messages on prostate cancer screening, majority of the respondents (55%) regarded the messages useful while 33% regarded the messages as very useful. Others considered the messages fairly useful (11%) while in contrast, only 1% considered the information not useful at all. This confirms the findings in Figure 4.11 that indicated that the messages that were communicated by the county governments were clear and hence useful though they were quite rare.

4.5.4 Other Channels used to Communicate the Prostate Cancer Screening Messages by the Government

Respondents were asked to explain other forums and channels that were used by their county and also the national governments to communicate PCa messages.

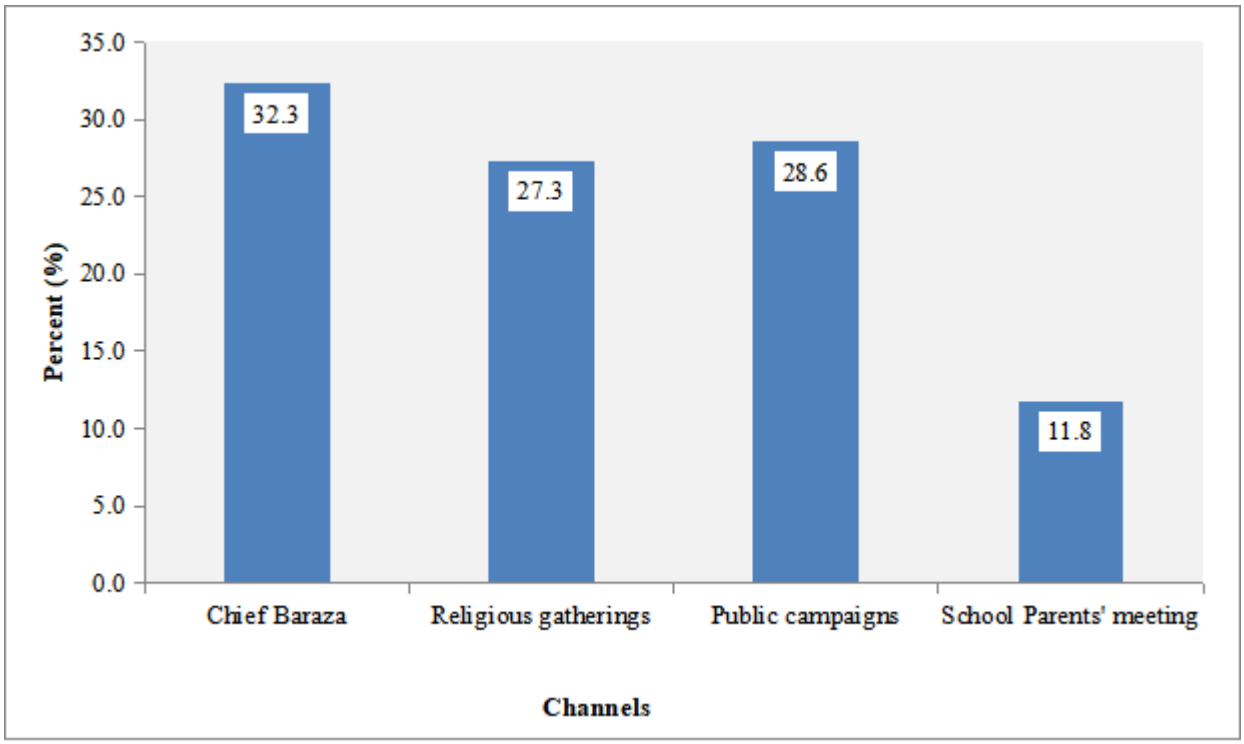


Figure 4.12: Other Channels used to Communicate the Prostate Cancer Screening Messages

From Figure 4.12 it is clear that Chief *barazas* (32.3%), public campaigns (28.6%) and religious gatherings (27.3%) are the channels mainly used to communicate about prostate cancer screening although county governments use school parents' meetings (11.8%). This implies that chief *barazas*, religious gatherings and public campaigns are the leading participatory communication channels of passing prostate cancer screening messages.

The findings on communication content by Nair *et al*., (2016) confirmed that most men want and need comprehensive prostate cancer information, especially

information that emphasizes the benefits of early detection and the likelihood of positive outcomes for men whose cancers are detected early and treated appropriately. In addition, the studies reviewed here stressed the importance of messages reassuring men that neither PCa screening nor treatment of the disease necessarily threaten their sexuality or sexual performance ability.

The same sentiments as those expressed in the study above were expressed by most men in the current study. Most of them feared that PCa affected a man's sexuality, some even believed that one could be rendered impotent. For example, in one FGD an incident was quoted whereby a man who tested positive with advanced stage of PCa was deserted by his family including his wife. It was claimed that neighbours suspected that the man could not 'perform' his marital duties and that was the cause of constant quarrels with his wife because he suspected and accused her of promiscuity. Similar cases were reported in the other FGDs and most discussants seemed to hold the same perception.

Consequently, men in the FGDs requested the researcher to organize for a counselling session with specialist(s) so that they could brainstorm on matters relating to PCa. But unfortunately, it was not possible. The researcher therefore observed that such a session could provide an ideal forum to communicate the right messages about the benefits of early PCa screening, and hence change the attitude towards the disease in the community in general and among men in particular.

4.5.5 How the information changed the attitude towards prostate cancer

Figure 4.13, shows how the information received changed the respondent's knowledge and thinking about prostate cancer.

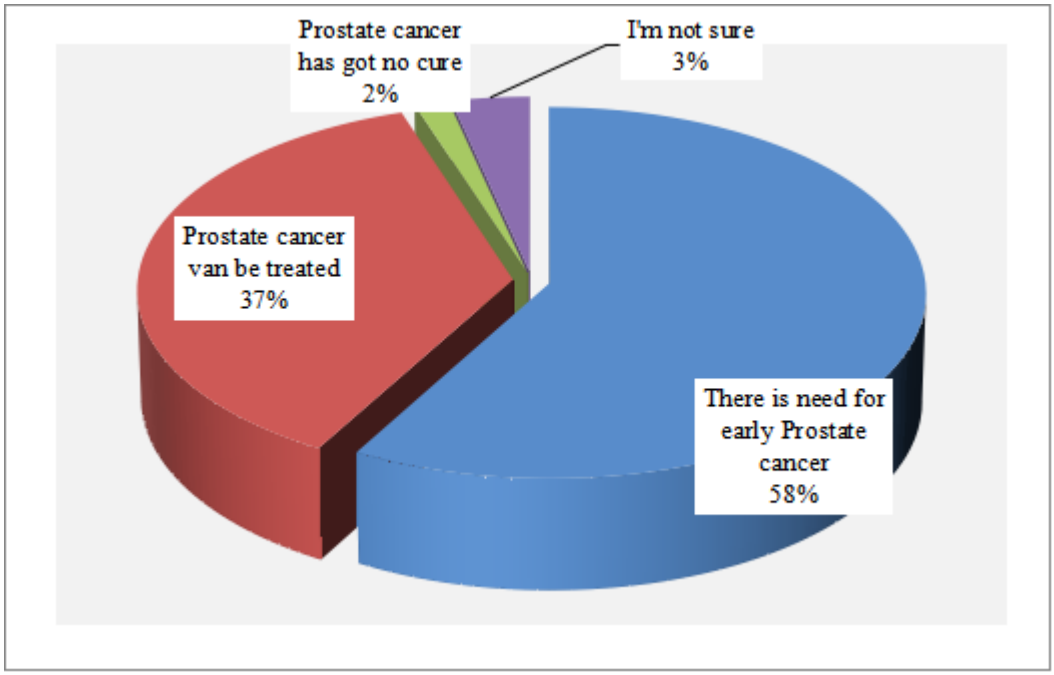


Figure 4.13: Respondent's Knowledge and Thinking About Prostate Cancer

In regard to the respondent's knowledge and thinking about prostate cancer, 58% said that there is need for early prostate cancer screening and 37% said that prostate cancer is treatable. Another 2% of the respondents said that prostate cancer has got no cure while 3% were not sure.The study findings therefore indicate that the few communication strategies that were used by the governments succeeded in changing men's attitude towards PCa screening at 58%. It was therefore observed that if more aggressive BCC campaigns were used regularly targeting a larger audience, the impact would be enormous.

At least two studies suggest putting prostate cancer information into the context of men's spiritual beliefs. Holt and Yandell (2011) developed educational booklets aimed at increasing prostate cancer screening among Black men in the US who attended church and then pilot-tested them with two Focus Groups and individual interviews. FGD participants reacted positively to the spiritual content but believed it

should be presented more clearly and earlier in the booklet (Holt & Yandell, 2011). The current study found out that some of the men who confirmed to have heard about PCa, got the information during medical camps organized by their church. They reported to have had a lot of trust in the activities carried out during the camps because they were conducted by specialists under the auspices of church leaders, whom they trusted. Therefore, we can conclude that when such activities are conducted in an environment where participants are comfortable and confident because they trust the organizers, the level of confidence in the services given is likely to be high.

A previous study by Nair *et al.* (2016) identified spiritual beliefs and church support as key factors in decision-making about screening and other health behaviours, suggesting that prostate cancer communication can be more effective if the messages are at least congruent with spiritual beliefs. This idea is certainly consistent with findings of the current study that indicate high credibility for prostate cancer information distributed through or presented in churches. For instance, in one FGD, it was reported that PCa messages were communicated in youth and men forums as part of the local church awareness campaign on various types of cancer. Those with personal issues were linked with health specialists who also happened to be members of the same church.

The foregoing observation can be linked to the principles of Becker's Health Belief Model (HBM) which proposes that a person's behaviour can be predicted and impacted based on how vulnerable the individual considers themselves to be. 'Vulnerability' is expressed in the HBM through risk (perceived susceptibility) and the seriousness of consequences (severity). These two vulnerability variables need to be considered before a decision can take place. This means a person has to weigh up

the costs and benefits or pros and cons of performing a behaviour (Naidoo & Wills, 2010).

A person's decision to perform the health-promoting (or damaging) behaviour will be based on the outcome of this 'weighing up' process. Self-efficacy is also added to the HBM to enable prediction of behaviour. Self-efficacy is a person's perceived confidence of their ability to perform that behaviour. The HBM includes four factors that need to take place for a behaviour change to occur; the person needs to have an 'incentive' to change their behaviour, they must feel there is a 'risk' of continuing the current behaviour, the person must believe change will have 'benefits' that outweigh the 'barriers' and they must have the 'confidence' (self-efficacy) to change their behaviour.

Therefore, regular and aggressive use of the right behaviour change communication channels can increase the level of PCa awareness as well as the rate of screening. This calls for concerted efforts by government communication and health experts as well as the church which would help build men's confidence in the entire process.

4.5.6 Influence of Message Framing on Men's Response to Prostate Cancer Screening

This section presents the influence of message framing on men's response to prostate cancer screening. It tries to interrogate various aspects of message framing on men's response to prostate cancer screening as shown in table 4.3.

Table 4.7: Message Framing

Indicator	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard deviation
a) Messages about Prostate cancer need to be positive	0.6	0.3	2.2	44.1	52.7	4.479	0.625
b) Messages on prostate cancer should be communicated by men to men only	21.4	35.5	14.7	12.1	16.3	2.665	1.368
c) Messages on Prostate cancer should be in local language	1.0	1.3	6.7	40.3	50.8	4.387	0.750
Average	7.7	12.4	7.9	32.2	39.9	3.843	0.914

As shown in Table 4.3, majority of the respondents strongly agreed that messages about PCa need to be positive (mean = 4.479, standard deviation = 0.625) and should be in local language (mean = 4.387, standard deviation = 0.750). They also moderately agreed that messages on prostate cancer should be communicated by men to men only at a mean of 2.665 and a standard deviation of 1.368. On average the influence of message framing on men's response to prostate cancer screening has a mean of 3.843 and a standard deviation of 0.914.

This indicates that messages about prostate cancer need to be positive and should be in local dialect. The messages should also be fairly communicated by men to men only.

4.4.7 Inferential Statistics for the Relationship between Message Framing and Men's Response to PCa Screening

Inferential statistics were based on coefficient of determination (R^2), analysis of variance (ANOVA) and regression coefficients for the model on the relationship between message framing and men's response to PCa screening.

Table 4.8: R^2 on Relationship between Message framing and Men's Response to PCa Screening

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.802a	0.644	0.642	0.501	1.817

a. Predictors: (Constant), Message framing
b. Dependent Variable: Men's Response to PCa Screening

Coefficient of determination (R^2) was used to determine the extent to which message framing explained any change in the predicted variable (men's response to PCa screening). That is, the degree to which change in men's response to PCa screening by 1 unit is explained by message framing.

Results in Table 4.8 show an R-Square of 0.644 with the standard error of estimate being 0.501. This implies that message framing explains 64.4 percent of any change in men's response to PCa screening. The remaining 35.6 percent is explained by other factors. The researcher also tested for auto-correlation using Durbin Watson statistic. The Hypotheses for the Durbin Watson test are:

H_0 = No first order autocorrelation

H_1 = First order correlation exists.

(For a first order correlation, the lag is one-time unit).

A rule of thumb is that test statistic values in the range of 1.5 to 2.5 are relatively normal. Values that fall outside of this range could be viewed as a cause for concern. According to this study, Durbin Watson statistics was 1.817 which falls within the relatively-normal range and therefore there was no indication of autocorrelation in the residuals from a regression analysis.

Table 4.9: ANOVA on Relationship between message framing and Men's Response to PCa Screening

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	141.255	1	141.255	561.668	.000a
Residual	78.214	311	0.251		
Total	219.470	312			

a. Predictors: (Constant), Message Framing
b. Dependent Variable: Men's Response to PCa Screening

Analysis of variance (ANOVA) was generated to determine the spread of the mean of variables, that is, spread between message framing and men's response to PCa screening which gives the regression; and the spread within data (responses) which represents the residuals. As shown in Table 4.9, F-Calculated (1, 311) = 561.668 > F-critical (1, 311) = 3.872 at 0.05 significance level confidence level. Results also show p-Value = 0.000 < 0.05. This implies that message framing has a significant effect on men's response to PCa screening.

Table 4.10: Regression Coefficients on Relationship between Message Framing and Men's Response to PCa Screening

	Unstandardised Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	1.151	0.148		7.779	0.000
Message Framing	0.886	0.037	0.802	23.700	0.000

a. Dependent Variable: Men's Response to PCa Screening

From the findings, when the predictor (message framing) is held constant, men's response to PCa screening would remain at 1.151 units. In addition, when message framing increases by 1 unit, men's response to PCa screening would increase by 0.886 units. The model can be summarized in equation (ii) as follows:

Y= 1.151 + 0.886X……. *(ii)*

Where Y is the dependent variable (men's response to PCa screening) and X = message framing.

These results confirm that there is a relationship between message framing and men's response to PCa screening. They are consistent with the opinion by Gamble and Gamble (2020) that for effective communication, messages should be over-sensitive, friendly and less threatening.

4.6 Participatory Communication

This section aimed at exploring the influence of participatory communication on men's response to prostate cancer screening. This was done by studying various aspects of participatory communication such as participation in public debates about prostate cancer screening in the community, ways in which the government engages the community in discussing about prostate cancer screening, best communication strategies to communicate prostate cancer messages, the general attitude towards prostate cancer testing and screening in the community and the general opinion on if early screening helps in treatment and management of prostate cancer.

4.6.1 Participation in Public Debate about Prostate Cancer Screening in The Community

Respondents were asked how frequently they attended public forums to discuss PCa. The aim was to establish the most common forms of participatory communication that are used to engage community members in addressing the PCa screening issue.

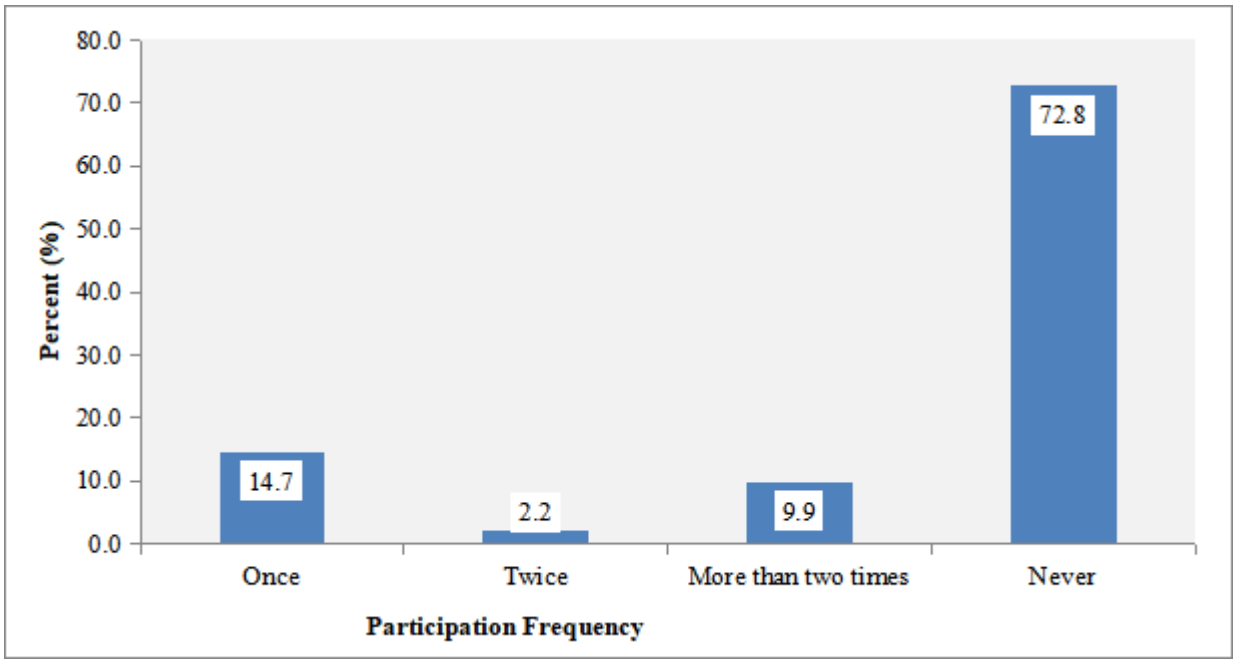


Figure 4.14: Participation in public debates

As shown in Figure 4.14, majority of the respondents (72.8%) have never participated in public debates about prostate cancer screening, 14.7% had at least participated once. Others have participated more than twice (9.9%) while only 2.2% had participated at least twice.

These findings show that community engagement through participation in public debates about issues that affect them such as prostate cancer screening has not been embraced by the government as only a few have ever participated in public debates. Public participation in health issues is one of the strategies recommended in this study as a form of participatory communication yet it is not much emphasized by both national and county governments.

4.6.2 Ways the Governments Engage the Community About Prostate Cancer Screening

This study sought to identify ways in which both levels of government engage local communities about PCa screening as a way of bottom-up approach to their health issues.

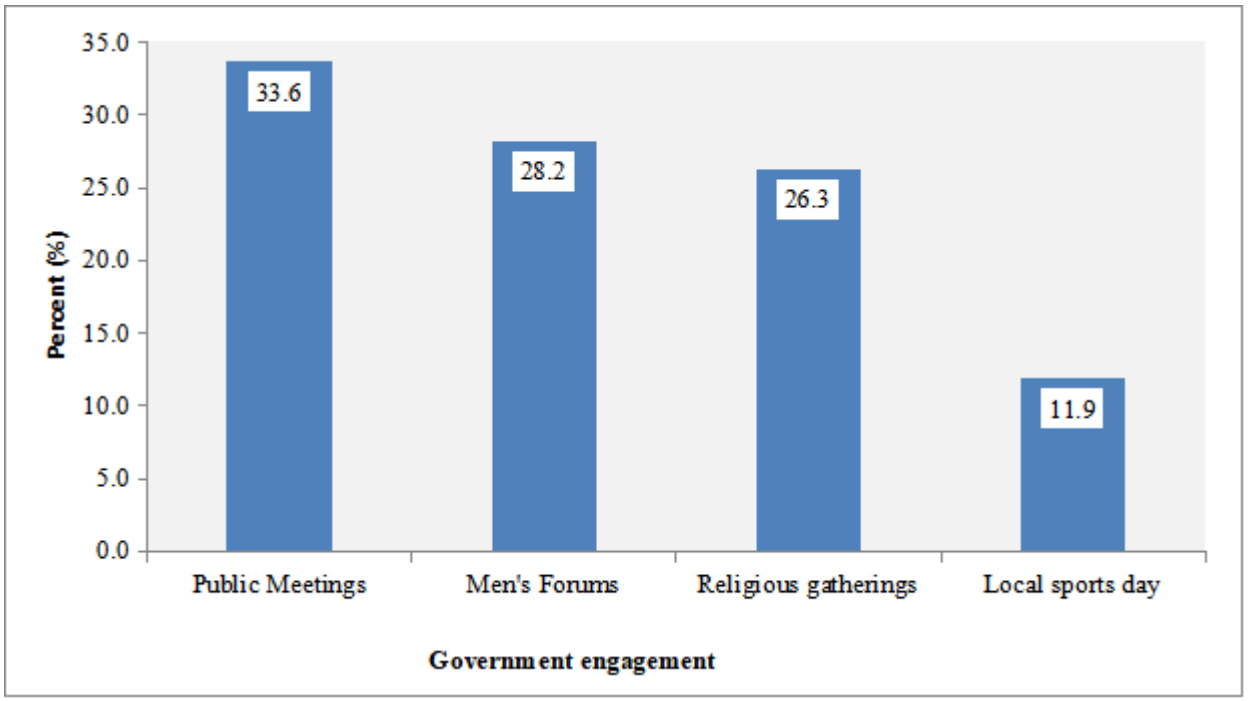


Figure 4.15: Ways the government engage the community members

From Figure 4.15, the governments mostly engage the community members about prostate cancer screening through; public meetings (33.6%), men's forums (28.2%), religious gatherings (26.3) and during local sports days (11.9%). From these findings, it is evident that the governments do not constantly engage the public about PCa and therefore it is not easy for them to involve the citizens in finding solutions to their own problems which would have great positive impact on people's approach to the disease.

Respondents said that the only time they had participated in public debate about PCa was during health forums organized by their local church or some volunteer groups.

Such gatherings were not the best forums because they did not have the desired privacy for discussion of such a sensitive issue as PCa. One participant in a Focus Group Discussion said:

> *"How can we discuss such a disease like PCa in the presence of our wives, sisters and even parents? Men need a men's only forum conducted by men only and not the youngsters that we see during those meetings. We need forums where we can discuss our health issues freely without inhibition."*

4.6.3 Most Preferred Communication Strategies to Communicate Prostate Cancer Messages

Several participants in FGDs and Key Informants recommended use of word of mouth during various occasions such as , face to face during patients' visit to hospital for treatment, in men's forums, chiefs' *baraza*s and other social encounters as the best communication strategies to communicate prostate cancer messages. One of the Key Informants therefore observed that:

> "*Community volunteers can be trained on ways of mitigating different diseases and pandemics, then they would share the information with the people in their households, religious gatherings, chiefs' barazas and social groups like the case we had at the community hall at the beginning of the year in our County headquarters".*

Most participants explained that mass media is also used to communicate prostate cancer messages although this happens very rarely, One participant said:

> *"Even electronic mass media like radio or television are used to communicate PCa and other health-related information although it is very rare."*

Other participants expressed to have never come across some prostate cancer awareness campaign. *"We have never had a PCa awareness campaign in the county",* lamented one participant. This was confirmed by a Key Informant who intimated that their county government did not have any communication policy to sensitize the

public about prostate cancer screening. There was, nonetheless, a unanimous acknowledgement by all the participants that they had at least once witnessed some trained community volunteers passing information on different diseases to people in households, churches, chiefs' *barazas* and social groups.

The FGDs revealed that the impact of the different communication strategies is very low as most of men did not admit in public that they were ailing, neither did they like discussing the disease in public. Due to stigma associated with PCa, most of the victims did not accept their status, they live in denial for fear of isolation by other members of the society. Some Key Informants were concerned about men's behaviour response to PCa, one of them said:

> "*Men rarely attend cancer screening awareness forums. Most of them claim that they are too busy to take attention on issues related to prostate cancer and health in general".*

A participant was quick to add that men are not comfortable discussing their health matters with the volunteers, most of whom were young men and women, young enough to be their sons and daughters.

Most Key Informants disclosed that the impact of such initiatives like public engagement was very low where, she said:

> *"We are able to reach only those who come to hospital with prostate cancer symptoms".*

Further, others explained that the impact remains very low as most of men in the society find it expensive to go for a prostate cancer screening. In particular, there was mention by a participant that:

> *"There are no concrete communication strategies to create awareness about the disease. In addition, men rarely disclose their status until when they are critically ill, hence knowledge level is quite low".*

Some other participants were of the view that health workers and/or volunteers should carry testing kits with them when attending public health forums so that they could carry out PCa screening and testing on the spot after sensitization has been done to men to convince them on the benefits of PCa screening. This would lead to a greater impact. One Key Informants had this to say:

> *" I have observed that after health work volunteers give a talk on PCa to men at a public forum and convince them on the need for early PCa screening,they ask them to take voluntary screening later after the seminar at certain clinics. But unfortunately, most men do not go for the screening as a follow up because they say that they are too busy for such. Therefore, if the volunteers carried the testing kits with them to the forums, it would be easier to carry out the tests on the spot."*

Health communication scholars such as Schiavo (2016) encourage the use of participatory communication in solving health problems among members of community. He says that participatory communication provides for collective voices in decision-making processes related to health and social issues among disadvantaged communities.

One way of encouraging public participation is through FGDs because as Lubombo *et al*., (2010) observes, "When the lines of communication are open in a community and all voices are encouraged to express themselves; with the expectations that their ideas will be acknowledged and considered, more solutions and more creative ones can emerge."

4.6.4 If Early Screening Helps in Treatment and Management of Prostate Cancer

The aim of this part was to identify respondents' awareness level on the importance of PCa screening, treatment and management.

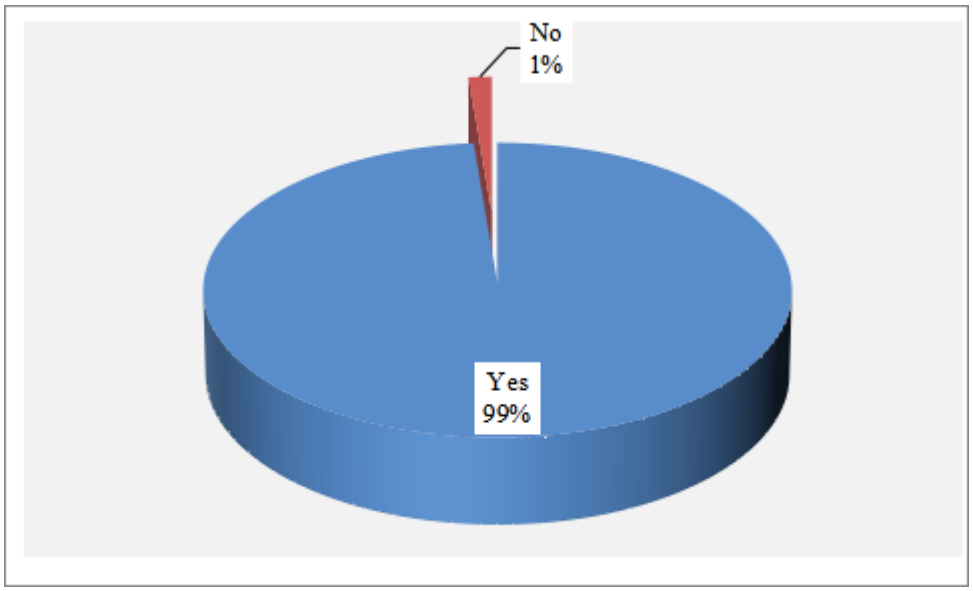


Figure 4.16: Early Screening Helps in Treatment and Management of Prostate Cancer

As shown in Figure 4.16, 99% vastly agreed (Yes) that early screening helps in treatment and management of prostate cancer. However, about 1% of the respondents were in contrary opinion. Howard, Tangka, Guy, Ekwueme and Lipscomb (2013) opined that study findings demonstrated that participation in prostate cancer screening is informed by an individual's subjective norms. Although routine screening for prostate cancer screening is not recommended, many men participate and remain enthusiastic about screening, as they believe that early detection prevents the disease. In light of the potential harms of screening, addressing individual and community perceptions of prostate cancer screening through communication and health messages is important to normalize the decision to for go prostate cancer screening.

These findings show that most of men agreed that early screening helps in treatment and management of prostate cancer, although they were reluctant to go for screening. It should be noted that this does not apply to prostate cancer only but also in most of the cancerous diseases.

4.6.5 Attitude towards Prostate Cancer Screening in the Community

One of the assumptions of this study is that the society's attitude towards PCa may determine the screening rates. Therefore, respondents were asked what they thought about the disease, how it affects the sufferer, his family and the community and if PCa screening was the solution.

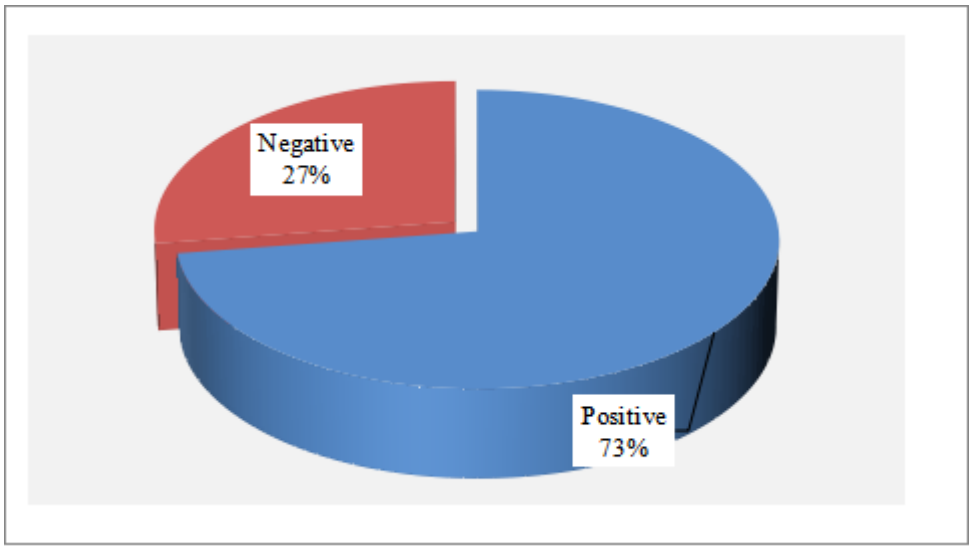


Figure 4.17: Attitude Towards Prostate Cancer Screening in The Community

Majority (73%) of the respondents in the survey had a negative attitude towards PCa screening while 27% gave a positive attitude. Although they admitted to have heard that testing is good as it can save lives, most of them did not see the need to test if they did not have the PCa symptoms.

The above sentiments and attitude were also exhibited in the FGDs, when asked if they have gone for testing/screening, one participant said:

> *"Why should I go for screening for a disease that I do not have symptoms for? What will I be testing for? That is a waste of time and resources."*

Another participant observed:

> *"What if I test positive? That knowledge will kill me very fast, I would rather live with the disease and die a slow death*

without my knowledge. That way, I may live longer. The thought of dying is scaring.

Some of the 27% who showed a positive attitude towards PCa testing and screening explained that they had come across PCa messages in their local church health forums. Others said that they got the messages during a health workshop organized at their place of work in conjunction with a local hospital, while others indicated that they got the information when they attended a health seminar organized by a volunteer group in their county hall.

The negative attitude towards PCa testing can be explained by gaps in content framing as well as government facilitation for quality media campaigns on prostate cancer awareness. Almost every participant in the FGD for this study was not aware of or had never come across any mass media champaign on PCa organized by the government. A participant in one FGD asked:

"Why don't we have big billboards warning people about prostate cancer prominently erected at strategic places like roadsides and market places like the ones we used to have some years back about HIV/AIDS? I have never come across any message on PCa on radio or TV."

The above sentiments were supported by Key Informants who said that their governments did not have a health campaign budget and moreso one for PCa. They all agreed that a "*simple"* budget is drawn when need arises although it is "*very rarely done*". This happens during health camps for general diseases by the county governments and the most common form of communication is announcements on television and radio informing the general public about such events.

4.6.6 Reasons for the general attitude about prostate cancer testing/screening

Participants in FGDs and interviewees in the survey were also asked to give reasons behind their responses on the general attitude about prostate cancer. Most participants

agreed that there was a general attitude that men are strong and therefore they rarely fall ill and if they did, they were strong enough to bear the pain. One participant quipped:

> *"If as a man you are always in hospital due to some minor ailments, what will your wife and children do? A man who keeps complaining about pain all the time is not man enough."*

Another participant added that:

> "*Men were too busy to go for testing especially if they are not ailing".*

The above sentiments were confirmed by Key Informants who explained that from their experience, women more often go for voluntary medical check-ups for various ailments at health facilities compared to men. The reason cited for this behaviour is that women are more receptive to advise on health matters while "*men are difficult to convince to go for testing since they claim that they don't have time for that.*" They also expressed that, while men "rarely" fall sick, they do not take care of themselves since they have a don't care attitude regarding their health.

The above findings are in tandem with Gamble and Gamble's (2020) view that men are more apt to develop an independent sense of self. "Since men are expected by the society to be strong, resilient, ambitious, in control of their emotions and successful and unlike women, they are reinforced for displaying these qualities and independence is central to their lives."

The principles of Cognitive Dissonance Theory are applicable here in that men who resist going for PCa screening are in a sort of dissonance because they know the benefits of up-taking PCa screening yet they do not go for it. One of the ways of reducing this dissonance is by changing men's attitude towards PCa in general and its

screening in particular. This is because attitude change in response to a state of dissonance is expected to be in the direction of the cognition that is most resistance to change. Dissonance caused by a decision can be reduced by viewing the chosen alternative as more attractive and /or viewing the rejected alternative as less attractive. The use of various forms of mass media have been cited by communication experts as one strategy of changing a people's attitude and behaviour response towards an issue like PCa screening.

Although mass media are said to have the advantage of communicating to mass audience, most studies suggest that print materials are not ideal for communicating prostate cancer information, especially among low-literacy populations (Friedman et al., 2011). They therefore suggested that text-based materials can be useful prostate cancer communication tools, especially if the information comes from a trusted source and/or is distributed in familiar settings such as churches or through Black news media (Griffith *et al*., 2012). Friedman et al., (2011) argue that text-messaging and email may offer more cost-effective and accessible ways of reaching Black men with prostate cancer information. Their participants reported having greater access to cell phones than regular Internet access, and they preferred receiving information via email or text messages over viewing Web pages in the internet.

In the current study, most of participants in interviews and FGDs preferred local radio and TV vernacular stations as the most effective and trusted mediums of mass communication. One participant said,

> *"I usually carry my radio to my furniture workshop and it's always tuned in to either Kameme F.M. or Inooro F.M. Those are my most preferred stations.But they rarely talk about the disease"*

However, Key informants interviewed, especially communication experts were of the opinion that other strategies could be considered for use. These include men's forums such as sporting events (involving both indoor games such as pool and darts and outdoor games such as football and rugby), men's social gatherings which are locally referred to as *'chamas'*, church gatherings and school parents' meetings.

In addition, prostate cancer information provided via text or email can be chunked into shorter, more easily understood segments, providing targeted information that requires little effort or skill to find and process, Song *et al*., (2015). A related study by the same research team demonstrated that low-income men responded favourably to receiving text messages about prostate cancer, using a system that enabled them to respond with questions about the information they had received and then receive answers via text. Among the 14 men who tried the text system, a majority said the system answered their questions well; nearly all expressed interest in using the system in the future to learn more about prostate cancer. In a later segment of the study, in which 10 participants used their own phones to receive messages and send questions, all the 10 men agreed that the texts had made them better prepared to seek further information from doctors or other health professionals (McRoy, Cramer, & Song, 2014).

The current study found out that the above strategy could not be effective on majority of men in Central Kenya because it comes with such challenges as poor network connectivity in the rural areas, high call tariffs and even affordability of the phones. In addition, digital literacy levels are also quite low and as a result, most men mainly used their cell phones for basic communication like calling. Most of the rural older men did not have smart phones that could enable them access the internet and

therefore it would be futile trying to communicate with such men using internet-based platforms.

However, the strategy could work well with younger men who are internet literate and have access to communication gadgets that could enable them access the internet. The few who participated in the FGDs explained that they came across PCa messages on the internet among other forums. They therefore recommended the use internet as one way of reaching those who are internet literate. They said that they found it easier and more convenient to access the information at the touch of a button on their mobile phones or computers than reading newspapers or looking for the information from other sources.

4.6.7 Influence of Participatory Communication on Men's Response to Prostate Cancer Screening

Table 4.5 presents the influence of participatory communication on men's response to prostate cancer screening on various aspects. Respondents were asked about their experiences in regard to the role of participatory communication in promoting PCa screening in the community.

Table 4.11: Influence of Participatory Communication on Men's Response to Prostate Cancer Screening

Indicator	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard deviation
a) Participatory communication is more effective than mass media in changing people's attitude about a health problem	2.9	2.6	6.4	47.3	40.9	4.208	0.889
b) Public debates about prostate cancer screening are useful in changing a person's attitude about the disease	0.3	4.2	6.1	55.3	34.2	4.188	0.750
c) Talking about men's health in public makes most of them shy away from such forums	2.9	8.3	17.9	25.4	45.5	4.023	1.107
d) Prostate cancer messages should be communicated by health experts only	8.9	17.9	8.3	24.3	40.6	3.696	1.385
Average	3.8	8.3	9.7	38.1	40.3	4.029	1.033

When interviewed about the influence of participatory communication on men's response to prostate cancer screening, the respondents strongly agreed that participatory communication is more effective than mass media in changing people's attitude about a health problem supported by a mean of 4.208 and a standard deviation of 0.889. Other strategies that were found useful are public debates about prostate cancer screening (mean = 4.188, standard deviation = 0.750). Most of the respondents also agreed that talking about men's health in public makes most of them shy away from such forums (mean = 4.023, standard deviation = 1.223). But few respondents agreed that prostate cancer messages should be communicated by health experts only (mean = 3.696, standard deviation = 1.385). On average the influence of participatory communication on men's response to prostate cancer screening was endorsed by the majority with a mean of 4.029 and a standard deviation of 1.033). These findings therefore imply that participatory communication strongly affect men's response to prostate cancer screening.

4.6.8 Inferential Statistics for the Relationship between Participatory Communication Men's Response to PCa Screening

Inferential statistics were based on coefficient of determination (R^2), analysis of variance (ANOVA) and regression coefficients for the model on the relationship between participatory communication men's response to PCa screening.

Table 4.12: R^2 on Relationship between Participatory Communication and Men's Response to PCa Screening

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.845a	0.714	0.713	0.449	1.904

a. Predictors: (Constant), Participatory Communication
b. Dependent Variable: Men's Response to PCa Screening

Coefficient of determination (R^2) was used to determine the extent to which participatory communication explained any change in the predicted variable (men's response to PCa screening). That is, the degree to which change in men's response to PCa screening by 1 unit is explained by participatory communication.

Results in Table 4.12 show an R-Square of 0.714 with the standard error of estimate being 0.449. This implies that participatory communication explains 71.3 percent of any change in men's response to PCa screening. The remaining 28.7 percent is explained by other factors. The researcher also tested for autocorrelation using Durbin Watson statistic. The Hypotheses for the Durbin Watson test are:

H_0 = No first order autocorrelation

H_1 = First order correlation exists.

(For a first order correlation, the lag is one-time unit).

A rule of the thumb is that, test statistic values in the range of 1.5 to 2.5 are relatively normal. Values that fall outside of this range could be viewed as a cause for concern. According to this study, Durbin Watson statistic was 1.904 which falls within the relatively-normal range and therefore there was no indication of autocorrelation in the residuals from a regression analysis.

Table 4.13: ANOVA on Relationship between Participatory Communication and Men's Response to PCa Screening

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	156.675	1	156.675	775.952	.000a
Residual	62.795	311	0.202		
Total	219.470	312			

a. Predictors: (Constant), Participatory communication
b. Dependent Variable: Men's Response to PCa Screening

An analysis of variance (ANOVA) was generated to determine the spread of the mean of variables, that is, spread between participatory communication and men's response to PCa screening which gives the regression; and the spread within data (responses) which represents the residuals. As shown in Table 4.11, F-Calculated (1, 311) = 775.952 > F-critical (1, 311) = 3.872 at 0.05 significance level confidence level. Results also show p-Value = 0.000 < 0.05. This implies that participatory communication has a significant effect on men's response to PCa screening.

Table 4.14: Regression Coefficients on Relationship between Participatory Communication and Men's Response to PCa Screening

	Unstandardised Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	-0.684	0.191		-3.580	0.000
Participatory Communication	1.157	0.042	0.845	27.856	0.000

a. Dependent Variable: Men's Response to PCa Screening

From the findings, when the predictor (participatory communication) is held constant, men's response to PCa screening would remain at (–ve).684 units. In addition, when participatory communication increases by 1 unit, men's response to PCa screening would increase by 1.157 units. The model can be summarized by equation (iii) as follows:

Y=-0.684 + 1.157X……*(iii)*

Where Y is the dependent variable (men's response to PCa screening) and X = participatory communication.

These results confirm that Participatory Communication (PC) is effective in changing a people's attitude to a health issue. They are consistent with the findings by Dickey et al., (2019) which concluded that PC is effective in changing attitude to a health issue because it allows for authentic listening and fosters trust between patients and prostate cancer service providers much more than mono-directional talking and enhance the uptake of PCa screening.

4.7 Interpersonal Communication

This section interrogates various aspects of interpersonal communication such as people who shared information about prostate cancer screening with men and those to be trusted most to share such information.

4.7.1 People Who Talked to Respondents About Prostate Cancer Screening

Respondents were asked to mention the people who talked to them most about PCa screening and whom they felt comfortable discussing the matter with.

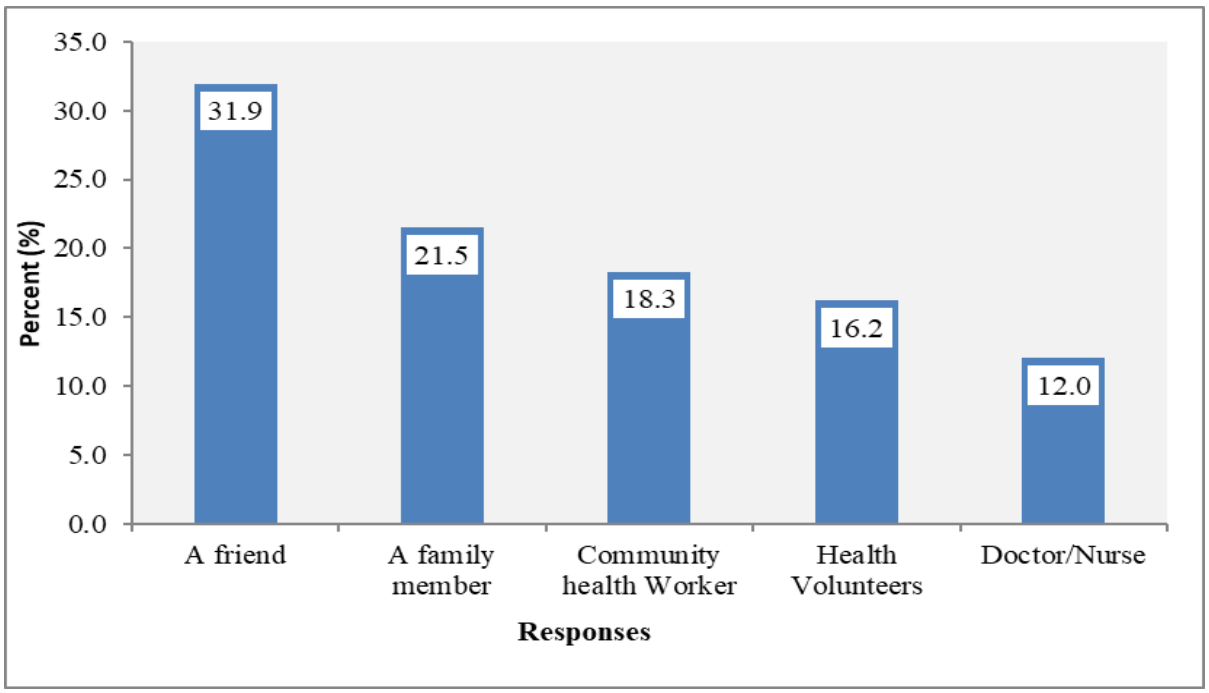


Figure 4.18: People who Talked to Respondents About Prostate Cancer Screening

Figure 4.18 represents various people who talked about prostate cancer screening with the respondents of which friends (31.9%) shared the most information. Other sources were, family members (21.5%), community health workers (18.3%), health volunteers (16.2%) and doctors/nurses (12%). Health communication relies on strong interpersonal communication in order to influence health decisions and behaviours.

The most important of these relationships are the connection and interaction between an individual and their health care provider (e.g. physician, therapist, and pharmacist) and an individual's social support system (family, friends, community).

These connections can positively influence the individual's decision to make healthy choices. Patients are more prone to listen when they feel invested emotionally into the situation. If they feel as if they understand what is being said, they are more prone to make objective decisions based on the information heard (Neuman, 2014). Similarly, Friedman et al., (2011) reported that word-of-mouth was the most common prostate cancer information source, especially among low-literacy men. Song et al., (2015) also reported that low-income minority men, relied on interpersonal health information sources but were less likely to consult family members and friends for prostate cancer information. Receiving prostate cancer information from medical professionals, but not family and friends, predicted prostate cancer screening participation.

The findings of this study were in congruent with findings of other studies that intimated that most men trusted the word of mouth from various trusted sources for PCa messages. These included health professionals, family members, friends, church leaders and community health workers.

4.7.2 Influence of Interpersonal Communication on Men's Response to Prostate Cancer Screening

Respondents were asked how interpersonal communication influenced their attitude and behaviour response to PCa screening and the most effective form of interpersonal communication.

Table 4.15: Influence of Interpersonal Communication on Men's Response to Prostate Cancer Screening

Indicator	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard deviation
a) Interpersonal communication is more effective than mass media in changing people's attitude about a health problem.	1.0	1.9	3.1	51.8	39.3	4.265	0.739
b) Discussing prostate cancer screening with a friend or physician can help reduce fear about the disease.	1.9	2.1	1.0	34.8	57.2	4.403	0.892
c) Discussing prostate cancer screening with other people is embarrassing.	20.8	41.5	19.5	8.9	9.3	2.444	1.182
Average	7.9	16.2	8.8	31.8	35.3	3.704	0.938

When asked about the influence of interpersonal communication on men's response to prostate cancer screening, respondents strongly agreed that discussing prostate cancer screening with a friend or physician can help reduce fear about the disease (mean = 4.403, standard deviation = 0.892). Moreso, interpersonal communication is more effective than mass media in changing people's attitude about a health problem (mean = 4.265, standard deviation = 0.739). They also felt that discussing prostate cancer screening with other people is embarrassing (mean = 2.444, standard deviation = 1.182). These findings indicate that interpersonal communication strongly affects men's attitude, decisions and response to prostate cancer screening.

On average the influence of interpersonal communication on men's response to prostate cancer screening has a mean of 3.704 and a standard deviation of 0.938. As Song et al., (2015) observe, health care providers who communicate well with patients are more likely to secure positive outcomes for patients, themselves and others. This is emphasized by Friedman et al., (2011) who assert that, "Patients who

are dealt with by professionals with good communication skills have been shown to have improved health indices and recovery rates." MacDonald (2006) also noted that good communication between patients and medical staff is important from the first encounter, because it forms the basis of all future transactions. Effective communication therefore needs to be patient-centred and informative, and needs to promote trust and confidence.

Similar observation was made by participants in the FGDs, most of whom said that they felt comfortable if they came across a physician who took time to listen and talk to them about their problem. One participant said:

> *"I avoid going to our level 4 hospital on a day of the week when a certain doctor is on duty because he does not take time to explain my condition to me. I therefore prefer a private clinic where, although it's not very well equipped, the doctor takes time to explain to me my problem. That way, I feel like my problem has been half-solved. I'm also able to open up and share openly my problem with the doctor."*

In supporting the use communication in solving health issues, Samovar et al., (2015) postulates that, "Communication is an enigma that is detrimental to the healthcare world and to the resulting health of a patient. It is a process for a mutual understanding to come at hand during interpersonal connections. A patient's communication with their healthcare team and vice versa, affects the outcome of their health. Strong, clear, and positive relationships with physicians can chronically improve and increase the condition of a certain patient."

Some aspects of Health Belief Model (HBM) selected for this study can apply here. According to the model, a person's decision to perform the health promoting (or damaging) behaviour will be based on'self-efficacy'. This is a person's perceived confidence of their ability to perform that behaviour. The HBM includes four factors that need to take place for a behaviour change to occur; the person needs to have an

'incentive' to change their behaviour, they must feel there is a 'risk' of continuing the current behaviour, the person must believe change will have 'benefits' that outweigh the 'barriers' and they must have the 'confidence' (self-efficacy) to change their behaviour. So, through interpersonal interactions, a health care worker who is able to communicate with his/her patients well should be able to convince them and instil confidence in them that they can manage PCa by undertaking early screening.

4.7.3 Inferential Statistics for the Relationship between Interpersonal Communication Men's Response to PCa Screening

Inferential statistics were based on coefficient of determination (R^2), analysis of variance (ANOVA) and regression coefficients for the model on the relationship between interpersonal communication and men's response to PCa screening.

Table 4.16: R^2 on Relationship between Interpersonal Communication and Men's Response to PCa Screening

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.778a	0.605	0.604	0.528	1.723

a. Predictors: (Constant), Interpersonal communication
b. Dependent Variable: Men's Response to PCa Screening

Coefficient of determination (R^2) was used to determine the extent to which interpersonal communication explained any change in the predicted variable (men's response to PCa screening). That is, the degree to which change in men's response to PCa screening by 1 unit is explained by interpersonal communication.

Results in Table 4.16 show an R-Square of 0.605 with the standard error of estimate being 0.522. This implies that interpersonal communication explains 60.5% of any change in men's response to PCa screening. The remaining 39.5 percent is explained

by other factors. The researcher also tested for autocorrelation using Durbin Watson statistic. The Hypotheses for the Durbin Watson test are:

H_0 = No first order autocorrelation

H_1 = First order correlation exists.

(For a first order correlation, the lag is one-time unit).

A rule of the thumb is that test statistic values in the range of 1.5 to 2.5 are relatively normal. Values that fall outside this range could be viewed as a cause for concern. According to this study, Durbin Watson statistic was 1.723 which falls within the relatively-normal range and therefore there was no indication of autocorrelation in the residuals from a regression analysis.

Table 4.17: ANOVA on Relationship between Interpersonal Communication and Men's Response to PCa Screening

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	132.860	1	132.860	477.079	.000a
Residual	86.609	311	0.278		
Total	219.470	312			

a. Predictors: (Constant), Interpersonal Communication
b. Dependent Variable: Men's Response to PCa Screening

Analysis of variance (ANOVA) was generated to determine the spread of the mean of variables, that is, spread between interpersonal communication and men's response to PCa screening which gives the regression; and the spread within data (responses) which represents the residuals. As shown in Table 4.17, F-Calculated (1, 311) = 477.079 > F-critical (1, 311) = 3.872 at 0.05 significance level confidence level.

Results also show p-Value = 0.000 < 0.05. This implies that interpersonal communication has a significant statistical effect on men's response to PCa screening.

Table 4.18: Regression Coefficients on Relationship between Interpersonal Communication and Men's Response to PCa Screening

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	1.978	0.123		16.024	0.000
Interpersonal Communication	0.665	0.030	0.778	21.842	0.000

a. Dependent Variable: Men's Response to PCa Screening

From the findings, when the predictor (interpersonal communication) is held constant, men's response to PCa screening would remain at 1.978 units. In addition, when interpersonal communication increases by 1 unit, men's response to PCa screening would increase by 0.665 units. The model can be summarized by equation (iv) as follows:

Y=1.180+0.815X…………………….………………………………………………..*(vi)*

Where Y is the dependent variable (men's response to PCa screening) and X = interpersonal communication.

These results prove that there is a strong relationship between Interpersonal Communication (IPC) and men's response to PCa screening. They are also consistent with findings by Oriaso (2013) that concluded that if appropriate IPC strategies are put in place, they could help promote attitude and behaviour change to reduce risky sexual practices associated with HIV/AIDS among the target group in Karachuonyo West District of Kenya.

4.8 Moderating influence of Culture

This section looked at the moderating influence of culture on the attitude of the respondents on their response to prostate cancer screening. This was done by asking the extent to which a respondent agreed or disagreed with various aspects of culture and attitude as illustrated in table 4.19 below.

4.8.1 Influence of Culture on Men's Response to Prostate Cancer Screening

Table 4.19: Culture

Indicator	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard deviation
a) Men are strong and therefore they don't need to go for regular prostate cancer screening.	0.6	1.6	0.3	65.2	32.3	4.270	0.609
b) If I do not have prostate cancer symptoms, I do not need to go for screening.	1.3	1.0	0.6	55.9	41.2	4.347	0.674
c) Prostate cancer makes a man weak sexually.	3.3	11.5	14.2	25.9	45.1	3.980	1.162
d) Prostate cancer screening is embarrassing.	0.9	4.8	9.1	33.2	52.0	4.306	0.889
e) There is no cure for prostate cancer.	7.7	1.3	4.9	37.2	48.9	4.183	1.118
f) If I go for prostate cancer screening, I want to be seen by a male nurse/doctor only.	4.0	9.9	12.1	39.3	34.7	3.908	1.103
Average	3.0	5.0	6.9	42.8	42.4	4.166	0.926

As shown in table 4.7, respondents highly agreed that, if one did not have prostate cancer symptoms, they did not need to go for screening (mean = 4.347; standard deviation = 0.674). They also indicated that prostate cancer screening is embarrassing

(mean = 4.306; standard deviation = 0.889). Most of them expressed discomfort with the most common testing method, the Digital Rectal Examination (DRE). They found the method to be intrusive especially for a man. The same sentiments were expressed by black men in a study carried out by Wood *et al* (2014). Men said that the method was unpopular as it was associated with homosexuality in a community where the behaviour was treated with stigma.

Th study findings also indicated that most respondents felt that men are strong and therefore they did not need to go for regular PCa screening. (mean = 4.270; standard deviation = 0.609). This as explained earlier by Key Informants is attributed to men's poor health-seeking behaviour. Others did not find it necessary to go for PCa screening because they believed that there was no cure for the disease (mean = 4.183; standard deviation = 1.118). In addition, other respondents opined that prostate cancer makes a man weak sexually (mean = 3.980; standard deviation = 1.162). Majority of them also felt that, if they went for PCa screening, they would like to be attended to by a male nurse or doctor only (mean = 3.908; standard deviation = 1.103). The average mean on culture, gender and attitude was 4.166 with standard deviation being 0.926).

Respondents who preferred to be treated by a male physician explained that the disease is so personal as it involves discussing one's sexuality which is quite uncomfortable to discuss with a person of the opposite gender. The situation even becomes more sensitive when it involves the DRE testing method. The same sentiments were also expressed by participants in FGDs. One of them observed that:

> *"I find it quite embarrassing to discuss my sexuality with a lady physician, some of whom are as young as my daughter. In one visit to hospital I left half way when the lady doctor told me that she was going to perform DRE on me. When she explained what the test*

entailed, I could not believe it. So it was true what I had heard from my friends?"

The above findings can be explained using some tenets of the Theory of Reasoned Action as postulated by Ajzen and Fishbein (2004). The theory in part claims that your intention to behave in a certain way is determined by your attitude toward the behaviour and a set of beliefs about how other people would like you to behave. Culture and gender are some of the factors that affect people's attitude and especially how men perceive and react to health messages. Indeed culture determines how men and women communicate health issues.

The above point of view is supported by DeVito (2016) who argues that different cultures view self-disclosure in different ways. Some cultures especially those high in masculinity view disclosing inner feelings as weakness. DeVito (2016) further says that the popular stereotype of gender differences in self-disclosure emphasizes males' reluctance to speak about them. Therefore, from a cultural perspective, men in most cases are reluctant to disclose their health status to other members of the community because culture discourages them from discussing their health status openly. As a result, it becomes difficult for health workers and care givers to discuss issues related to prostate cancer with those afflicted by the disease due to lack of self-disclosure. An attitude is determined by identifying a set of relevant beliefs, measuring the strength or certainty of these beliefs and measuring their evaluation as well. Once these steps are taken, the researcher sums these measures together, resulting in an attitude measurement.

4.8.2 Inferential Statistics for the influence of between Culture, and Men's Response to PCa Screening

Inferential statistics were based on coefficient of determination (R^2), analysis of variance (ANOVA) and regression coefficients for the model on the relationship between culture, gender, and attitude men's response to PCa screening.

Table 4.20: R^2 on Relationship between Culture and Men's Response to PCa Screening

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.756a	0.572	0.571	0.550	1.673

a. Predictors: (Constant), Culture, Gender, and Attitude
b. Dependent Variable: Men's Response to PCa Screening

Coefficient of determination (R^2) was used to determine the extent to which culture and gender, explained any change in the predicted variable (men's response to PCa screening). That is, the degree to which change in men's response to PCa screening by 1 unit is explained by culture and gender.

Results in Table 4.20 show an R-Square of 0.571 with the standard error of estimate being 0.550. This implies that culture, gender, and attitude explain 65.4 percent of any change in men's response to PCa screening. The remaining 22.9 percent is explained by other factors. The researcher also tested for autocorrelation using Durbin Watson statistic. The Hypotheses for the Durbin Watson test are:

H_0 = No first order autocorrelation

H_1 = First order correlation exists.

(For a first order correlation, the lag is one-time unit).

A rule of the thumb is that, test statistic values in the range of 1.5 to 2.5 are relatively normal. Values that fall outside this range could be viewed as a cause for concern. According to this study, Durbin Watson statistic was 1.673 which falls within the relatively-normal range and therefore there was no indication of autocorrelation in the residuals from a regression analysis.

Table 4.21: ANOVA on Relationship between Culture Men's Response to PCa Screening

	Sum of Squares	df	Mean Square	F	Sig.
Regression	125.515	1	125.515	415.467	.000a
Residual	93.955	311	0.302		
Total	219.470	312			

a. Predictors: (Constant), Culture, gender, and attitude
b. Dependent Variable: Men's Response to PCa Screening

Analysis of variance (ANOVA) was generated to determine the spread of the mean of variables, that is, spread between culture, gender, and attitude and men's response to PCa screening which gives the regression; and the spread within data (responses) which represents the residuals. As shown in Table 4.17, F-Calculated (1, 311) = 415.467 > F-critical (1, 311) = 3.872 at 0.05 significance confidence level. Results also show p-Value = 0.000 < 0.05. This implies that collectively, culture and gender, have a significant statistical effect on men's response to PCa screening.

Table 4.22: Regression Coefficients on Relationship between Culture and Gender and Men's Response to PCa Screening

	Unstandardised Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	1.543	0.153		10.089	0.000
Culture, Gender and Attitude	0.738	0.036	0.756	20.383	0.000

a. Dependent Variable: Men's Response to PCa Screening

From the findings, when the predictor (culture and gender) is held constant, men's response to PCa screening would remain at 1.543 units. In addition, when culture, gender, and attitude increases by 1 unit, men's response to PCa screening would increase by 0.738 units. The model can be summarized by model (v) as follows:

$$\mathbf{Y=1.543+0.738X} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots .....(v)$$

Where Y is the dependent variable (men's response to PCa screening) and X = culture, gender, and attitude.

The results confirm that there is a strong relationship between culture and gender and men's response to PCA screening. They are also consistent with findings by Rivers *et al.,* (2011) who observed that culturally appropriate cancer educational materials and programmes have been found to dispel myths, eliminate misconceptions and change attitudes about cancer and cancer screening and treatment.

Besides these findings, men's reluctance to disclose their health status was evident from the FGDs. For example, a participant explained that when his father experienced some PCa symptoms, he started seeing their family doctor secretly and he never told anyone in the family about it including his wife. When the wife discovered that her

husband was taking some medicine, she informed the participant who decided to find out discretely from the doctor what was ailing his father. It turned out that his father had an enlarged prostate but luckily it was not cancerous. But they agreed as a family not to talk to their father about the matter because he might stop seeing the doctor if he discovered that the doctor had disclosed his medical condition to his family.

Culture and attitude were also identified as some of the factors affecting men's health-seeking behaviour. When participants in an FGD were asked why men did not go for medical check up as regularly as they should, one respondent said*:*

> *"As a man I'm not used to having my body touched by anyone just like that in the name of testing for diseases that I know I don't have."*

In order to improve men's health seeking behaviour, study by Greenfield *et al.,* (2016) recommended that men should be encouraged to accompany their wives to the clinic when they go for breast cancer testing so that they could also be screened for PCa. This was based on the premise that women are constantly in contact with medical facilities from an early stage for various reasons and therefore they are used to regular medical check ups. When asked if they could accompany their wives to hospital as recommended, FGD men participants unanimously said that it is not in their culture to accompany their wives wherever they went. One participant said:

> *"I can't accompany my wife to hospital or anywhere else for that matter, that's not what we were taught by our fathers. We did not see them do it with our mothers, how should we start it now? That will be like following my wife's instructions. If need arises that we have to go somewhere with my wife, I usually give her bus fare and ask her to meet me at the appointed place."*

From the interviews and FGDs it is clear that there is stigma associated with PCa. For example, community members dread the disease so much that it is rarely referred to by its actual name. Most participants said prostate cancer is believed to affect the aged

more that the youthful men and therefore community members referred to it as the 'disease of old men'. Others believed that PCa was hereditary and it was like a death sentence since it had no cure. A participant thus opined that:

> "*Prostate cancer is hereditary and it is a sure way of death once you have been diagnosed with it*."

Other participants in the FGDs thought that once diagnosed with PCa, the victim's self-esteem is greatly affected because they believe that the disease makes the sufferer sexually inactive and impotent. This implies that there have not been effective communication from relevant stakeholders to sensitize men on the need for PCa screening in the local community. From the discussions, it was observed that the disease affects the entire family of the victim, in some cases leading to family breakup.

During one of the FGD sessions the researcher could hear the participants whisper names of people in their neighbourhood who were abandoned by their wives and children when they were diagnosed with PCa. One participant disclosed that:

> *"We know of a neighbour who was left by his wife when she discovered that he was sick with PCa because he could no longer perform his marital and other family duties. When the disease got to an advanced stage, the other members of the family also left one by one. Only one daughter came back to take care of her ailing father and you know nursing a PCa patient is quite a challenge especially for a daughter to her father.."*

The Theory of Reasoned Action is applicable here again as it predicts behavioural change by examining attitudes, beliefs and behaviour intentions and which postulates that attitude, perceptions of the social norms and perceived behavioural control interact to affect a person's behavioural intentions, which in turn affects actual behaviour. As found in the current study, the theory explains influences on behaviours that involve conscious decision making. Its focus on voluntary behaviour is practical

when targeting behaviour change interventions because intentions are not independent, but result from underlying attitudes and subjective norms (LittleJohn *et al.*, 2017).

As cited by Schiavo (2016), effective communication can be used to influence a people's attitude and behaviour response towards a health problem and behaviour change communication (BCC) is one of the approaches used in health communication. Scutchfield and Keck (2013) also recommend behaviour change programmes that aim at increasing knowledge, stimulating dialogue, promoting attitude change, reducing stigma and improving skills among others. At the same time, receiving information from trusted sources has significant effects on behaviour; when combined with evidence of social norms promoted through mass media, these behaviours and attitudes are reinforced. Rivers *et al.*, (2011) likewise argue that developing culturally appropriate cancer educational materials and programmes has been found to dispel myths, eliminate misconceptions and change fatalistic attitudes about cancer and cancer screening and treatment.

The issue of perception and attitude are explained better by Gamble and Gamble (2020) that through interaction with parents, teachers, peers and others we internalize the lessons of appropriate male and female behaviour. These lessons frame our perceptions and teach us how society expects us to behave. Our perceptions of self are therefore affected by what we have come to believe about our gender. Men are more apt to develop an independent sense of self. Since men are expected to be strong, resilient, ambitious, in control of their emotions and successful, they are reinforced for displaying these qualities and independence is central to their lives.

The decision making process for prostate cancer screening align with the domains of the Integrated Behaviour Model, which has been commonly used to explain decision making in cancer screening. The model theorizes that intentions (founded by attitudes, subjective norms and perceived self-efficacy) are the predominant determinants of enacting behaviour; while ability, environmental constraints and habit directly enable or constrain the resulting action. Thus, our findings demonstrate that men's decision making for prostate cancer screening is influenced by knowledge obtained through support networks and other means, the personal impact of knowing someone who has suffered from cancer, and their motivation to maintain their well-being. However, the only environmental constraint identified in the review was the out-of-pocket costs of screening, which varied with jurisdiction.

Findings in this study are consistent with findings of similar studies for other cancers. Receiving direct recommendation from a health care provider to undergo screening has also been found to prompt and reinforce motivation for participation in cancer screening. Other facilitators of screening also include early detection and prevention of cancer, peace of mind, and being in control of own health.

Studies have also shown that patients are conscious of their own lack of awareness about the risk and harms of screening, which contributes to uncertainties in decision making. In terms of barriers, concerns about invasion of privacy in screening have also been documented in the context of cervical cancer. In prostate cancer screening, sexual impotence was identified as a major concern in the current study and it thus significantly influenced men's preferences for screening with most of them choosing to stay away from screening. However, those with higher levels of awareness were more willing to accept this potential harm to avoid prostate cancer related death.

4.9 Moderating Effect of Culture

To assess the moderating effect of culture on the relationship between behavioural change communication strategies and men's response to PCa screening, the null research hypothesis was stated as follows: *There is no significant moderating effect of culture on the relationship between behavioural change communication strategies and men's response to PCa screening in Central Kenya.* This was assessed and results explained using the coefficient of determination (R-Square), Analysis of Variance (ANOVA) as well as regression coefficients. Hierarchical regression analysis was performed with an interaction term (a product of behavioural change communication strategies and men's response to PCa screening) introduced as an additional predictor. To draw the verdict, the researcher grouped the moderating effect as either enhancing, where increasing the moderator would increase the effect of the predictor (X) on the outcome (Y); buffering, where increasing the moderator (W) would decrease the effect of the predictor on the outcome; or antagonistic, where increasing the moderator would reverse the effect of the predictor on the outcome.

The three hierarchical models used to predict this relationship were stated as follows:

$Y_1=\beta_0 + \beta_1 X + \varepsilon$ …… *Model 1*

$Y_2 =\beta_2 + \beta_3 X + \beta_4 W+\varepsilon$ …… *Model 2*

$Y_3 =\beta_5 + \beta_6 X + \beta_7 W + \beta_8 X^* W +\varepsilon$ …… *Model 3*

Table 4.23: Model Summary for Moderating Effect

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R^2-Change	F-Change	df1	df2	Sig. F-Change
1	.870[a]	.758	.757	.41367	.758	971.538	1	311	.000
2	.870[b]	.758	.756	.41425	.000	.123	1	310	.726
3	.936[c]	.877	.875	.29599	.119	298.193	1	309	.000

Table 23 presents the proportion of the variability in the men's response to PCa screening (dependent variable) that can be accounted for by behavioural change communication strategies and culture and gender (predictors). As shown in the findings, all the three models explained a significant variation in Y except for Model 2 whose F-change was insignificant. Model 1, which presented a direct causal relationship, indicated that behavioural change communication strategies explained 0.758 (75.8%) of any change in men's response to PCa screening with a standard error of the estimate being 0.414. Similarly, Model 2 (control model) had an R-square of 0.758 which was an increment of 0.000 from the causal model with a standard error of the estimate being 0.414. The introduction of the interaction term in model 3 generated a significant increment on R-square by 0.119 making the coefficient of determination in Model 3 to be 0.877 with the standard error of estimate being 0.296.

ANOVA for Moderating Effect

Table 4.24: Model Summary for Moderating Effect

Model		Sum of Squares	Df	Mean Square	F	p-Value
1	Regression	166.251	1	166.251	971.538	.000[a]
	Residual	53.219	311	.171		
	Total	219.470	312			
2	Regression	166.272	2	83.136	484.460	.000[b]
	Residual	53.198	310	.172		
	Total	219.470	312			
3	Regression	192.397	3	64.132	732.002	.000[c]
	Residual	27.072	309	.088		
	Total	219.470	312			

The ANOVA (Table 24) was intended to evaluate if models 1, 2, and 3 are, in overall, significant and if the amount of variance accounted for in Model 3 (with the interaction) is significantly more than Model 2 (control model). Findings indicate that the amount of variance accounted for in each of the three models is significant (p-value<0.05 in every model). Nonetheless, the amount of variance accounted for in Model 3 is significantly higher than that of Model 2 given that $F(3, 309) = 732.002 > F(2, 310) = 484.460$.

Table 4.25: Regression Coefficients for Moderating Effect

Model		Unstandardised Coefficients		Standardized Coefficients	T	p-Value
		B	Std. Error	Beta		
1	(Constant)	.488	.134		3.645	.000
	Behavioural change communication strategies	.991	.032	.870	31.170	.000
2	(Constant)	.488	.134		3.645	.000
	Behavioural change communication strategies	.972	.063	.854	15.411	.000
	Culture	.019	.054	.019	.350	.726
3	(Constant)	-3.224	.235		-13.699	.000
	Behavioural change communication strategies	2.016	.075	1.771	26.734	.000
	Culture,	1.133	.075	1.161	15.069	.000
	Behavioural change communication	-.295	.017	-2.018	-17.268	.000

Table 25 presents regression coefficients that quantify the effect of the variable on men's response to PCa screening while controlling for the effect of other variables in the model. B_6= 2.016 (t=-26.734, p-Value=.000) is the regression coefficient relating the behavioural change communication strategies to men's response to PCa screening controlling for both culture, gender and attitude and the interaction of the behavioural change communication strategies and culture, gender and attitude. β_7=-1.133, (t=-15.069, *p-Value*=.000) is the regression coefficient relating culture, gender and attitude to men's response to PCa screening controlling for the effects of the behavioural change communication strategies and the interaction of the behavioural change communication strategies and culture, gender and attitude in the model. β_8=-295(t=-17.268, *p*-Value=.000) is the regression coefficient relating the interactive effect of the behavioural change communication strategies and culture, gender and attitude on men's response to PCa screening controlling for each effect independently. Finally, β_5=-3.224(t=-13.699, p-Value=.000) represents the intercept in the equation, or the value of predicted men's response to PCa screening when all predictors in the model equal zero. The β_8 coefficient corresponding to the interactive effect of the behavioural change communication strategies and culture, gender and attitude is considered a higher-order term in the model as it is created by multiplying other variables in the following equation:

$$\boldsymbol{S_t = 6.018 - 1.035L_p - 0.064L_d + 0.038L_p * L_d} \qquad \text{……………………………………………} \; (1)$$

Where X*W represents interaction term given as a product of culture, gender and attitude (W) and behavioural change communication strategies (X)

Given the results, the researcher rejected the null hypothesis ($H0_5$) and therefore concluded that has a significant enhanced moderating effect on the relationship between behavioural change communication strategies and men's response to PCa screening in Central Kenya. The moderation was termed as enhancing given that ΔR^2 was positive (that is by 0.119) and significant (p-Value<0.05).

4.9.1 Influence of culture on men's response to prostate cancer screening

Table 4.26: Influence of Culture

Indicator	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard deviation
g) Men are strong and therefore they don't need to go for regular prostate cancer screening.	0.6	1.6	0.3	65.2	32.3	4.270	0.609
h) If I do not have prostate cancer symptoms, I do not need to go for screening.	1.3	1.0	0.6	55.9	41.2	4.347	0.674
i) Prostate cancer makes a man weak sexually.	3.3	11.5	14.2	25.9	45.1	3.980	1.162
j) Prostate cancer screening is embarrassing.	0.9	4.8	9.1	33.2	52.0	4.306	0.889
k) There is no cure for prostate cancer.	7.7	1.3	4.9	37.2	48.9	4.183	1.118

l) If I go for prostate cancer screening, I want to be seen by a male nurse/doctor only.	4.0	9.9	12.1	39.3	34.7	3.908	1.103
Average	3.0	5.0	6.9	42.8	42.4	4.166	0.926

As shown on table 4.26, respondents highly agreed that, if one did not have PCa symptoms, they did not need to go for screening (mean = 4.347; standard deviation = 0.674). They also indicated that prostate cancer screening is embarrassing (Mean = 4.306; standard deviation = 0.889). Most of them expressed discomfort with the most common testing method, the Digital Rectal Examination (DRE). They found the method to be intrusive especially for a man. The same sentiments were expressed in a study carried out by Wood *et al.,* (2014) on black men in the USA. Men said that the DRE method was unpopular because it was associated with homosexuality in a community where the behaviour was treated with stigma.

Findings also indicated that respondents felt that men are strong and therefore they did not need to go for regular PCa screening. (Mean = 4.270; Standard Deviation = 0.609). This as explained earlier by Key Informants is attributed to men's poor health-seeking behaviour. It was also reported that others did not find it necessary to go for PCa screening because they believed that there was no cure for the disease (Mean = 4.183; Standard Deviation = 1.118). In addition, other respondents opined that prostate cancer makes a man weak sexually (Mean = 3.980; Standard Deviation = 1.162). Majority of them also felt that, if they went for the screening, they would prefer to be attended to by a male nurse or doctor only (Mean = 3.908; Standard

Deviation = 1.103) because of the nature of the disease. The average mean on culture, gender and attitude was 4.166 with standard deviation being 0.926).

Respondents who preferred to be treated by a male physician explained that the disease is too personal because it involves discussing one's sexuality which is quite uncomfortable to discuss with a person of the opposite sex. The situation even becomes more sensitive when it involves the DRE testing method. Similar sentiments were also expressed by participants in FGDs. One of them observed that,

> *"I find it quite embarrassing to discuss my sexuality with a lady physician, some of whom are as young as my daughter. In one visit to hospital I left half-way when the lady doctor told me that she was to perform DRE on me. When she explained what the test entailed, I could not believe it. So it was true what I had heard from my friends?"*

The above findings can be explained using some tenets of the Theory of Reasoned Action as postulated by Ajzen and Fishbein (2004). The theory in part claims that your intention to behave in a certain way is determined by your attitude toward the behaviour and a set of beliefs about how other people would like you to behave. Culture and gender are some of the factors that affect people's attitude and especially how men perceive and react to health messages. Indeed, culture determines how men and women communicate health issues, including sharing information in the process of self-disclosure.

The above point of view is supported by DeVito (2016) who asserts that different cultures view self-disclosure in different ways. Some cultures especially those high in masculinity view disclosing inner feelings as weakness. DeVito (2016) further says that the popular stereotype of gender differences in self-disclosure emphasizes males' reluctance to speak about them. Therefore, from a cultural perspective, men in most cases are reluctant to disclose their health status to other members of the community

because culture discourages them from openly discussing their health status. As a result, it becomes difficult for health workers and care givers to discuss issues related to prostate cancer with those afflicted due to lack of self-disclosure. An attitude is determined by identifying a set of relevant beliefs, measuring the strength or certainty of these beliefs and measuring their evaluation as well. Once these steps are taken, the researcher sums these measures together, resulting in an attitude measurement.

The results confirm that there is a strong relationship between culture and men's response to PCa screening. They are also consistent with findings by Rivers *et al.,* (2011) who observed that culturally appropriate cancer educational materials and programmes have been found to dispel myths, eliminate misconceptions and change attitudes about cancer and cancer screening and treatment.

In the current study findings, men's reluctance to disclose their health status was evident from the FGDs. For example, a participant explained that when his father experienced some PCa symptoms, he started seeing their family doctor but he never told anyone in the family about it including his wife. When the wife discovered that he was taking some medicine, she informed the participant who decided to find out secretly from the doctor what was ailing his father. Luckily, his father had an enlarged prostate but it was not cancerous. But they agreed as a family not to talk to their father about it because he night stop seeing the doctor if he discovered that he had disclosed his medical condition to the family.

Culture and attitude were also identified as some of the factors affecting men's health-seeking behaviour. When participants in an FGD were asked why men did not go for medical check-up as regularly as they should, one respondent said,

"As a man I'm not used to having my body touched by anyone just like that in the name of testing for diseases that I know I don't have."

In order to improve men's health seeking behaviour, study by Greenfield *et al.,* (2016) recommended that men should be encouraged to accompany their wives to the clinic when they go for breast cancer testing so that they could also be screened for PCa. This was based on the premise that women are constantly in contact with medical facilities from an early stage for various reasons and therefore they are used to regular medical check-ups. When asked if they could accompany their wives to hospital as recommended, FGD participants unanimously said that it is not in their culture to accompany with their wives wherever they go. One participant said:

"I can't accompany my wife to hospital or anywhere else, that's not what we were taught by our fathers. We did not see them do it with our mothers, how should we start it now? That will be like following my wife's instructions. If need arises that we have to go somewhere with my wife, I usually give her bus fare and ask her to meet me at the appointed place."

From the interviews and FGDs it is clear that there is stigma associated with PCa. For example, community members dread the disease so much that it is rarely referred to by its actual name. Most participants said prostate cancer is believed to affect the aged more that the youthful men community members referred to it as the 'disease of old men'. Others believed that PCa was hereditary and it was like a death sentence since it had no cure. A participant opined that:

"*Prostate cancer is hereditary and it is a sure way of death once you have been diagnosed with it*."

Other participants in the FGDs thought that once diagnosed with PCa, the victim's self-esteem is greatly affected because they believe that the disease makes the sufferer sexually inactive and impotent. This implies that there have not been effective

communications from relevant stakeholders towards prostate cancer screening in the local community. The disease also affects the entire family of the victim in some cases leading to family breakup.

During one of the FGDs sessions the researcher could hear the participants whisper names of people in their neighbourhood who were abandoned by their wives and children when they were diagnosed with PCa. One participant disclosed that:

> *"We know of a neighbour who was left by his wife when she discovered that he was sick with PCa because he could no longer perform his marital and other family duties. When the disease got to an advanced stage, the other members of the family also left. Only one daughter came back to take care of her ailing father and you know nursing a PCa patient is quite a challenge especially when it is done by a daughter to her father.."*

The Theory of Reasoned Action is applicable here again as it predicts behavioural change by examining attitudes, beliefs and behaviour intentions. The theory postulates that attitude, perceptions of the social norms and perceived behavioural control interact to affect a person's behavioural intentions, which in turn affects actual behaviour. As found in the current study, the theory explains influences on behaviours that involve conscious decision making. Its focus on voluntary behaviour is practical when targeting behaviour change interventions because intentions are not independent, but result from underlying attitudes and subjective norms (LittleJohn *et al*, 2017).

As cited by Schiavo (2016), effective communication can be used to influence a people's attitude and behaviour response towards a health problem and behaviour change communication (BCC) is one of the approaches used in health communication. Scutchfield and Keck (2013) also recommend behaviour change programmes that aim at increasing knowledge, stimulating dialogue, promoting

attitude change, reducing stigma and improving skills among others. At the same time, receiving information from trusted sources has significant effects on behaviour; when combined with evidence of social norms promoted through mass media, these behaviours and attitudes are reinforced. Rivers *et al.,* (2011) likewise argue that developing culturally appropriate cancer educational materials and programmes has been found to dispel myths, eliminate misconceptions and change fatalistic attitudes about cancer and cancer screening and treatment.

The issue of perception and attitude are explained better by Samova *et al.,* (2015) that through interaction with parents, teachers, peers and others we internalize the lessons of appropriate male and female behaviour. These lessons frame our perceptions and teach us how society expects us to behave. Our perceptions of self are therefore affected by what we have come to believe about our gender. Men are more apt to develop an independent sense of self. Since men are expected to be strong, resilient, ambitious, in control of their emotions and successful, they are reinforced for displaying these qualities and independence is central to their lives unlike women.

The decision making process for prostate cancer screening align with the domains of the Integrated Behaviour Model, which has been commonly used to explain decision making in cancer screening. The model theorizes that intentions (founded by attitudes, subjective norms and perceived self-efficacy) are the predominant determinants of enacting behaviour; while ability, environmental constraints and habit directly enable or constrain the resulting action. Thus, our findings demonstrate that men's decision making for prostate cancer screening is influenced by knowledge obtained through support networks and other means, the personal impact of knowing someone who has suffered from cancer, and their motivation to maintain their well-being. However, the

only environmental constraint identified in the review was the out-of-pocket costs of screening, which varied by jurisdiction.

Findings of this study are consistent with similar studies for other cancers. Receiving direct recommendation from a health care provider to undergo screening has also been found to prompt and reinforce motivation for participation in cancer screening. Other facilitators of screening also include early detection and prevention of cancer, peace of mind, and being in control of own health.

Studies have also shown that patients are conscious of their own lack of awareness about the risk and harms of screening, which contributes to uncertainties in decision making. In terms of barriers, concerns about invasion of privacy in screening have also been documented in the context of cervical cancer. In prostate cancer screening, sexual impotence was identified as a major concern in the current study and it thus significantly influenced men's preferences for screening with most of them choosing to stay away from screening. However, those with higher levels of awareness were more willing to accept this potential harm to avoid PCa related death.

In conclusion, we can say that the findings of this study show that culture, gender and attitude have a great influence on men's response to PCa screening. Therefore, when coming up with behaviour change communication strategies, there is need to address these variables with the right messages, message framing and strategies such as participatory and interpersonal communication.

4.10 Discussion of the Findings

The findings of this study are discussed here based on the study objectives, theory, literature and data interpretation with an attempt to link all of these aspects of the study.

4.10.1 Mass Media Campaigns

One of the objectives of the study was to determine the influence of mass media campaigns on men's response to PCa screening. According to the findings, only 31.7% of men had received information about prostate cancer from mass media although the frequency of the messages was quite low. Radio, television and newspapers were said to be the most common forms of mass media that were used to communicate PCa messages in the region. However, despite their low frequency, these messages were said to have changed most of the men's (those who came across the messages) attitude about the disease. For instance, 60% of the respondents believed that the disease can be treated if detected early. Some of them reported to have undertaken PCa screening after receiving the messages.

Mass media campaigns have been used in an attempt to affect various health behaviours in mass populations. Such campaigns have most notably been aimed at tobacco use and heart-disease prevention, but have also addressed alcohol and illicit drug use, cancer screening and prevention, sex-related behaviours, child survival, and many other health-related issues.

Typical campaigns have placed messages in media that reach large audiences, most frequently via television or radio, and also outdoor media, such as billboards and posters, and print media, such as magazines and newspapers (USAID, 2010). Exposure to such messages is generally passive, resulting from an incidental effect of

routine use of media. Some campaigns incorporate new technologies (e.g, the internet, mobile phones and personal digital assistants), but recipients have so far generally been required to actively choose to seek information. The great promise of mass media campaigns lies in their ability to disseminate well-defined behaviourally focused messages to large audiences repeatedly, over time, in an incidental manner, and at a low cost per head (Thakur *et al.,* 2014).

Some tenets of the Cognitive Dissonance Theory can apply here as mass media could be used to change men's attitude to PCa screening by helping remove the dissonance. This is because, as the theory stipulates, under certain circumstances, an individual is aware of a certain risk and what they are supposed to do to avoid the risk yet they do not adopt the desired behaviour, this is due to their attitude towards that issue. So, in the case of PCa screening, men's attitude can be impacted using constant and varied mass media channels and strategies so as to reach as many men as possible.

4.10.2 Message Framing

The study findings indicate that 64.2% of the respondents did not come across any messages about prostate cancer from their county government. The few PCa messages that were communicated by county governments were poorly framed to inspire any meaningful action by men in the target group. Some counties did not have such messages since there was no official health communication intervention strategy. It was reported by Key Informants that they did not even have a budget for health awareness campaigns. As a result, the communication departments in the counties were not engaged in the designing and dissemination of PCa messages for their county governments.One Key Informant said:

> *"We have a semblance of what you would call health communication campaign. It is carried out by volunteer groups,*

most of whom are ill-equipped because they lack the requisite expertise and adequate resources to cover the entire county as well as do a proper campaign."

The messages on PCa were mostly communicated in the weekly chief's *baraza*, religious forums, school parents' meetings and men sporting activities. These forums had some impact in changing men's attitude towards PCa but their impact was not so profound as they only reached a few people. However, most participants in the survey and FGDs appreciated the way messages were framed and communicated in those forums and regarded the messages quite useful.

The study results also revealed that 75% of the respondents strongly felt that messages about prostate cancer need to be friendly, educative, less threatening and positive in order to encourage more men to go for screening but not to evoke fear. They also felt that the messages should be communicated in commonly used languages, possibly the dominant local languages where possible and in the absence of a common local dialect especially in cosmopolitan settings like urban and peri-urban areas, Kiswahili, which is a national language, should be used.

The findings of this study are in tandem with the argument by Gamble and Gamble (2020) that there is need for gender specific communication messages in health promotion campaigns. Message framing should be done with full realization that men and women communicate differently and a lot of care should be taken when constructing the messages or else they might be ineffective as they might be rejected. The study also revealed that there was no deliberate effort to reach out to men with the PCa messages at strategic places where they were easily found.

In another study by MWC (2012) it was observed that when distributing men's health messages it is important to be realistic about how to reach men too. Distributing

health messages in places which are more accessible to men such as pubs and service stations are arguably a more realistic way to engage with men than distributing messages at health facilities only. Other places could be at regional rugby tournaments, indoor games such as pool, darts and football league matches and men only social gatherings.

Most participants in the FGDs and the Key Informants (health and communication experts) were of the opinion that men felt more secure and less embarrassed when messages about their health in general and PCa in particular were communicated to them in men only forums mentioned above where they could engage the experts about PCa matters freely. The Key Informants explained that, from their experiences, in such forums men were able to disclose their experiences, fears, feelings and thoughts about PCa. This provided the health experts with an opportunity to array men's fears about PCa in general and screening in particular in a language suitable for the forums. When this was achieved, the response rate to screening increased tremendously.

The foregoing observations are in tandem with certain aspects of the Health Belief Model (HBM). According to the HBM, four factors need to take place for a behaviour change to occur; the person needs to have an 'incentive' to change their behaviour, they must feel there is a 'risk' of continuing the current behaviour, the person must believe change will have 'benefits' that outweigh the 'barriers' and they must have the 'confidence' (self-efficacy) to change their behaviour.

The incentive to change behaviour could be communicated by use of messages that are appropriately framed to encourage men's behaviour change and remove fear and homelessness associated with PCa screening. In addition, as suggested by some respondents, the messages should also be communicated using local languages and in

case of a cosmopolitan set up, Kiswahili should be used as the medium of communication.

4.10.3 Interpersonal Communication

The third objective sought to identify the use of interpersonal communication, as one of the BCC strategies, to influence men's response to PCa screening. It also sought to answer the research question; to what extent does interpersonal communication influence men's response to PCa screening in Central Kenya region?

Respondents said that although health workers shared much information about PCa with them, most (39.1%) of them felt much more comfortable discussing the disease with friends and close family members like wife, uncle or brother especially in regard to their PCa status and disease management.

However, physicians were the most (60.2%) preferred source of information and most men trusted them to discuss PCa especially from their professional perspective. Most men said that they first acquired much information about PCa from health experts and then shared the same with trusted friends and family members, some of whom even acompanied the men when going to health clinics for consultation and counselling sessions on PCa. Therefore, respondents strongly felt that discussing prostate cancer screening with a trusted friend, family member and physician can help reduce fear about the disease and encourage more men to go for voluntary PCa screening.

Interpersonal communication is considered to be one of the most effective channels of communication especially when conveying messages on sensitive issues such as PCa. This is because it involves one-on-one communication or small group communication whereby personal issues can be discussed without inhibition. The only disadvantage of using this method of communication is that one can only reach a small number of

people as opposed to other forms of communication. It enables those involved (such as health workers, care givers, and social workers) communicate relevant sensitive messages with their patients at a personal level without fear of embarrassing them. Therefore, it should be used alongside other channels for more effective and efficient communication.

4.10.4 Participatory Communication

The study also sought to determine the extent of participatory communication use in the region and its influence on men's attitude and behaviour response to PCa screening. Some of the strategies of Participatory Communication (PC) that were used to engage community members in general and men in particular were public meetings, men's forums, school sports days, parents' meetings and chief's meetings. Although majority (72.8%) of the respondents said that they had never participated in public debates or attended public meetings called to discuss about prostate cancer, those who attended the forums credited them as some of the best ways to communicate prostate cancer messages. This is because the forums gave community members an opportunity to discuss their health issues with other men, community health workers and volunteers and policy makers. As a result, they were able to come up with solutions to matters affecting them.This is one of bottom-up approaches to development advocated for by development communication experts through participatory communication.

The governments mainly engaged members of the society through public meetings (33.6%) men's forums (28.2%), religious gatherings (26.3) and during local sports days (11.9%). Public meetings are not as effective as the other forums. That is why

there is need to use all the channels of interpersonal communication together for effective and efficient communication.

In addition, Key Informants, especially the communication experts, were of the opinion that interpersonal communication channels needed to be combined with other strategies such as interpersonal communication and mass media in order to reach mass audiences. This is because even though participatory communication is more effective at an individual level in changing people's attitude about a health problem, it can only be used on a limited number of people.

4.10.5 Culture as a Moderating Variable

The moderating variable in this study was culture. This was reported to have a profound effect on the relationship between the independent variables which were mass media campaigns, message framing, interpersonal and participatory communication and the dependent variable which is men's behaviour response to PCa screening. Due to cultural influence, majority (45.1)

of the men respondents were of the opinion that prostate cancer makes a man weak sexually, while 52% thought that PCa screening is embarrassing and 49.8% did not think that there was cure for PCa. This explains why most of them dreaded going for PCa screening and testing as some feared being confirmed PCa positive while others did not see the need for screening as they believed that there was no cure for the disease.

Most (60.2 %) respondents said that they would rather live with the disease without their knowledge because knowing that they were sick would make them more weak. Others (39.3%) also said that if they went for prostate cancer screening, they would prefer to be attended to by a male nurse or doctor only because they were not

comfortable discussing their sexuality with a female physician. The study results depict the great influence that culture and gender have on men's attitude to prostrate cancer screening.

Due to cultural issues, most men, in the FGD forums said that they did not go for PCa clinic sessions because a man should never exhibit signs of weakness such as going for regular medical check-ups even when one is not sick. As observed by Wood (2013), the African society encourages men to be strong and that is why, in the study, many men who claimed to be suffering from PCa did not disclose easily and openly about their status.

Some tenets of the Theory of Reasoned Action could apply here. The theory postulates that attitude, perceptions of the social norms and perceived behavioural control interact to affect a person's behavioural intentions, which in turn affects actual behaviour. The theory was developed to explain influences on behaviours that involve conscious decision making. As LittleJohn *et al., (*2017) puts it, intentions are not independent, but result from underlying attitudes and subjective norms. These norms however can be impacted by the correct use of BCC interventions prescribed in this study.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the findings of the study and relates them to studies that have been done by other researchers. It discusses the influence of behaviour change communication strategies on men's response to prostrate cancer screening in Central Kenya region. The relationship between independent variables and dependent variable is then discussed based on the objectives of the study. An analysis is also done to identify whether the study objectives have been met or not. Conclusion is provided for each research question while recommendations are drawn in relation to the objectives of the study. Finally, suggestions on areas for further research have been made.

5.2.1 Background information

Demographically, majority of those who participated in the survey were in the middle age (44.7%) although the study targeted men aged 40 years and above. Age is of great importance because behaviour response to prostate cancer screening is significantly associated with age. The distribution of men by their age brackets is important in this study given that men at different age brackets react to PCa messages differently and this therefore would call for different communication strategies for better results. The study findings are concurrent with study findings by Smith *et al.,* (2020) that stipulate that older adults may reduce their cancer screening intention when a more confronting communication strategy is used to imply to them that they may not live long enough to benefit from any such screening.

Marital status is also a crucial determinant in increased awareness on prevalence of the prostate cancer and eventual willingness to go for screening. This was revealed by Tyson *et al.,* (2021), who depicted marital status as an important parameter in prostate cancer screening since it translates to the rate of prostate cancer-specific mortality in men. The current study results revealed that majority (75%) were married and were aware of prostrate screening and willing to go for screening. These findings were similar to those of another study by Rogers *et al.,* (2019) which found that majority (94.0%) of the men who were aware and willing to take prostrate cancer screening were married. Several other studies have observed the important role of familial social support in influencing decision-making related to prostate cancer screening among men. In addition, a study by Odedina *et al*., (2012) showed that social influence was associated with prostate cancer screening intent among African American men.

Qualitative studies conducted to identify significant beliefs, barriers, and motivators associated with prostate cancer screening behaviours revealed a positive influence of significant others (relatives, spouses, peers, prostate cancer survivors) in promoting cancer screening. In addition, married men are more likely to utilize shared decision-making with their partner who might influence them to seek better health behaviours than men who are not married (Li, Hall & Zhao, 2017). It has also been shown that if married men have a family history of prostate cancer, they are more likely to get screened for the disease.

According to a study by Tyson et al., (2021) Multivariate analyses found that those who were married were associated with better cancer-specific survival than unmarried patients at 95% of those interviewed.

The study findings further concluded that marital status is an independent predictor of prostate cancer-specific mortality and overall mortality in men with prostate cancer. Unmarried men have a higher risk of prostate cancer-specific mortality compared to married men of similar age, race, stage, and tumour grade (Tyson et al., 2021).

Education also influences men's response to prostrate cancer screening. According to the current study results, majority of the men (42.5%) who underwent prostate cancer screening had at least attained secondary school education. In consequence with the study results, Friedman *et al.,* (2011) contends that patients with low educational literacy are more likely to be diagnosed with advanced-stage prostate cancer. Education background and prior exposure to prostate cancer (family member, friend or self-having the disease) or having had a previous examination have some impact on men's response to prostate cancer screening. The study results are further in tandem with Nwagwu, Ibebuike and Nwokike (2020) observation that advanced education background is believed to be associated with an increased awareness on prevalence of the prostate cancer and eventual willingness to go for screening. In the current study, it was observed that many of the men who are uneducated were reluctant to go for prostrate cancer screening and this may be because they feared to test positive for the disease. In addition, the educated people reported to have knowledge on the signs that manifest on a person who has prostate cancer and this explains their high response to prostate cancer screening.

Occupation is another factor that to some extent, determines the influence of behaviour change communication strategies on men's response to prostrate cancer screening. As revealed in this study, majority of men (41.2%) who responded to prostrate cancer screening were self-employed. The International Agency for

Research on Cancer (IARC) (2014) also claimed that men in certain occupations are likely not to undertake PCa screening. In the next sub-section we look at the relationship between variables based on the objectives of the study and if the objectives have been met.

5.2 Summary of the Findings

The main objective of this study was to determine the influence of BCC strategies on men's response towards PCa screening in Central Kenya. To accomplish this objective, the study sought to identify the effects of the independent variables as outlined in the specific objectives on the dependent variable which is men's behaviour response to PCa screening.

One of the variables of the study was influence of mass media on men's response to PCa screening. The study question read, to what extent do mass media campaigns influence men's response to PCa screening in Central Kenya? The findings indicate that if used well, alongside other BCC strategies, mass media can help promote men's positive attitude towards PCa and encourage them to go for PCa screening. This is because mass media is known to have a greater impact on people's attitude to a certain issue as it reaches big masses of audiences. We can therefore conclude that the first objective of the study was met and consequently, the research question answered.

However, it should be noted that if used alone mass media cannot be effective in changing a people's attitude and behaviour response towards PCa screening. It has to be combined with other BCC strategies like advocacy, participatory and interpersonal forms of communication, coupled with the right message framing.

The study also sought to identify the influence of message framing on men's response to PCa screening. The question read, to what extent does message framing affect men's response towards PCa screening in Central Kenya? The study findings confirmed that message framing had a great influence on men's behaviour response to PCa screening. Threatening messages or poorly designed messages that were conveyed at inappropriate forums had a negative impact on men's attitude towards the disease. On the other hand, gender sensitive messages that were encouraging had a positive impact on men's attitude to PCa. Many of the respondents said that they got motivated to take up PCa screening as it happened during church organised health camps. From the above observation, we can conclude that the second objective was met and consequently, the research question based on this objective was also answered.

The third objective was to determine the influence of interpersonal communication (IPC) on men's response to PCa screening. IPC is considered to be one of the most effective channels of communication especially when conveying messages on a sensitive issue such as PCa. This is because it involves one-on-one communication or small group communication whereby personal issues can be discussed without inhibition. The only disadvantage of using this method of communication is that one can only reach a small number of people as opposed to mass media.

The main advantage of IPC is that it enables those involved, such as health workers, care givers, and social workers, communicate relevant sensitive messages with their patients at a personal level without fear of embarrassing them. It also facilitates a two-way communication where a patient can ask for information regarding their condition without fear of intimidation. However, IPC should be used alongside other channels for more effective and efficient communication. From the foregoing analysis, the third

research objective and question were respectively met and answered in the affirmative.

The study also sought to identify the influence of participatory communication (PC) on men's response to PCa screening. The research question was, to what extent does participatory communication influence men's response to PCa screening? From the study findings, PC which involves communication channels such as the barber shop, men only forums, social gatherings and sports gave men a chance to interact with experts who had relevant information to share with them. In such forums, men feel free to ask all manner of questions regarding PCa in order to clear any doubts that they may have. Such forums also provide the right platforms for peer education where men are able to share personal experiences for mutual benefit. In conclusion, we can say that the objective was met and research question answered because after participating in the said debates, most men said that they were much more informed and got encouraged and motivated to go for PCa screening.

Culture was said to have a great moderating effect on all the variables mentioned above because culture shapes attitude. In this study, men admitted that much of their behaviour response to PCa screening was influenced by culture.

5.3 Conclusion

5.3.1 Mass Media campaigns

The first objective of the study was to examine the influence of mass media campaigns on men's response towards PCa screening in Central Kenya. The study findings indicate that mass media campaigns can have great impact in changing men's attitude and behaviour response to prostrate cancer screening if well executed. This requires the use of various mass media channels that include print, broadcast and

created media, musical and dramatic performances (such as dances, drama and mimics) and community events. This is because this type of media attracts huge crowds of people as they allow room for creativity.

It was evident that there was little effort by the county and national governments to use mass media in the campaigns to change the community's attitude towards PCa in general and men's behaviour response to PCa screening in particular. It was observed that there is no budgetary allocation specifically for this purpose. Therefore, the study conclude that there is need for the governments to prioritize Behaviour Change Communication especially by using mass media campaigns. The counties need to put more resources on PCa interventions as health is a devolved function according to the Constitution of Kenya (2010).

To facilitate this, the county communication departments should liaise with the health departments in mapping out the said strategies including drawing a calender of activities for the campaigns.

5.3.2 Message Framing

The second objective of the study was to determine the influence of message framing on men's response towards PCa screening in Central Kenya. From the study findings it was evident that message framing determines the way in which the messages will be received by the target audience. Most respondents indicated that they avoided messages that are threatening as they created more fear about the disease. But when messages were friendly and assuring, they were well received and men paid more attention to the messages.

The study therefore concludes that there is need for communication departments to work with the health departments in designing health messages to be used in the mass

media campaigns mentioned above. The messages should be designed to stimulate an appetite for learning and participation through regular dialogue with the affected community. They should also be gender sensitive as men and women perceive and communicate messages differently.

5.3.2 Participatory Communication

The study findings revealed that majority of respondents had never participated in debate in public gatherings on prostrate cancer (form of participatory communication). As a result therefore, many of them were unaware of any information regarding prostrate cancer screening at the community level. The few that participated in the debates expressed discomfort and fear of talking about prostate cancer in public, especially sharing their status regarding the disease. The most commonly used forums were chiefs' *barazas*, school sports days and parents' meetings; these were quite public.

The study concludes that there is need for more personalised and group-targeted forums for men and health experts to discuss PCa. Such forums should include group discussions, and activities which only involve men such as sports and social gatherings. In those forums men would be able to discuss PCa issues without inhibitions.

5.3.3 Interpersonal Communication

The respondents identified social networks such as friends, family members and physicians as the ones who shared more information on prostate cancer screening with them at a personal level. Among these, they trusted their friends more and felt more comfortable discussing about PCa with them. Respondents also said that they trusted

physicians who took time to talk to them about their PCa status and avoided those who seemed not to care as they had very little time to explain health issues to them.

The study concludes that social networks such as friends and family play a vital role in conveying PCa screening messages. These should therefore be empowered with basic education about PCa so that they can help in peer education. Community trained personnel and counsellors and other support groups should also be facilitated to enable them participate effectively in behaviour change communication campaigns. Physicians should be sensitized on the need to spend more time with PCa patients to know what they were going through as well as explain to them the essence of screening. In this regard, they should be helped to improve their interpersonal communication skills.

5.3.4 Culture

The study findings indicate that culture greatly influence men's attitude and behaviour response to prostrate cancer screening. Most of the respondents said that they were reluctant to go for PCa screening for fear that if they discovered that they were ailing this could cause slow death due psychological trauma emanating from the stigma associated with the disease. Others did not go for screening because they believed that men were strong and should not be seen by other community members going to hospital frequently.

Therefore, culture influence on men's attitude and behaviour response to PCa is a factor to consider when planning for BCC interventions recommended in this study which are, mass media, message framing, interpersonal and participatory communication.

From the foregoing analysis, it is correct to conclude that all the research objectives were achieved and the research questions answered adequately. Results indicate that if used well, the following BCC strategies can combine to influence men's behaviour response to PCa screening which would lead to early detection of the disease and its subsequent treatment or effective management; mass media, message framing, interpersonal and participatory communication. It is therefore the recommendation of the study that the said BCC strategies be used to mitigate the effects of PCa or any other health problem in the society.This would call for a concerted effort of county and national governments working with community health volunteers and other key players in the health and communication sectors. The appropriate channels of mass media, should be used alongside participatory and interpersonal communication to convey PCa messages effectively. Framing of the messages should also be done professionally in order to motivate positive action among men towards PCa screening.

5.4 Recommendations

Recommendations of this study were made based on the specific objectives of the study and the findings and their contributions to theory, policy and practices.

Although mass media was used to disseminate information about PCa, it was not adequate. PCa messages were poorly framed and ineffective. The study therefore recommends that participatory and interpersonal communication be enhanced by equipping community social and health workers, and peer counsellors with basic education on PCa and communication skills to supplement efforts by health and communication officials. The use of mass media should also be intensified by the county communication and health experts working together to ensure effective message framing in planning and executing the PCa awareness campaigns in the region.

5.4.1 Recommendations for Policy

One of the objectives was to identify the influence of participatory communication, which is one of the BCC strategies, to influence men's attitude to prostate cancer screening. It was established that this strategy had not been adequately used. The study therefore recommends that policy makers should come up with mechanisms of enhancing the use of participatory communication strategies that include public forums such as parents' meetings at all levels of learning. Other forums are social gatherings such as sports, men's welfare groups and cultural events, among others. During such forums, those with relevant information on PCa could share with men. This strategy is supported by scholars such as McCormack *et al*., (2019) who says that, "Community-based interventions can increase knowledge about prostate cancer screening. Clinicians need to take careful account of what their patients understand and correct misconceptions."

Interpersonal communication is another strategy that was found to be useful in sharing information about PCa screening. It enables those involved; health workers, care givers, and social workers, communicate relevant sensitive messages with their patients at a personal level without fear of embarrassing them. As mentioned elsewhere in this study, there is need to set aside specific rooms for PCa clinics for men in health facilities in order to provide them with privacy. This is likely to encourage more men to go for PCa screening because some of them feel uncomfortable being attended to in the general clinics meant for everyone owing to the sensitive nature of the disease.

Mass media channels were also found to be an effective way of reaching a wide audience with PCa messages but it was rarely used in all the counties. It is therefore recommended that mass media campaigns aimed at changing men's response to PCa screening be stepped up. These should include print, broadcast and social media. Vernacular radio and television stations that are popular in the region may also be used to relay the messages.

Messages used in the said media campaigns should be framed in a user-friendly manner to make them more effective. County officers of health and communication may team up to craft the PCa messages that would be used in the media campaigns.

As counties may in future take on additional responsibilities through the devolved restructuring of healthcare, they will face challenges in improving the quality of service delivery while reducing the burden of out-of-pocket prostrate cancer expenditures from families. Critical health care inputs, such as behaviour change communication strategies, are not sufficiently catered for. This indicates that counties may not be ready to undertake all of their mandated health functions. They may consider sourcing for more funding from the National government and donor agencies in order to cope with this demand.

Structures should be put in place to train community workers, volunteers and support groups to augment the governments' efforts of sensitizing community members and men in particular on PCa in general and its screening and management in particular.

5.4.2 Study Contribution to Theory

The study adopted Theory of Reasoned Action, Cognitive Dissonance Theory and Health Belief Model (HBM). The findings of the study are in congruence with the tenets of the two theories and model that there is great influence of behaviour change communication strategies on people's perception of a health issue in general and men's response to prostrate cancer screening, treatment and management in particular. These findings could therefore be adopted in all the forty seven counties in Kenyan in order to enhance prostrate cancer screening, treatment and management.

5.4.3 Suggestions for Further Studies

Based on the findings and limitations of this study, the researcher suggests the following for further study:

i. A study to be carried out to assess other mediating variables in men's response to prostate cancer screening and gauge whether they carry the same effect as those explored in the current study.

ii. A study to be carried out on the influence of Behaviour Change Communication strategies on men's response to prostrate cancer screening in other regions of the country outside Central Kenya region.

iii. A study to be carried to determine the influence of Behaviour Change Communication strategies on people's response to other types of cancer apart from PCa.

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APPENDICES

QUESTIONNAIRE FOR MEN AGED 40 YEARS AND ABOVE

PART A. Demographic Data (Tick Appropriately)

1. Age 40-50 years [ ] 51-60 years [ ] 61-70 years [ ] 71 years and above [ ]
2. Your marital status? Married [ ] Single [ ] Widowed [ ]
3. Education level: Primary [ ] Secondary [ ] Diploma [ ] Degree [ ] Postgraduate [ ]

4. Occupation: Civil servant [ ] Self-employed [ ] Farmer [ ] Businessman [ ]

Others (specify)……

5. Which county do you come from?

Kiambu [ ] Murang'a [ ] Nyeri [ ] Kirinyaga [ ] Nyandarua [ ]

PART B

i. Mass media campaigns

6. Have you ever heard about Prostate Cancer? Yes [ ] No [ ]

If YES from whom did you hear about Prostate Cancer?

Friend [ ] Family [ ] Doctor/nurse [ ] Mass Media [ ] Social media [ ]

Any other (specify)

_____

7. Have you ever gone for Prostate Cancer screening? YES [ ] NO [ ]
8. How often do you go for Prostate Cancer screening?

1. Once a month [ ] 2. Once every two months [ ] 3. Once every three months [ ]

4. Twice a year [ ] 5.Once a year [ ] 6. Never [ ]

9. Tick media from which you have come across messages on Prostate Cancer:

Posters [ ] Billboards [ ] Radio [ ] Television [ ] Newspaper [ ] Other [ ] specify_____

10. In order of preference, rate the media that you found most effective in communicating Prostate Cancer screening messages rate:

1. Posters [ ] 2. Billboards [ ] 3. Radio [ ] 4. Television [ ]

5. Newspaper [ ] 6. Drama [ ] 7. Songs

11. From what you leant from the media Prostate Cancer:

    Has got no cure [ ] Can be treated if detected early [ ]

    Is a curse [ ] is expensive to treat [ ]

12. List any FOUR challenges that you came across when accessing information from mass media.

    _____

    _____

    _____

    _____

    _____

    Please indicate the extent to which you agree with the following statements regarding the influence of mass media on men's response to prostate cancer screening where; Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, and Strongly Agree=5

Indicator	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Media is the most effective channel of communicating Prostate cancer messages than other channels					
Mass media is accessible by most people in the community					
Media messages on Prostate cancer screening are clear and informative					
There is enough information on Prostate cancer in the local media					
Media messages on Prostate cancer made me change my attitude towards screening for the disease					

ii. **Message framing**

13. How many times have you come across Prostate Cancer messages from your County Government? Once a week [ ] Twice a week [ ] Once in two weeks [ ]

14. Once a month [ ] Twice a month [ ] None at all [ ]

Any other (specify) _____

15. How did you find the messages communicated to you?

Very informative [ ] Friendly [ ] Not clear [ ] Very scaring [ ]

16. How useful were the messages on Prostate Cancer screening in 15 above?

Not useful at all [ ] Useful [ ] Fairly useful [ ] Very Useful [ ]

17. Tick other channels were used to communicate the Prostate Cancer Screening messages by the County Government;

Chief barazas [ ]Religious gatherings [ ] Public Campaigns[ ]Parents' meetings [ ]

Any other (specify) _____

18. How did the information you got in 3 above change your knowledge and thinking about Prostate Cancer?

There is need for early Prostate cancer screening	[ ]
There is no need for Prostate cancer screening	[ ]
Prostate cancer can be treated	[ ]
Prostate cancer has got no cure	[ ]
I'm not sure	[ ]

Please indicate the extent to which you agree with the following statements regarding the influence of message framing on men's response to prostate cancer screening where; Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, and Strongly Agree=5

Indicator	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Messages about Prostate cancer need to be positive					
Messages on Prostate cancer should be communicated by men to men only.					
Messages on Prostate cancer should in local language					

iii. **Participatory communication**

19. How many times have you participated in public debate about Prostate Cancer screening in your community? Once a week [ ] Once in two weeks [ ] Once a month [ ]

Once in a quarter [ ] Once a year [ ] Never [ ]

20. Tick ways the government engage the community members about Prostate Cancer screening. 1.Public meetings [ ] 2.Men's forums [ ] 3.Religious gatherings [ ] 4.Local sports days [ ]

21. Rate the communication strategies that you think are the best to communicate prostate cancer messages (use 1,2,3,4,5) in order of preference)

Village chief barazas/meetings [ ] Messages from radio, television [ ]

Messages from the health sector [ ] Community health open days [ ]

Focus Group Discussions with experts [ ] Radio and T.V programs [ ]

22. What in your general attitude to prostate cancer testing/screening in your Community? Positive [ ] Negative [ ] .

Give FOUR reasons for your answer

_____

_____

_____

_____

_____

23. In your opinion do you think early screening helps in the treatment and management of Prostate Cancer in any way? YES [ ] NO [ ] Give FOUR reasons for your answer:

_____

_____

_____

_____

_____

_____

Please indicate the extent to which you agree with the following statements regarding the influence of Participatory Communication on men's response to prostate cancer screening where; Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, and Strongly Agree=5

Indicator	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Participatory communication is more effective than mass media in changing people's attitude about a health problem.					
Public debates about Prostate Cancer screening are useful in changing a person's attitude about the disease.					
Talking about men's health in public makes most of them shy away from such forums					
Prostate cancer massages should be communicated by health experts only					

iv. Interpersonal Communication

24. Which of the following people has ever talked to you about Prostate Cancer screening?

A friend [ ] A family member [ ] Community health worker [ ]

Health Volunteers [ ] Personal doctor/nurse [ ]

25. Rate the following in order; who would you trust to talk about Prostate Cancer screening

1. A friend [ ] 2. A family member [ ] 3 .Community health worker [ ]

4. Community based organization [ ] 5.Personal doctor/nurse [ ] 6.Religious leader [ ]

Please indicate the extent to which you agree with the following statements regarding the influence of Interpersonal Communication on men's response to prostate cancer screening where; Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, and Strongly Agree=5

Indicator	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Interpersonal communication is more effective than mass media in changing people's attitude about a health problem.					
Discussing Prostate Cancer screening with a friend or physician can help reduce fear about the disease					
Discussing Prostate Cancer screening with a other people is embarrassing					

v. Culture, gender and attitude

Please indicate the extent to which you agree with the following statements regarding the influence of culture on men's attitude to prostate cancer screening where; Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, and Strongly Agree=5

Indicator	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Men are strong and therefore they do not need to go for regular Prostate cancer screening.					
If I do not have Prostate cancer symptoms, I do not need to go for screening.					
Prostate cancer makes a man weak sexually					
Prostate cancer screening is painful					
There is no cure for prostate cancer					
If I go for Prostate cancer screening, I want to be seen by a male nurse/doctor only					

B: INTERVIEW GUIDE FOR COUNTY HEALTH WORKERS (KI)

1. What is the rate of Prostate Cancer screening in the region?
2. What are the attitude and beliefs towards Prostate Cancer screening in the local communities?
3. What factors affect the uptake of Prostate Cancer screening and testing?
4. How is the information about Prostate Cancer communicated to the community?
5. Do you think that the knowledge about Prostate Cancer in the region is sufficient?
6. What is your assessment of how Prostate Cancer messages are communicated in the region?
7. What is the impact of the strategies used to communicate Prostate Cancer messages?
8. What strategies would you recommend to used to change behaviour response to Prostate Cancer
9. How do you get feedback from the community on the information levels on Prostate Cancer?
10. Does the county government have a budget for the campaign against Prostate Cancer?
11. Who designs the Prostate Cancer campaign messages for you?
12. How are the Prostate Cancer messages designed, and what are the effects?
13. Who between men and women come for regular medical check-up in the hospital?
14. What in your opinion is the reason for the trend mentioned in 13 above?

15. How do you think men’s attitude affect their voluntary testing and screening? YES/NO

16. What cultural issues would you associate to the attitude to men’s health in the society?

C: INTERVIEW GUIDE FOR COUNTY COMMUNICATION OFFICERS (KI)

1. How does your department get involved in communicating Prostate Cancer messages in the region?
2. How is the information about Prostate Cancer communicated to the community?
3. Do you think the knowledge about Prostate Cancer in the region is sufficient?
4. What is your assessment of how Prostate Cancer messages are communicated in the region?
5. What is the impact of the strategies used to communicate Prostate Cancer messages in the region?
6. What behaviour Change Communication strategies would you recommend to be used for behaviour response to Prostate Cancer?
7. How do you get feedback from the community on the information levels on Prostate Cancer?
8. Does the county government have a budget for the campaign against Prostate Cancer?
9. Who designs the Prostate Cancer campaign messages for you?
10. How are the Prostate Cancer messages designed, and what are the effects?
11. What cultural issues do you target with your messages for behaviour change towards Prostate Cancer?

D: INTERVIEW GUIDE FOR FOCUS GROUP DISCUSSIONS (FGDs)

1. What Prostate Cancer and its cause?

2. In your understanding, how does Prostate Cancer affect the victim?

3. What is the attitude of the community towards Prostate Cancer and its victims?

4. Why do you think that many men are reluctant to go for Prostate Cancer screening and testing?

5. Are there any cultural issues that affect men's attitude towards Prostate Cancer testing and treatment? If any please explain how.

6. What is the role of gender in men's treatment and management of Prostate Cancer?

7. In your opinion, how does the high Prostate Cancer rate affect the society?

8. What is the role of women in men's management of Prostate Cancer in the family?

9. In your opinion, what should be done to encourage men to go for voluntary Prostate Cancer screening and testing?

THE END

MAP OF KENYA SHOWING REGIONAL BOUNDARIES

Map of Kenya showing the location of Central Kenya Region.

MAP OF CENTRAL KENYA

Map of Central Kenya counties where the research was conducted.

RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MR. SAMUEL KAHURA NDUNGU
of KARATINA UNIVERSITY, 1207-902
Kikuyu,has been permitted to conduct
research in *Kiambu , Kirinyaga ,*
Muranga , Nyandarua , Nyeri Counties

on the topic: *THE ROLE OF INTERPERSONAL COMMUNICATION IN INFLUENCING MENS BEHAVIOR RESPONSE TO PROSTATE CANCER IN CENTRAL KENYA*

for the period ending:
25th May,2019

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Applicant's
Signature

Permit No : NACOSTI/P/18/50942/22595
Date Of Issue : 25th May,2018
Fee Recieved :Ksh 2000

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Director General
National Commission for Science,
Technology & Innovation

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