Prostate Cancer Screening Awareness among Basotho Males Aged 40 and above in Maseru, Lesotho

By

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A Dissertation Submitted to the Department of Sociology and Social Work in Partial Fulfilment of the Requirements for Master of Science in Sociology.

National University of Lesotho **July, 2024**

Roma

DECLARATION

Name: Boitumelo Malapo

Degree: Master of Science in Medical Sociology

I declare that “Prostate Cancer Screening Awareness among Basotho Males Aged 40 and above in Maseru, Lesotho” is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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Signature Date

CERTIFICATION

This is to certify that this dissertation has been read and supervised as having met the requirements of the Faculty of Social Sciences, National University of Lesotho, for the award of the Degree of Master of Science in Sociology.

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ACKNOWLEDGEMENTS

Firstly, I would like to acknowledge God for giving me life and making my dream a reality. Without You my dreams are like winds that blow by. I also take this opportunity to express my deepest gratitude to my supervisors, Dr. Morojele and Dr. Phokojoe, for their consistent support and guidance throughout this study. The support, patience and contribution you have offered me throughout my MSc degree is invaluable and I will forever appreciate all your efforts that got me this far.

I am also grateful to my family - my mother and my late father, my siblings, my husband and my two kids, for believing in and supporting me through the challenges of studying. Though sometimes the challenges were beyond me, I took the punches and kept moving because I knew you all believed in me and are super proud of me. The undivided support and patience you gave me throughout this journey has played a huge role to me achieving this goal. To my late sisters, you have left behind your mark and I am a living proof of Malapo's sisterhood. My gratitude also goes to my circle of friends who encouraged to embarking on this journey.

I also extended my appreciation to my classmates for making this project a worthwhile journey through your support and willingness to share your knowledge with me throughout. To my work colleagues, my seniors and supervisors I am truly grateful because I could not have achieved this milestone without your support and patience.

I am truly grateful to all of you for the support and consistent presence in my life throughout this journey.

I am truly blessed and yes, we made it!

Abstract

Background: Prostate cancer is among the most treacherous cancers, ranked 1st common cancer among males globally. Globocan (2020) ranked prostate cancer the 3rd most common cancer among all cancers in Lesotho, reporting 163 new cases, which made 8.7% of the total incidences of all cancers in the country. Lesotho, through the Ministry of Health, attests to lack of proper documentation of all cancer cases including prostate cancer. Prostate cancer prevalence is higher in developed countries; however, prostate cancer related mortality is higher in developing countries, particularly among black males, than their white counter parts due to late diagnosis. Knowledge about prostate cancer and screening awareness are useful for promotion of early screening uptake among Basotho males.

Objective: The purpose of this study was to explore prostate cancer screening (PCa) awareness among Basotho males aged 40 and above. Prostate cancer knowledge among these participants was also assessed.

Methodology: Purposive sampling was used to select male participants among the entire male congregants in a Christian church. Semi structured interviews with open-ended questions which included demographic information, socio-economic data and prostate cancer and screening knowledge were administered by the researcher among the thirteen participants aged forty and above. Participants were enrolled without consideration of whether they had ever screened or not.

Results: More than half of the participants were aware of prostate cancer as an illness but lacked enough knowledge about the disease and screening services offered in Lesotho. Urinal problems such as uncontrollable and painful urination, retention of urine and painful prostate were symptoms associated with the presence of prostate cancer by most participants. Majority of the participants had limited information about prostate cancer screening where digital rectal examination (DRE) was known by most participants. Participants were not aware of the jargon used to described DRE but rather as the screening process where a finger is inserted into a male's rectum. Though the participants had limited knowledge about prostate cancer and screening awareness

majority of them were willing to be screened for prostate cancer. On the other hand, the disadvantages associated with DRE outweighed the benefits of screening rather demotivating actual screening uptake among the participants.

Conclusion: There is limited knowledge about prostate cancer and screening among Basotho males. Factors such as fear, anticipated pain and discomfort associated with DRE screening become barriers to actual uptake of screening services. The knowledge gap should, therefore, be addressed by health professionals in association with other health partners. Provision of information, through collaborative efforts, using diverse information dissemination strategies such as extensive use of mass media and cooperation with different community leaders (priest, chiefs, traditional healers) may yield higher screening uptake. Prostate cancer screening awareness is also limited among the participants. They lacked awareness on screening methods available and the processes entailed in such methods, as well as where such services are offered. Promotion of screening uptake among Basotho males should be addressed through implementation of comprehensive male health services, inclusive of prostate cancer screening. Also, uptake of screening services among older males should be consistently encouraged by health practitioners through open and appropriate communication strategies.

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CHAPTER ONE: INTRODUCTION

1.1 Background to Study

Worldwide, through partnerships, countries are striving to improve their healthcare services to prevent ailments, provide quality services for both non-communicable and communicable illnesses, and to successfully treat detrimental diseases. Ultimately, the goal is to improve the quality of life and prolong life expectancy at affordable health expenses for all (Meyer, Schellack, Stokes et al., 2017; UHC, 2030; WHO, 2018). These global efforts to improve health care services have led countries such as Lesotho to attain good progress towards their health related goals, including a decrease in HIV infections (LePHIA, 2016, 2020). Huge milestones on issues of health care, such as improved access to health services, have been achieved but a surge of non-communicable diseases such as cancer, including cervical, prostate and lung cancers, are still a progressing dilemma for global nations. According to American Cancer Society (2016), Ghoncheh, Pournamdar and Salehiniya (2016) and Global cancer report (2020), for most cancers, incidence is higher in developed countries whereas cancer related-fatalities are higher in developing countries.

Prostate cancer is among the most treacherous cancers, ranked 1st common cancer among males globally. On the other hand, it is ranked the 6th and 5th most common cause of cancer-related deaths among males in 2018 and 2020 respectively (Culp, Soerjomataram, Efstathiou, et al.,2020; World Cancer Research Fund, 2020). According to WHO International Agency for Research on Cancer (2016), in 2012 there was an estimated 1.1 million men diagnosed with prostate cancer globally. Seventy percent of the cases (about 759 000) were reported in developed countries, with Australia and America leading at 111.6 and 97.2 per 100 000 (ASR) men respectively. In 2018 there were 1,276,106 prostate cancer cases registered globally and 358,989 deaths (Rawla, 2019) while in 2020 registered cases had increased to 1, 414,259 and 375, 304 of related deaths (Globocan, 2020; Giona, 2021).

According to Odedina, Akinremi, Chinegwundoh et al. (2009), between the years 2000 and 2003, prostate cancer prevalence was 60% higher among men of African descents as compared to White males in the USA. It is claimed men of African descendant experience more aggressive prostate cancer compared to other races and it occurs at a younger age than among men of other races (Bowa, 2010; Tindall, Monare, Petersen et al.,2014; Worthington, 2016; Hayes and Bornman, 2017). They also claim that, of all PCa cases, more than half cases are diagnosed at an aggressive and advanced stage, particularly in Africa due to late presentation. Most developed countries saw increasing incidence rate with either stable or decreasing mortality rate while in Africa the death rate was at its highest and increasing (Adeloye, 2016; Wong, Goggins, Wang, et al., 2016; Adibe, 2017; Culp, Soerjomataram, Efstathiou et al., 2020; Wong, Goggins). Rebbeck, Zeigler-Johnson, Heyns et al. (2011) and Yeboah-Asiamah, Yirenya-Tawiah, Baafi et al. (2017) claim that globally there is not much information known about the cause of PCa but among other factors are old age, race (African descendants) and history of prostate cancer among close family members.

In Africa, generally poor documentation of health information, including the absence of prostate cancer registers, leads to under reported cases (Adeloye, David, Aderemi et.al., 2016, Casell, Yunusa, Jalloh et al., 2019; Chu, Ritchey, Devesa et al., 2011; Hayes and Bornman, 2017; Parkin, Bray, Ferlay, et al., 2014). Between 1990's and 2000 there was a huge disparity of PCa cases among African regions where highest incidences were recorded in East Africa, followed by Southern Africa and the Western region reported the lowest cases (Chu, Ritchey, Devesa et al., 2011). Hamdi Abdeljaoued-Tej, Zatchi et al. (2021) claim that between 2002 and 2018 prostate cancer cases began to upsurge in Africa, with Southern Africa surpassing East Africa claiming more than 60% of all reported cases. This is supported by the Globocan Report (2020) affirming that in the African continent prostate cancer incidence is higher in Southern Africa at 65.9 per 100 000 males (ASR), followed by Middle Africa and Western Africa at 40.8 and 33.1 per 100 000 males respectively. In addition, Southern Africa ranked 2nd for cancer-related mortalities at 22 per 100 000 men in Africa while ranking 3rd globally (Globocan 2012; 2020; Sung, Ferlay, Siegel et al. 2021).

Lesotho's Ministry of Health National Strategic Plan (2014-2021) attests that Lesotho does not have any cancer registers, including PCa records, which would accurately indicate the number of positive cancer diagnosis made. The document also states that of all referrals made to South Africa by Queen Mamohato Memorial Hospital, 90% (2771/3069) were cancer patients including those of prostate cancer. Globocan (2020) reports 163 new cases of prostate cancer in Lesotho, making 8.7% of total incidences of all cancers in the country. It further ranks prostate cancer the 3rd most common cancer after both cervix uteri and breast cancers at 28.8% and 9.6% respectively. Prostate cancer is the most common cancer among men in Lesotho at 24.3% followed by Kaposi Sarcoma at 14.9% and oesophagus at 8.8%. The total deaths of men caused by all cancers is 460 and prostate cancer is ranked the 3rd cause of all cancer-related deaths at 7.3% (WHO: IARC, 2020). Prostate cancer is ranked the 1st cause of male cancer-related deaths among Basotho men at 18.0 per 100 000 men (Globocan, 2020).

1.2 Statement of the Problem

Prostate cancer (PCa) is a global problem, with statistics showing high incidence rate in developed countries and higher related-deaths reported in developing countries (Adeloye, David, Aderemi, Iseolorunkamni, Oyedokun and Iweala, 2016). In fact, Globocan (2020) ranked Northern Europe 1st globally at 83.4 % for incidence and 13th for mortality at 13.0%, at standardized age. Middle and Southern Africa, on the other hand, recorded respective 40.8% and 65.9 % for incidence, while reporting 24.8% and 22.0% for mortality rate, ranking 2nd and 3rd respectively. Adeloye, David, Aderemi et. al, (2016) further proclaim that both prevalence and incidence rate are higher in black men than men of other race in the African continent. This was supported by Adeloye, David, Aderemi et al. (2016). The report also stated that though generally African men suffer from PCa more compared to males from other continents, within the African continent mortality rate is higher among African males of black race comparing sub-Saharan Africa, which had higher death rate than northern Africa. In Africa high mortality rate is associated with late PCa diagnosis; hence, PCa screening is considered to be the most effective approach for timely diagnosis and successful treatment outcomes

(Dean, Subramanian, Williams et al., 2014; Mutua, Pertetand and Careena, 2017; Necku, Anaba and Abuosi, 2019).

Like other African countries, Lesotho has reported prostate cancer as the most common cancer and cause of cancer-related deaths among men. In 2020, Lesotho reported 163 cases and 92 deaths (Globocan, 2020). Sherriff, Costa, Engelbrecht, et al. (2015) claim that between 2008 and 2010 Basotho made up only 3.2% of all PCa patients treated at Universitas Annex Hospital in South Africa because the country did not have a cancer treatment facility. PCa is a concerning public health issue with which effective screening would result in positive outcomes such as diagnosis at an early stage requiring unaggressive and inexpensive treatment. Hence, this study aims to investigate male awareness of PCa screening in Maseru, Lesotho. That is, the information they possess in relation to PCa and PC screening, which is deemed crucial for early diagnosis and other PCa follow-up services.

1.3 Main Objective

The main objective of the current study is to explore prostate cancer screening awareness among males aged 40 and above in Maseru.

1.4Specific Objectives

The study is guided by the following specific objectives:

1. To establish male knowledge about prostate cancer;
2. To determine male awareness about prostate cancer screening and
3. To explore male willingness to test for prostate cancer.

1.5 Research Justification

PCa is a major cause of male cancer-related deaths globally, and both incidence and deaths are expected to increase globally, and in Africa, to approximately 27 million new cases and 17 million deaths by 2030 (Parkin, Hamdi-Che'rif, Sitas et al., 2003; Ferlay, Shin, Bray et al. 2010). Adeloye, David, Aderemi et al. (2016) add that in Africa the expected increase in prostate cancer burden would be a result of continuing urbanization, increasing life expectancies and an increase of generations with family

history of prostate cancer. It is, therefore, important to study the level of PCa knowledge and screening awareness among Basotho males as it will help identify the gap to achieving early screening uptake and general male health seeking behaviour towards prostate cancer screening and treatment services. This study was intended to provide evidence based information which may be used to promote uptake of screening services for early detection and treatment

Equally important, as studying prostate cancer screening awareness among Basotho males, was to determine the relationship between their level of awareness and screening services uptake. This study identified barriers to improved use of available screening services offered in Lesotho and shortcomings of such services. In addition, this study identified the gaps that exist on prostate cancer information dissemination from government and its health partners. Intervention based on this information could positively influence uptake of screening services. Lack of written and published information on prostate cancer knowledge and awareness of screening services among Basotho may imply that there has not been this kind of research conducted on this population. Hence, the findings of this study will be used as a baseline for further related studies as well as contribute to improved quality of life for Basotho men.

1.6 Research Questions

The current study had the following questions to answer:

a) What do males know about prostate cancer;
b) Where or how do males get the information on PCa;
c) Are Basotho men aware of prostate cancer screening services in Lesotho?
d) Are males willing to take PC screening services?
e) How do males perceive their susceptibility towards PCa?
f) What are the barriers to PCa screening uptake?

1.7 Definition of Terms

This section defines terms used in the study to describe constrict the terms to their

singular meanings and understanding throughout the study.

- Awareness

In the present study, awareness refers to an extent to which Basotho males are informed of PCa screening services offered and the benefits of using these services. Awareness also means Basotho men are knowledgeable about places where PCa services are offered, out-of-pocket expenses for such services and what PCa screening is as well as different types of screening offered in their country. Gafoor (2012) posits that awareness means common knowledge and understanding about a particular issue.

- Knowledge

Knowledge refers to the level of understanding, access to factual information about prostate cancer among Basotho males, including the cause and signs of prostate cancer, ages at which it is most common, and treatment and the outcomes of such treatment. It means that males are able to differentiate between myths and facts about prostate cancer. According to Hills (2012), knowledge is information that is acquired through socialization and one's beliefs in such information.

- Screening

According to National Institute of Cancer, screening refers to the processes of checking or testing for a disease when there are no symptoms of the disease. These processes help with the detection of diseases at the earliest stage when it is easy to cure such. In this study screening will also refer to process of testing for prostate cancer in the presence of symptoms that may be associated with prostate cancer.

1.8 Study Limitation

The study enrolled thirteen participants to achieved detailed and more elaborate information; hence, the results may not be used to generalise the findings to the entire Basotho male population. Also, only males aged 40 and above were enrolled in the study; therefore, the study could not determine PCa knowledge and screening awareness among males aged below 40 years.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Prostate cancer is one of the deadliest illnesses among non-communicable diseases (Jeihooni, Amirkhan, Hamideh et al. 2021). Adeloye, David, Aderemi (2016) claim that prostate cancer is asymptomatic at its early stage and many PCa patients diagnosed at this stage are those who attended frequent PCa screening. Prostate cancer screening is the most essential primary step to identifying the presence of prostate cancer even at its asymptomatic stage. Olarewaju, Akinola, and Oyekunle (2020) report that cancer screening helps diagnose cancer at its early and easily curable stage. There are factors which influence male screening uptake level and barriers to seeking PCa services, and these factors are determinants of whether males present early or at the late and aggressive stage of PCa.

2.1.1 Aetiology and Epidemiology of Prostate Cancer

According to the American Cancer Society, cancers are caused by overgrowing body cells which maybe cells from any part of the body and the overgrowth may spread to other parts of the body. It explains that prostate cancer, also called prostatic carcinoma, is a type of cancer that affects male prostate glands. It occurs when cells in the prostate gland grow out of control, eventually turning metastatic and spreading to other parts of the body with delay or failure to treat of such cells. PCa at its earliest stage is usually asymptomatic while symptoms at Stages 1, 2 and 3, of PCa are painful and difficult urination, erectile dysfunction and blood in male urine (Cancer Treatment Centers of America, 2021). In addition, the Urology Care Foundation mentions that Stages 4 and 5 are advanced levels of PCa where cancer has spread outside the prostate to lymph nodes, liver and bones. Symptoms also progress to being severe and more aggressive, with symptoms such as sever bone pain, swollen feet and lose of bowel control (Rawla 2019).

Numerous studies conclude that family history of presence of prostate cancer among family members (genetics), African ancestry, body weight and diet are associated with higher risk of prostate cancer (Sierra, Soerjomataram and Forman, 2016; Kheirandish

and Chinegwundoh, 2011; Ifere, Abebe and Ananaba, 2012). In addition, there is an association between age and prostate cancer where older men have higher risk levels and lower chances of survival (Bechis, Carrol and Cooperberg, 2010; Adeloye, David and Aderemi, 2016). Additionally, Prostate Cancer Report (2018) proves that 97% of all the PCa cases diagnosed are aged fifty years and above. Rawla (2019) posits that there is an expected upsurge in PCa incidence of up to 2 293,818 cases in 2040 whereas there will only be a minimal increase of related mortality rate of just 1.05%.

Kheirandish and Chinegwundoh (2011) mentioned that in developed countries availability and use of detection services leads to observed high incidence and lower mortality due to early diagnosis and treatment. Furthermore, Mbonu (2014) also claimed that high PCa cases were an attribute of accurate and well documented health data in developed countries. Worldwide men of African ancestry are more likely to be diagnosed with prostate cancer compared to white men and are at a risk of a more aggressive and malignant cancer. Hayes and Bornman (2017) explained that African males compared to other races present very late accounting for diagnosis at an aggressive stage. Moreover, Men of African descendant are at a risk of being diagnosed at earlier ages as well as increased likelihood to die of prostate cancer-related death than men of other races (Chinegwundoh, Enver, Lee et al 2006; Odedina, Akinremi, Chinegwundoh et al. 2009; Kheirandish and Chinegwundoh 2011; Rawla, 2019)

Though lack of detailed and accurate prostate cancer data constrains true reflections of African incidence and deaths, reported prostate cancer-related deaths in Africa precede deaths reported in developed countries (Adeloye, David, Aderemi et al., 2016). Southern African region reported higher incidence than the Western, Eastern, Northern and Middle African regions while ranking 2nd for related deaths. According to Chu, Ritchey, Devesa et al. (2011) and Adeloye, David, Aderemi et al. (2016) incidence in the African continent was likely to continue surging due to increased urbanization, increased clinical diagnosis, and improved service provision financing and extended life expectancy among African males.

2.1.2 Health Belief Model in Relation to Prostate Cancer

A large number of researchers use the Health Belief Model (HBM) or theory of planned behaviour to study male awareness of prostate cancer screening services. On the other hand, in the present study the researcher used the HBM to conduct the study. Hevey, Pertl, Thomas et al. (2008) explain that the theory of planned behaviour focuses on the relationship between belief and behaviours, stressing on how intentions motivate and predict one's behaviour. The theory of planned behaviour explains how people's attitudes, their subjective norms and their perceived behavioural control determine their health seeking behaviour. While Baum, Newman, Wienman et al. (1997) explained that the HBM focuses on why people do or do not use preventive health services at their disposal. HBM also explores enablers and obstacles towards people's decisions to seek or not to seek diagnostic and preventive health services. The model was later expanded to explore people's response to disease symptoms and their behaviour in reaction to disease diagnosis.

The HBM is a theory constructed by American psychologists, Godfrey Hochbaum, Irwin Rosenstock, Stephen Kegeles and Howard Leventhal. These psychologists were concerned with the rising numbers of tuberculosis (TB) cases and the level of people's participation in TB diagnostic and preventive services including TB screening (Steckler, McLeroy and Holtsman, 2010). According to Champion and Skinner (2008) this theory was developed to make predictions on health-related behaviours trying to explain why people participated or were reluctant to participate in services that prevent and diagnose different ailments at the earliest, usually, asymptomatic stages. Champion and Skinner (2008) also add that this theory explains the relationship between people's health-related behaviour and how expected rewards influence their readiness to take action of seeking health services. Glanz and Karen (2015) purport that the HBM construct originates from the cognitive theorists who believed that one's behaviour is an outcome of how much the person values the results of an action or an expectation that an action will lead to expected results. The expectation is usually that the action will prevent or cure a certain illness.

The HBM was modified to include self-efficacy in 1988 by Rosenstock, Strecher and Becker (Daniata, Widjaja, Olalla, Gracia et al., 2021, Glanz, Rimer and Viswanath 2008). The modified model is the most compatible for this study because it allows the researcher to thoroughly explore and understand the level of PCa and PCa screening awareness among Basotho males and how these two factors affect their decision-making. These two factors together with PCa knowledge, screening awareness and perceived benefits are pushing factors towards male screening service uptake. Also the HBM is attuned to this study because it will help explore male perceived barriers to seeking screening services and how they may overcome such barriers together with relevant parties.

2.1.2.1 Variables of the Health Belief Model

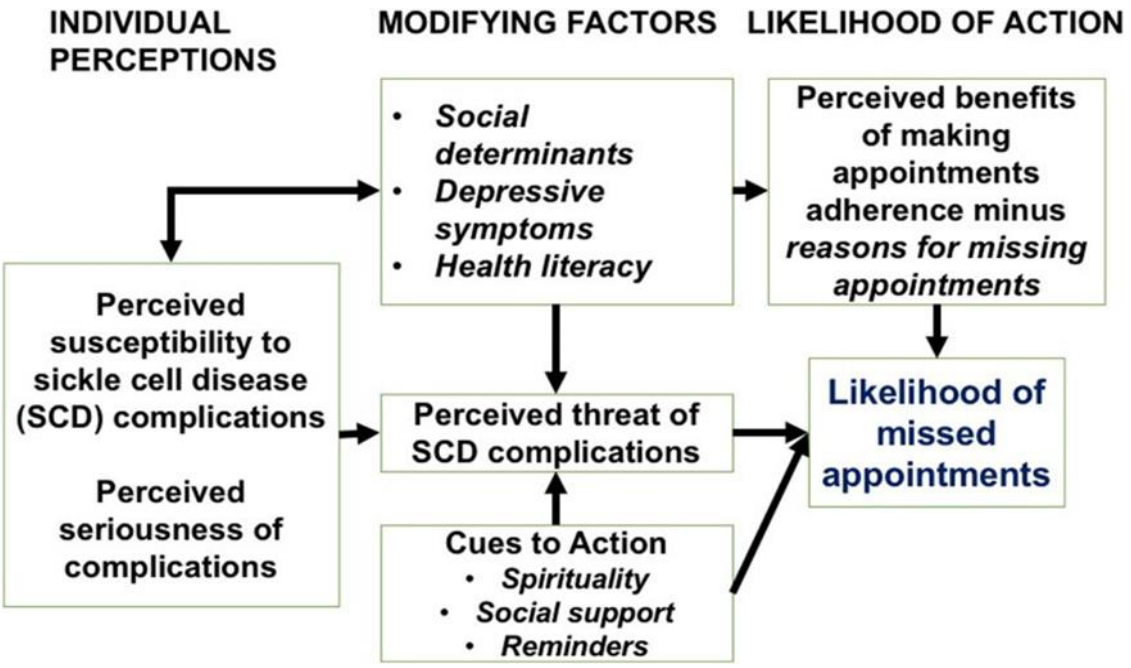

Fig 1. Three Main Components of HBM (Adapted from Cronina, Hankinsd, Byrde et.al., 2018)

According to Cronina, Hankinsd, Byrde et.al. (2018), the main components of HBM are individual perceptions, modifying factors and likelihood of action. They explained that perceived threat made up individual perception towards an illness while modifying

factors include age, socio economic status, marital status and level of education. Also health literacy and depressive symptoms were noted as modifying factors. Nonetheless, in the current study only social determinants and health literacy were included as the two relevant factors. The third main component was likelihood of action where perceived benefits outweighed perceived barriers. Cues to actions were also included in the current study while likelihood of missed appointment has no relevance to the study and was, therefore, excluded in the current study.

2.1.2.1.1 Individuals Perceptions Towards Prostate Cancer

Individual perceptions refer to HBM constructs where individuals make subjective perceptions about effects of an illness towards their health as well as how serious the consequences associated with that illness are. Individual perceptions may also be influenced by experience of an illness directly or indirectly through encounter with those who have such an illness. Individual perceptions may positively or negatively influence health behaviour.

I. Perceived Susceptibility

Perceived susceptibility refers to people's beliefs about whether or not they are at risk of a particular disease. Baum, Newman, Wienman et al. (1997) explained that perceived susceptibility refers to one's subjective feelings of being at the risk of contracting a disease and how people engage in behaviours they belief will lessen such a risk. Rosenstock (1974) explained that individuals with low perceived susceptibility level may deny the risk while others may admit the risk but believed it was unlikely for them to develop such illness while some may fully accept the risk of contracting the illness. Henceforth, people with low perceive susceptibility will engage in risky or unhealthy behaviours or decide not to participate in preventive and diagnostic health services. The perceived level of risk influences individual's health seeking behaviour, that is, if an individual believes they are at a risk of an illness, this may influence their health seeking behaviour depending on how high or low they perceive to be at risk.

In Italy, like in majority of countries, a large number of males perceived themselves to be at risk of PCa (Morlando, Pelullo, Di Giuseppe, 2017). According to Price, Colvin and Smith (1993) and Shungu and Sterba (2021) African-American males acknowledged that older men are at a higher risk yet majority did not consider themselves to be at risk. Similarly, minority of Iranian males believed they were susceptible to PCa (Ghodsbin, Zare, Jahanbin et al., 2014). Majority of African male population acknowledged they were at risk of prostate cancer but disputed that those aged 40 and above are at a higher risk (Mutua, Pertet; and Otieno, 2017; Bugoye, Leyna, Moen et al., 2019). In contrast, Yeboah-Asiamah, Yirenya-Tawiah, Baafi et al. (2017) and Necku, Anaba and Abuosi (2019) reported that majority of Ugandan males including those that are regarded as high risk (aged 40 and above) did not consider themselves as high risk population. That was consistent with findings of Opondo, Onyango and Asweto (2022) where Kenyan male health workers did not consider themselves susceptible to PCa.

II. Perceived Severity

Perceived severity refers to a situation where people will assess and understand the severity or the seriousness of contracting a disease whereby diagnosis could either cause death, disability or severe pain. Rosenstock (1974) and Jeihooni, Amirkhani, Mirshekari et al. (2021) claimed that the level of seriousness may include emotional, social, economic, mental and physical impact of contracting an illness or life difficulties that will be brought by contracting such an illness. An example of perceived severity is strained social relationships (stigma and inability to socialize) while economic impact of the ailment includes inability to provide for family members due to contracting the illness (Rosenstock, 1974). Baum, Newman, Wienman et al. (1997) referred to perceived severity and susceptibility as perceived threat.

Though some males did not perceive PCa to have detrimental impact, such as death, numerous studies portray that a large number of males perceive PCa to be very severe and may lead to death (Odedina, Dagne, Pressey et al., 2011; Yirenya-Tawiah, Baafi et al., 2017, Adibe, Aluh, Isah et al., 2017). In Uganda males with higher income perceived

PCa to be more severe than those with low annual income (Odedina, Dagne, Pressey et al., 2011). Most males in different countries acknowledged the seriousness and severity of the illness claiming it may cause urine retention, erectile dysfunction and loss of their manhood, but also claimed cancer did not lead to death (Adibe, Aluh, Isah et al., 2017). Other populations perceived the severity and seriousness of PCa as very low and generally assumed that its consequences were not life threatening (Ghodsbin, Zare, Jahanbin et al., 2014).

- Uptake and Willingness to Screen for Prostate Cancer

According to National Cancer Institute, USA, Adibe, Aluh, Isah et al. (2017) and Nakandi, Kirabo, Semugabo et al. (2013), PCa screening refers to the process of looking for cancer at its earliest asymptomatic stage. These processes differ and are undertaken because cancer at its earliest stage may be treated easily with non-invasive and relatively inexpensive treatment. Prostate cancer screening is done using different tests and the two most common tests are digital rectal examination (DRE) and prostate-specific antigen test (PSA). Digital rectal exam is done by checking for an enlarged prostate gland through the rectum while PSA is a test done on an individual's blood to test the level of prostate specific antigen. Biopsy is ultimately used to confirm the presence of PCa if screening is suggestive of its presence (Rawla, 2019). In developed the countries, the use of PSA for screening services was blamed for over diagnosed prostate cancer cases and high numbers of males put on treatment for noncancerous prostate growth (Frydenberg, Sticker and Kaye, 1997; Brawer, 2000; Zhang, Bangma and Roobol, 2016). However, a substantial number of studies argued that the benefits of testing outweigh those of claimed over-diagnosed males. Tingen, Weinrich, Heydt et al. (1998) also added that of 10 men, 9 could survive a minimum of 5 years with early PCa detection through screening while with a late diagnosis of 10 men only 3 could survive for five years. Nakandi, Kirabo, Semugabo et al. (2013) also agreed that early detection through screening has led to decreased PCa morbidity and mortality in numerous countries.

Males interviewed in numerous studies conducted in different regions had positive attitude towards PCa screening and were willing to use screening services (Adibe, Aluh,

Isah et al., 2017; James, Wong, Craig et al., 2017; Morlando, Pelullo and Giuseppe, 2017; Musalli, Alobaid, Aljahani et al., 2021; Ekwan, Bua, Nantale et al., 2023). Kleier (2010) stated that PCa vulnerability may positively or negatively influence males' willingness and participation in the uptake of screening services. People who perceived themselves not at the risk of prostate cancer may decide not to utilize screening services or those who have fear of the disease may not utilize screening services to avoid being diagnosed positive. Mofolo, Kenna, Koroma et al. (2015), Steele, Maylahn, Uhler et al. (2000) and Bugoye, Leyna, Moen et al. (2019) also claimed that perceived risk of prostate cancer influenced the willingness to utilize screening services. Kleier (2010) stated that perceived PCa susceptibility led to increased participation in PCa screening among Haitian-American males. These research results were consistent with those of studies conducted by Abuadas, Petro-Nustas and Albikawi (2015) showed that uptake of PCa screening services among older Jordan males was positively influenced by PCa susceptibility. In contrast, Opondo, Onyango and Asweto (2022) claimed that perceived susceptibility did not relate to PCa screening uptake where Kenyan health care workers who did not consider themselves at a risk of PCa and those who do, did not participate in any PCa screening activities. In addition, Muliiara, Al-Saidi, and Al-Yahyai (2017) mentioned that perceived PCa threat was not one of the major determinants of PCa screening uptake among Omani men.

A number of studies around the world stated that the actual uptake of PCa is relatively low among all males. Choi, Tang et.al. (2014) study showed that PCa screening uptake among Chinese men was very low, at 10%, which was consistent with the results of the studies conducted by Butler, Kelly, Coupland et al. (2020) and Colon, Bolajoko, Odedina et al. (2021) showing that 82.1% and 90.5% of Nigerians had not done either PSA or DRE respectively, and 39% and 32% American participants claimed to have used the two methods respectively. In Kenya PCa screening was very low despite the country's high PCa prevalence (Opondo, Onyango and Asweto, 2022; Mbugua, Oluchina and Karanja, 2021; Mbugua, Oluchina, Karanja et al., 2020; Mutau, Pertet and Otieno, 2017). Similar results have been found in Uganda, Jordan and Nigeria among other countries (Nakandi, Kirabo, Semugabo et al., 2013; Abuadas, Petro-Nustas and Albikawi, 2015; Bello, Buhari, Mohammed et al., 2019). Contrary to those studies was

the results of a study conducted by Coughlin, Ayyala, Luque et al., (2021) where 84.1% of African Americans claimed to have used a PSA screening test. Equally important, though males in different countries perceived prostate cancer as an illness of detrimental consequences, those perceptions did not translate into actual cancer screening uptake among male population. That implied that though male population from different countries had different perceptions towards the severity of prostate cancer, it was discovered that generally the uptake of screening services was low among most of the countries. Therefore, that meant perceived severity of prostate cancer did not have an impact among the populations where those studies were conducted.

2.1.2.1.2 Modifying Factors

Modifying factors are variables that may influence health behaviour among different populations. These variables may have positive, negative or no influence on people's health behaviour. These include the individual's socio-demographic variables, education and marital statuses as well as knowledge.

I. Socio and Demographic Variables

According to Bello, J. O., Buhari, Mohammed, Olanipekun et al. (2019), So, Choi, Tang et.al. (2014), Opondo, Onyango and Asweto (2022), age, marital status and education are modifying factors to health seeking behaviour including prostate cancer screening. Mirzaei-Alavijeh,Jalilian, Solaimanizadeh et al. (2020), however, stated that modifying factors such as age, marital status, better socio economic status and education level had a positive relationship with uptake of screening services. The positive relationship between screening uptake and age, economic status and education level was also seen among Iranian men in a study conducted by Mirzaei-Alavijeh, Ahmadi-Jouybari, Vaezi et al. (2018). This was consistent with the results of a study conducted by Coughlin, Ayyala, Luque, et.al. (2021) while Winterich, Grzywacz, Quandt, et al. (2009) only reported positive relationship between education, knowledge of screening services and screening uptake.

II. Prostate Cancer Knowledge

According to Kalua and Nyasulu (2007), knowledge is not a modifying factor but influences health attitude while Cronina, Hankinsd, Byrde et.al (2018) argued that health literacy was one of the modifying factors in HMB. Health literacy is defined as obtaining information, ability to obtain, read, understand and use health information. Sun, Shi, Zeng et al. (2013) stated that health literacy mainly referred to health knowledge. Therefore, adapting HBM components of Cronina, Hankinsd, Byrde et.al (2018) meant the current study refers to health literacy, thus health knowledge, as a modifying factor.

Studies showed that prostate cancer and screening knowledge played an essential role among males on whether they were willing or unwilling to take prostate cancer screening tests (Yeboah-Asiamah, Yirenya-Tawiah, Baafi et al.,2017; Enemugwem, Eze, Ejike et al., 2019). Knowing PCa symptoms, age at which it was most likely to occur and risk factors associated with it as well as being able to confidently rule out facts from myths was linked with improved prostate cancer health seeking behaviour (Bugoye, Leyna, Moen et al., 2019; Oladimeji, Bidemi, Olufisayo et al., 2010; Mofolo, Kenna, Koroma et al., 2015). In most European, American and other countries, mostly of higher economic ranking such as Italy, UK, Canada, US and Jamaica, among others, males were generally more informed about PCa including about PCa risk factors and prevalence (Fitzpatrick, Kirby, Brough et al., 2009; Morrison, Aiken Mayhew et al., 2016; Morlando, Pelullo and Di Giuseppe, 2017).

In most countries such as the US, where there was higher level of knowledge about PCa among males, black males were lacking behind with low PCa knowledge (Ogunsanya, Brown, Odedina et al 2017; Ogunsanya, Brown, Odedina et al., 2016). In the US, Blocker, Romocki, Thomas et al. (2006) disputed majority of US studies claiming lack of PCa and screening knowledge among African-Americas arguing that majority had satisfactory knowledge. In Saudi Arabia, Musalli, Alobaid, Aljahani, et al. (2021) claim that majority of males had adequate PCa knowledge while Jarb, Aljuaid,

Alghamdi et al. (2021) disputed the results disagreeing that majority of males had heard of PCa but lacked general knowledge about PCa. The latter argued that majority of males did not have PCa information such as PCa risk factors and its symptoms.

Studies conducted among various African countries showed that males in countries such as Kenya, Zambia, Ghana, Nigeria, Zimbabwe and many more, had low PCa knowledge, where even those who have heard about it were not very well informed about PCa (Moyo, 2016; Necku, Anaba and Abuosi, 2019; Gift, Nancy, and Victor, 2020; Mbugua, Oluchina and Karanja, 2021; Onyeodi, Akintelure, Oladipo and Fashola, 2022 and Morhason-Bello, Odedina, Rebbeck, 2014). Nakandi, Kirabo, Semugabo et al. (2013) commented that majority of Ugandan males had very low knowledge about prostate cancer, knowledge about PCa presenting and confirmatory symptoms, and the age at which PCa is most prevalent as well as its risk factors. (Moyo, 2016; Necku, Anaba and Abuosi, 2019; Gift, Nancy, and Victor, 2020; Mbugua, Oluchina and Karanja, 2021 and Onyeodi, Akintelure, Oladipo and Fashola, 2022).

Similarly, studies conducted in Tanzania, Nigeria, Cameroon and Zambia revealed that the level of knowledge in African countries was alarmingly low among males (Olapade-Olaopa, Owoaje, Kola et al., 2014; Ladipo Ojewola, Sofela, Balogu et al., 2017; Kaninjing, Lopez, Nguyenet et al., 2018; Bugoye, Leyna, Moen et al., 2019; Gift, Nancy and Victor, 2020). Necku, Anaba and Abuosi (2019) also added that majority of Ghanaian male soldiers had limited knowledge about prostate cancer and the extent of their knowledge was associated with their level of education. Similar results had been found in South Africa where majority of black males lacked adequate knowledge about prostate cancer, particularly males of black ethnic groups showing relatively lower knowledge compared to other races (Mofolo, Betshu, Kenna, et al., 2015). This study also emphasises the correlation between PCa knowledge and the level of education possessed by males. In Kenya Mutua, Pertet; and Otieno (2017) claimed that due to frequent PCa screening campaign there was a relatively high knowledge which, however, did not translate to high numbers of males' uptake of screening services. This study results are aligned to the results of a study conducted in Mizan Aman town in

Ethopia with 64% of the participants had high level of PCa awareness (Assefa, Germossa, Ayenew et al., 2022)

In Africa, males with higher level of education and of older age had high level of knowledge about prostate cancer, and were able to identify some symptoms and risks associated with PCa (Nakandi, Kirabo, Semugabo et al., 2013; Kabore, Kambou, Zango et al., 2014; Adibe, Aluh, Isah et al., 2017; Gift, Nancy and Victor, 2020; Musalli, Alobaid, Aljahani et al., 2021). According to Oranusi, Mbieri, Oranusi et al. (2012) and Olarewaju, Akinola, Oyekunle et al. (2020), the majority of Nigerian males that had sufficient awareness of prostate cancer awere those with high level of education, due to access of broad PCa information. Aluh, Anyachebelu, Azubuike et al. (2018) claimed that education level correlates with PCa knowledge and added that younger males were more informed about PCa compared to elderly males, arguing it was a result of PCa campaigns frequently attended by younger males. Those results were similar to those of Musalli, Alobaid, Aljahani, et al. (2021), claiming that in Saudi Arabia males of younger age were more informed than those of older age.

Lack of PCa knowledge was one of the most important barriers because other barriers occurred due to lack of adequate knowledge. Such barriers included fear and stigma among others (Reynolds 2008). Research studies conducted in numerous countries reported that there was an overwhelming lack of PCa knowledge among a large number of males (Roberts, 2010; Wanyagah, 2013; Kaninjing, Lopez, Nguyen et al., 2018; Bugoye, Leyna, Moen et al., 2019; Nakandi, Kirabo, Semugabo et al., 2013; Shungu and Sterba, 2021). Those studies also suggested that there was a positive relationship between PCa knowledge, PCa screening knowledge, level of education and uptake of screening services.

In most countries the source of PCa information was not health care workers but, rather, social media, family and mass media (Morlando, Pelullo and Di Giuseppe, 2017; Oranusi, Mbieri, Oranusi et al., 2012; Nakandi, Kirabo, Semugabo et al., 2013). That proved that there was a lack of informative relationship between health care workers in most countries regardless of race, ethnicity and SES. The barrier of lack of

recommendation by professional health workers was also reported in a study by Seller and Ross (2003) and Coughlin, Ayyala, Luque et al. (2021). Improvement in patient-doctor communication would enhance male knowledge on PCa, hence, motivating males to use PCa screening services.

III. Prostate Cancer Screening Awareness

Studies conducted in different parts of the world displayed that male populations were not fully aware of PCa screening, hence lacked of PCa screening participation. In the USA, studies showed that African Americans had low PCa screening awareness where some males explained they were not aware of any PCa screening tests (Agho and Lewis, 2001; Ford, Vernon, Havstad et al., 2006; Shungu and Sterba, 2021). Weinrich and Weinrich (2001) and Breen, Wagener, Brown, et al. (2001) reported that populations with low PCa and screening knowledge, and of low education level did not participate in PCa screening services. These results were consistent with those of retired men in Iran where the majority of them were not aware of PSA screening (Ghodsbin, Zare, Jahanbi.et al., 2014.). In Saudi Arabia majority of males did not have enough knowledge about PCa screening, which translated to very low uptake of screening services (Jarb, Aljuaid, Alghamdi et al., 2021). Musalli, Alobaid, Aljahani, et al. (2021) further stated that PCa screening knowledge was associated with higher education level and higher income, though it did not translate to active uptake of screening service among well informed males. Dean, Subramanian, Williams et al. (2015) stated that the efforts to increase screening behaviours among black men would go a long way to increase PCa detection at its earliest stage and avoid common late detection within that population.

In most African countries, studies proved that PCa screening awareness was very low and a large number of males did not know what PCa screening was, the types of screening methods available, and the importance and risk of screening services (Nakandi, Kirabo, Semugabo et al., 2013; Morhason-Bello, Odedina, Rebbeck et al.,2013). Numerous studies conducted in Nigeria indicated that majority of Nigerian males were not aware of prostate cancer screening and their level of screening services uptake was very low. Only 4.4% of the participants in a study conducted by Bello,

Buhari, Mohammed et al. (2019) mentioned they had ever screened while Ogundele and Ikuerowo (2015) showed only 8.2% of participants ever screened and Olarewaju, Akinola, Oyekunle et al., (2020) showing 16% screening uptake. The low screening uptake among Nigerians was also displayed by the results by Ogunbiyi and Shittu, (1999). Though the studies conducted portrayed older African males as better informed compared to younger males, that did turn to increased screening uptake among older men. Studies showed that males in Cameroon, Tanzania and Kenya had low levels of PCa awareness leading to low uptake of screening services. In Kenya, Wanyagah, (2013) recorded 57% ever screened while Bugoye, Leyna, Moen et al., (2019) mentioned that in Tanzania only 7.7% had ever tested. In South Africa, studies reported that a large number of black men displayed limited knowledge of prostate cancer screening and that led to a bigger proportion of black males being diagnosed at an advanced PCa stage. Sherriff, Da Costa, Engelbrecht et al. (2015) stated that 72.8% were black male prostate cancer patients where the largest number of total patients were at Stage 4 (48.7%).

IV. Cue to Action:

According to Rosenstock (1974), cues to action refered to individual's motivation or trigger to take action where the level of susceptibility and severity were the pushing force to seeking health services. Also perceived benefits against less barriers allowed individuals to seek health services. The motivation may be internal where an individual would be experiencing signs and symptoms of a disease or external where one was encouraged by other people including family members and medical professionals to seek health services. Also very influential are doctors' recommendations to males to screen for prostate cancer during clinical consultations. Other variables that were included in the original HBM include the demographic, socio-psychological and structural variables which contributed to individual perceptions - perceived benefits of action.

Majority of males' family member were the major influence in males' uptake of screening services because most males indicated that they would do as their immediate family members suggested (Mutua, Pertet; and Otieno ,2017; Adibe, Aluh, Isah et al., 2017;

Eley, Namey, McKenna et al., 2019). Morlando, Pelullo, Di Giuseppe, (2017) suggested that motivation for males to seek PCa screening services included recommendation by health care workers and the feeling of being at risk. Shungu and Sterba (2021) mentioned that perceived risk and seriousness of PCa pursued males to engage in PCa screening services where the risk was associated with family history of PCa or presence of PCa symptoms.

2.1.2.1.3 Likelihood of Action

I. Perceived Benefits

Perceived benefits explain how people perceive the use of preventive and diagnostic health services as beneficial towards prevention and reduction of the risk of the disease, therefore, influencing health seeking behaviour. Regardless of the level of risk, people will not use health services unless the services are perceived to have certain benefits. Baum, Newman, Wienman et al. (1997) claimed that regardless of the seriousness of perceived threat an individual would not be expected to use any health services unless they were perceived to be effective to prevent or end an ailment. Furthermore, Champion and Skinner (2008) mentioned that perceptions that were not health-related may also influence the health seeking behaviour. For instance, if quitting of alcohol will increase financial wealth and family happiness then such perceived benefits may influence one's behaviour.

Studies conducted in different countries showed that males acknowledged the importance of PCa screening as to detect and diagnose PCa at its earliest stage for early and, usually, effective treatment. Kirk, Edwards, Nielsen et al. (2018) showed that males in Denmark believed it was important to screen for early diagnosis before the presence of the symptoms. Also in Sweden Koitsalu, Eklund, Adolfsson et al. (2018) maintained that males reported PCa screening as beneficial while assuming fewer barriers to such testing. These studies results were consistent with studies conducted by Sanchez, Bowen, Hart et al. (2007), Mutua, Pertet and Otieno (2017),Yeboah-Asiamah, Yirenya-Tawiah, Baafi et al. (2017), Mirzaei-Alavijeh, Jalilian, Solaimanizahed et al. (2020), Choi and Wan (2021), Shungu and Sterba (2021) as well as a study

conducted in South Africa in the Free State Province by Benedict, Steinberg, Claassen et al. (2022).

Numerous studies across the world portrayed males' willingness to screen for prostate cancer though such willingness had not translated to the actual uptake of screening services (Ugochukwu, Odukoya, Ajogwu et al., 2019; Mbugau, Oluchina and Karanja, 2021). According to Blocker, Romocki, Thomas et al., (2006) majority of African-Americans understood the importance and benefits of PCa screening despite their negative perceptions, particularly towards DRE. Mutua, Pertet and Otieno (2017) suggested that Kenyan males acknowledged the benefits of PCa screening but were weighed down by barriers where an alarmingly low number of males participated in PCa screening services.

II. Perceived Barriers

Perceived barriers refer to an individual's feeling of obstacles to acquiring preventive and diagnostic health services. Rosenstock (1974) explained that an individual may admit the effectiveness of the action to prevent and reduce disease risk but find such an action inconvenient, painful, dangerous, time-consuming, undermining or expensive. Perceived barriers lead to cost-benefit analysis of health seeking behaviour where an individual will assess the cost against the benefit of acquiring certain health services. According to Baum, Newman, Wienman et al. (1997) the person weighs if the health seeking decision will yield positive outcomes against the negative beliefs about the action. Barriers to PCa screening services are circumstances which may hinder individuals to seek and utilize PCa health services. These barriers include situational, social and economic barriers to seeking PCa detection and diagnosis services.

- Fatalism

Cancer fatalism played a huge role in determining whether individuals do or do not participate in PCa detection, diagnosis and treatment services. Odedina, Dagne, Pressey et.al. (2010) refered to cancer fatalism as a belief by an individual that PCa

diagnosis meant death, which becomes a barrier to seeking detection services. In the US, cancer fatalism was common among immigrant African-Americans than among native African-Americans due to their beliefs from their original countries (Shelton, Weinrch, and Reynold, 1999; Blocker, Smith Romocki, Thomas et al., 2006; Odedina, Dagne, Pressey et al., 2010). In Kenya, Mutua, Pertet; and Otieno (2017) claimed that though there was an adequate screening knowledge, males had fatalistic beliefs (Cancer fatalism) towards prostate cancer. This was supported by Mbugua, Karanja and Oluchina (2021) proclaiming that the male rural community of Kenya associated PCa with death. Therefore, males' view of PCa as a death sentence became a barrier to their seeking of screening services, which may confirm the presence of PCa. African male population with higher education level and higher income did not consider PCa to be fatalistic but rather of sever results which may lead to death (Mutua, Pertet and Otieno, 2017; Yirenya-Tawiah, Baafi et al., 2017)

- Culture

Shungu and Sterba (2021) indicated that male unwillingness to take care of their health (care avoidance) leads to most men missing the opportunity to utilize screening services at their disposal. They concluded that male health care avoidance is embedded within male's culture, particularly Africa males. According to Conde, Landier, Ishida et al. (2010), Fillipino males also avoided seeking health services until one displays the symptoms of being ill. Woods, Montgomery, Carlos et al. (2004) also added that the use of culturally inappropriate language and symbols to communicate with men of African ancestry became a barrier to males seeking PCa services. Health providers use their scientific languages to communicate with male patient which comes across to black males as disrespectful and inappropriate.

- Masculinity

Studies have shown masculinity as another barrier to males seeking PCa screening services. Males felt the type of cancer screening services offered was invasive of their bodies, hence, compromising their manhood (James, Wong, Craig et al., 2017). Seeking health services was seen as undermining their male toughness (ability to endure) which was attached to their gender roles (Blocker, Romocki, Thomas et al.,

2006). According to Roberts (2010) males were also embarrassed to be PCa patients due to the stigma attached to the illness.

- Embarrassment

Males claimed that it was embarrassing to engage in activities that invaded their sexual privacy, bodies and their manhood as well as being attended by female personnel (Medina-Perucha, Yousaf, Hunter et al., 2017; Conde, Landier, Ishida et al., 2010). DRE was reported to be the most embarrassing screening method and was thought to be painful as well as possibility of causing a lot of discomfort (Farrante, Shaw, and Scott, 2011; Muliira, Al-Saidi and al-Yahyai, 2017).

- Fear and Anxiety

Studies showed that a large number of males were afraid to participate in PCa screening services due to the screening procedures and fear of testing positive as well as consequences of testing positive. Also lack of screening services participation was caused by the anxiety of whether they will survive or not. In addition, males were afraid of experiencing sexual dysfunction and other consequences that come with the cancer diagnosis and treatment; hence, they would rather not know their status (Adibe, Aluh2, Isah et al., 2017; Conde, Landier, Ishida et al., 2011; Medina-Perucha, Yousaf, Hunter et al., 2017; Aluh, Anyachebelu, Azubuike et al., 2018).

- Out of Pocket Expenses Towards PCa Screening (Affordability).

Majority of males with low annual income did not participate in PCa screening services due to perceived expenses of seeking such health services (Bugoye, Leyna, Moen et al., 2019). Low income meant males could not afford to pay for health services and access to information at their own expense and usually did not have any medical aids or heath insurances like in developed countries (Bugoye, Leyna, Moen et al., 2019; Bello, Buhari, Mohammed et al., 2019). Low income was associated with low level of education, low level of PCa and PCa screening, which in turn caused low uptake of PCa and PCa screening services. Kaninjing, Lopez, Nguyen et al. (2018) stated that lack of financial resources caused people to delay seeking health services because they could not afford to pay for such services, hence late presentation at health facility

usually with symptomatic PCa. Due to geographical locations in most African countries, health facilities and hospitals are not easily accessed; hence, individuals are forced to travel long distances to access health services. Therefore, lack of financial resources for traveling becomes a barrier to seeking PCa detection, diagnostic and treatment services, which is also responsible for late presentation. Patients with some financial constraints, in some African countries, were forced to rely on the government funds to seek services outside of their countries, usually receiving such services late when PCa has advanced to a metastatic stage.

- Lack of Trust towards Health Workers and Western Medicines

In countries such as Philadelphia, the united US and in most Africa countries some males did not trust health workers because they believe they were not offered equal medical care due to their race, economic status and prestige (Reynolds, 2008; Yang, Matthew and Anderson, 2013; Tamekia Reece, 2023). Marima, Mbeje, Hull et al., (2022) claimed that Africa males would rather consult elderly men and use traditional medicines because they were readily available and trustworthy. Equally important, lack of communication between health professionals and males on PCa issues did encourage and strengthen the distrust between the two parties.

- Lack of Facilities and Expertise

In most African countries, lack of cancer treatment facilities and PCa health experts (urologists, androgen-deprivation therapists) bacome a barrier to males seeking PCa services (Adeloye, David, Aderemi et al., 2016; Sherriff, Costa, Engelbrecht, et al., 2015, Abdel-Wahab et al., 2013). That is, in such countries males diagnosed positive for PCa needde to be transferred to facilities outside their local residence, some as far as to other countries, due to the lack of expertise, to access PCa health service. Also most males consulted when PCa had advanced to aggressive stage owing to lack of governmental resources leading to late appointment schedules in countries with expertise.

Saleh, Fooladi, Petro-Nusta et al. (2015) suggested that most barriers such as limited prostate cancer and screening knowledge, perceived discomfort and embarrassment

as well as fear of being diagnosed positive with PCa were experienced by majority of male population around the world, including Africans, African-Americans, Indians, Iranians and more. They further emphasised the need for effective health promotion and educational campaigns to elevate the level of awareness and provision of factual information to concerned populations.

III. Self-Efficacy

According to Daniata, Widjaja Olalla Gracia et al. (2021), self-efficacy meant that one believed in oneself that she or he will succeed in the use of positive health seeking behaviour. Meaning that strong self-efficacy led to an individual taking a positive action to acquire health services. According to Glanz, Rimer and Viswanath (2008), self-efficacy meant an individual must feel capable and self-confident to initiate and maintain the behavioural change as well as to overcome perceived barriers to seeking health services.

Jones-Dendy (2017) argued that there was a relationship between self-efficacy and cancer prevention and cancer adaptation. Studies showed that majority of males lack self-efficacy because they lack confidence to overcome barriers such as embarrassment, masculinity and fear. Lack of knowledge was also a barrier to self-efficacy because with lack of knowledge males could not make positive decisions of utilizing screening services. Openness and trusting relationships with health care workers, where males could be equipped with enough PCa knowledge to make informed decisions, would increase male confidence to engage in PCa screening and treatment services (Jones-Dendy, 2017). Blocker, Romocki, Thomas et al. (2006) claimed that through membership to different churches males become resilient and avoid being passive, which promoted health seeking behaviour like PCa screening, physical activity and motivation of one another.

Males in developing countries and sub-populations in developed countries had alarmingly low level of PCa knowledge, and screening awareness was the primary barrier to seeking relevant preventive, diagnostic and treatment services. That was

similar to educated and fairly informed males who were not keen to use screening services at their disposal.

The first major gap in the literature is that limited studies are based on rural based people with low SES, low level of education and geographically based far from the health facilities. Another gap is that there is no literature on PCa studies conducted in Lesotho, which means there is no evidence-based information to use as a baseline to confirm consistency or contradict the current study.

2.2 Critics of the Health Belief Model

Though HBM was commonly used to determine how perceptions influence health behaviour, there were critics on its limitations in public health. The HBM critiques argued that the HBM did not consider the culture and emotions of individuals when health-related decisions were being made (Boskey, 2023). This meant that, except the perception of severity and seriousness of the illness as well as barriers to seeking health services, there were cultural factors and emotional factors that may enable or incapacitate individuals to seek preventive services. Accordingly, culturally and socially accepted behaviours also determine if people will participate or reject health behaviours. The health belief model also ignored that some behaviours are habitual and cannot be changed by weighing the advantages against the disadvantages of such behaviours or behaviours that did not involve any health benefits but are personal benefits (Salazar, 1991). These behaviours may include lack of willingness to consult health care workers by males until there were visible symptoms of an illness, or the use of traditional medicines instead of conventional medicine for different types of illnesses. Those behaviours are habitual and may lead to negative impact in individuals' health including late presentation and unwillingness to use preventive services. According to Carpenter (2010), some of the HBM components did not translate to health seeking behaviour; benefits and barriers were the strongest predictors of health behaviours. Though HBM was criticised for its limitations it was ultimately viewed as a good predictor of general health-related behaviour.

2.3 Summary

This section outlined the theoretical framework used to conduct the current study being the HBM presenting the three major components of theory and how such components have been reported, through various studies, to positively or negatively influence uptake of prostate cancer screening services among males in different parts of the world. This section also presented prostate cancer aetiology.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter focused on the research methodology. According to Jackson ǁ, Drummond and Camara (2007), methodology refers to the process of identifying the most appropriate approach to address the problem investigated and why such an approach is most suitable for the identified problem. Igwenagu (2016) further explained the research methodology as a systematic guide used to conduct research study, meaning the technique and procedures which will be used to guide the study. This chapter, therefore, elaborates on the research approach, research design, data collection technique and method of analysis that was used in the current research study. An exploratory design was used to explore PCa and screening knowledge as well as willingness to screen for PCa among Basotho men.

3.2 Research Approach

According to Babbie (2020) a research approach is determined by the kind of questions the research aims to answer. Therefore, this study was conducted using a qualitative approach, which is descriptive in nature rather than numerical, because the researcher aims to answer questions based on participant views. Qualitative studies explore people's perceptions, opinions, beliefs, knowledge, attitude and behaviours in an attempt to understand the meanings they give to research problem (Cavana, Delahaye and Sekaran, 2001 and Pathak, Jena and Kalra, 2013). Qualitative studies focus on social activities to understand human experiences and explore how they explain their behaviours. Maree (2016) explains that qualitative research is conducted in the natural setting of participants where they can explain in detail their understanding of the phenomenon being studied. According to Jackson ǁ, Drummond and Camara (2007), qualitative studies are very detailed in nature due to in-depth conversations and observation with few study participants.

The constructionist (interpretive) paradigm was most appropriate for this study because it allowed for the researcher to explore and interpret multiple and different views

attached to people's actions and decisions (Rehman and Alharthi, 2016). Constructionist paradigm uses qualitative methods for data collection and analysis which enables elaborate interpretation of participant's perspectives. A paradigm, according to Babbie (2020), is an important model that shapes how we view and make sense of everything including social life.

Cavana, Delahaye and Sekaran, (2001) and Omona (2013) further explain that qualitative research studies are of inductive reasoning. Inductive reasoning in a research study means observations made on a study sample are not used to make generalized conclusions on the population. Inductive reasoning is a bottom-up approach where the sample is used to make generalization for the population unlike in deductive reasoning where top-down reasoning based on existing theories are used to make conclusions. Maree (2016) and Zalaghi and Khazaei (2016) maintained that through the inductive process the researcher uses unbiased observation to create data themes or patterns by organizing data collected from a study sample.

Advantages of qualitative research include that it allowed for each participant's opinion to be taken into account, thus, their views and meanings of the phenomenon of interest which broadened the researchers' understanding of the topic (Rahman, 2017). Therefore, qualitative studies provide researchers and readers with thorough information to understand why people make certain choices and behave as they do, which also authenticates conclusions made by the researchers (Miller, 2019, Rahman 2017).

Lastly, qualitative research enabled me to collect detailed data with an allowance of probing for further explanation on the issues of interest which contributed to drawing close to a true picture of lived experiences unlike numerical data which does not collect individual experiences of participants. Therefore, qualitative research approach was more appropriate because it enabled the researcher to collect and interpret the participants true and detailed perspectives on PCa and PCa screening services.

3.3 Research Design

According to De Vos, Strydom, Fouche et al. (2011), a research design is a guide to understanding the research structure and how the study will be executed. Babbie (2014) simply explained a research design as an elaboration of what one wants to study, how the study will be conducted, the purpose of the study as well as who the study participants are. A case study may be used as either qualitative or a quantitative research design. In qualitative research design, case studies are used to find out in-depth meaning of real life experiences of a single case or multiple cases which may be an organization, a community or a family (Bryman 2012 and Maree, 2016). Brown (2008) also purports that case studies enable interpretation of findings or data about the phenomenon being explored, which ultimately leads to a complete understanding of such a phenomenon. Brown (2008) further explained that a case study is different from other research designs, such as ethnography, biography and grounded theory, in that it focuses on a single delimited entity or case. A case study has boundaries which may include the number of participants, specific time frame for observation or focus on a particular issue (Babbie, 2020). According to Maree (2016) case studies are classified into 6 types, namely explanatory, descriptive, multiple case, intrinsic, exploratory and instrumental case studies. Case studies address the what, the why and the how questions of the study.

The current study used exploratory case study because it enabled the researcher to explore and understand Basotho males level of PCa knowledge and screening awareness, and how it affected their health seeking behaviour. According to Hills (2012) exploratory approach produces a rich and thoroughly detailed data on the phenomenon being investigated. Also exploratory case study was selected because it answered the how and the why about the participants' PCa related views and enabled me to answer the study questions addressing PCa knowledge, screening awareness, willingness and uptake of screening services among Basotho males.

3.4 The Sample

A sample is a subset of a population of interest for investigation while sampling is the process and procedure of selecting a sample to be studied based on set criteria

(Lunsford and Lunsford, 1995). The sample is studied, instead of the entire population, as studying the entire population may be time consuming, be affected by financial limitations and impractically large samples for detailed data collection. In qualitative studies we use non-probability sampling techniques where units of the population do not have equal opportunities of being part of study participants. Members of one of a Christian churches in Maseru were selected as the study sample for participation in data collection. The participants resided in different parts of study location. The church was selected because the male participants are already organised; hence, purposive sampling could be conveniently used to selected suitable participants. The church also offers a target population of different socioeconomic status such as education, means of livelihood, marital status as well as guarantee of sober minded participants which would enable broad detailed data collection.

3.4.1 Sample Size

The sample consisted of 13 males whose age ranged from 40 to 69 and were congregates of the selected church. The sample size was selected in alignment with the research design where Vasileiou, Barnett, Thorpe et al. (2018) indicated that sample size of qualitative studies is usually small as to allow in-depth data collection and analysis which are fundamental to qualitative studies.

3.4.2 Inclusion Criteria

- Only males aged 40 years or older participated in the study;
- Males who have or have not been diagnosed with prostate cancer were included as well in this study;
- Males of different educational background were included in the current study;
- Only male congregants of the selected church were eligible to participate in the study.

3.4.3 Exclusion Criteria

- All males aged less than 40 years did not participate in the study;

- All females regardless age did not participate;
- All males that were not Basotho were excluded.

3.5 Sampling Technique

This study used purposive sampling technique to recruit the study respondents. Purposive sampling, also known as judgmental or selective sampling, is a non-probability sampling technique used in qualitative methodology. Purposive sampling requires a researcher to subjectively select participants based on the study-relevant qualities they possess which make such participants eligible for the study (Taherdoost, 2016). Taherdoost (2016) and Omona (2013) claim that one of the weaknesses of purposive sampling is that it cannot be used to generalize results for entire study populations. On the other hand, Alchemer (2021) claimed that purposive sampling is straight forward and the researcher intentionally selects the target population that fits the criteria of the study and rejects individuals that do not fit the set standards for the research. Hence, purposive sampling was the most appropriate technique because, among other church-goers, only males aged 40 and above were intentionally enrolled to participate in the study. The eligible participants were informed of the study during the church service and invited to a meeting after the service where further information was provided and their names and contacts were enlisted for participation.

3.6 Data Collection and Procedures

Permission to engage with participants was requested from the pastor with a letter (see Appendix D). The letter was sent to the Church Committee which approved the request and invited the researcher for an introduction at the church service. The congregants were informed and given a brief summary about the study in the same church service and eligible participants were asked to meet with the researcher after the services for further information about study. Most of eligible males attended the meeting and those who were willing to participate were asked to write, on a list, their names and telephone numbers. They were later called to schedule appointments where they chose both a suitable venue and time to meet for the interviews. The participants preferred to be interviewed at their homes; therefore, I travelled to different locations to conduct one-

on-one interviews. Each participant signed an informed consent form (see Appendix B) written in English or translated to Sesotho (see Appendix C) after they read, or it was read to them, before the interview started.

The interview guide was translated to Sesotho because all the participants understood the language regardless of their level of education, rather than using English language as the level of education among the participants varied from primary level and high school to tertiary level. Therefore, using English would have presumptively hindered some from comprehending the interview questions and failing to fully express themselves. Sesotho eased the communication between the researcher and the participants, thus enhancing the level of understanding of the issue being discussed. In addition, Sesotho enabled the participants to effectively explain themselves without being held back by the language barrier due to low education level.

The researcher conducted face-to-face interviews with a total of 13 male participants using semi-structured questions. Semi-structure interviews with open-ended questions were used because they allowed the participants to share their perceptions on PCa and PCa screening with the researcher without restriction as well as to assist the researcher to recognize emotions and feelings attached to the participant's perceptions. According to Omona (2013), a thorough engagement with study participants leads to a rich and abundant data leading to meaningful interpretation of results. Among the participants enrolled, two participants who had earlier given their consent to participate later reconsidered and decided not to participate in the study. The first two participants enrolled in the study were interviewed as a pilot with an intention to test the interview questions and make corrections where necessary as well as to check the preparedness of both the participants and the interviewer to converse about the sensitive topic of prostate. Data saturation was reached with the first eight participants that were enrolled but three more participants were interviewed as a critical measure to ensure that data quality was not compromised. Also this was done to ensure that no other views on the topic were missed. Therefore, the researcher decided to stop collecting data with the total of thirteen participants enrolled.

While conducting the pilot interviews, one participant displayed discomfort to some extent where he frequently cleared his throat and stuttered but persisted to continue with the interview as well as talk about other cancers not specifically PCa. The other participant was not fully open to talking about prostate cancer, holding back on information or only giving hints on what he knew during the discussion. Hence, the pilot interviews assisted the researcher to develop the right approach to addressing the issue of prostate cancer directly among the participants to avoid misunderstanding and confusion on the type of cancer focused on. Though it is culturally sensitive and to some extent deemed inappropriate for females to discuss issues such as the prostate with males, the researcher found the courage and strategy to lead the discussion, leading to successful discussion going forward. All the interviews were recorded, including the two pilot interview, with the permission of the participants and were all included in the data analysis. According to Babbie (2020), whenever using open-ended questions, it is highly important for the interviewer to capture information as it is through recording. The interviews lasted from a minimum of 15 to 20 minutes with each participant.

3.7 Research Instrument

The research instrument I used to collect data is a semi-structured interview. Open-ended questions were used in this qualitative study (see Appendix A) because open-ended questions allowed the participants to fully indulge on the topic giving the research a rich and detailed information. The interview guide was developed in line with the research objectives using the research questions to develop the open-ended interview questions. The first section of the interview guide focused on the demographic information of participants, which included age, place of residence, marital status, source of income and their level of education. The second section of the guide asked questions regarding the participants' health care service seeking behaviour which included, among other questions, if they ever had a general health examination. The questions aimed to inquire if the general examination was inclusion of PCa screening if they ever had such examination. The third part of the interview guide focused on the participant's knowledge of PCa, such as PCa symptoms, risk factors and treatment options available. The section also inquired about the participants' sources of PCa knowledge. The third section aimed to explore if the participants received information

from reliable and formal sources such as the Ministry of Health and health practitioners on different mediums, or if they acquired such knowledge from hearsay of friends and acquaintances. The last section of the interview guide focused on the participant's level of aware on PCa screening services. This section included questions on different types of screening participants knew, where such services were offered and the time interval such services were offered. The four different sections were structured to answer the study objectives which mainly address male awareness towards prostate cancer screening. Equally important, the semi-structured interviews afforded the researcher the opportunity to make sense and to fully understand the collected data through probing.

3.8 Data Analysis

The study data were analysed using thematic analysis. Advantages of thematic analysis include its flexibility to be modified for different studies as well as the flexibility within a study where data patterns can be rearranged among different codes and themes. According to King (2004) thematic analysis makes it possible to study people's different opinions grouping similarities and differences, which is helpful with large qualitative data resulting in a rich research report. Thematic analysis was also deemed appropriate because it enabled the researcher analyse huge participants' comments into brief understandable information.

Once all the interviews were completed and audio recordings were translated and transcribed. The first step I took was to immensely and carefully read and re-read the transcripts as to familiarize myself with the data. I then proceeded to create codes where I picked similar segments of sentences to create meaningful codes. The codes that had similar meaning were identified as well as those with different meanings and manually grouped together. Thirdly after completion of the codes grouping the initial themes were created from similar codes. Themes were redefined to final themes and finally sub-themes were created from identified themes. Data themes were guided by research objectives to explore males' awareness towards prostate cancer and to understand their perceptions towards such services. Therefore, in the current study collected data was categorized into themes to build a content that will clearly and easily

be understood and referenced. The created themes reflected various meanings and understanding given by participants about PCa knowledge and screening awareness among Basotho males. Table 2 present both the main themes and sub-themes identified during data analysis, where the 6 main themes were PCa knowledge, PCa screening awareness, perceptions towards PCa and PCa screening, willingness and uptake of screening services and attitude towards PCa and PCa screening. All the procedures of thematic analysis were manually conducted.

Table 1: Procedures in Thematic Analysis.

Phase 1: Familiarizing yourself with your data
Prolong engagement with data; Triangulate different data collection modes; Document theoretical and reflective thoughts; Document thoughts about potential codes/themes; Store raw data in well-organized archives; Keep records of all data field notes, transcripts, and reflexive journals
Phase 2: Generating initial codes
Peer debriefing; Researcher triangulation; Reflexive journaling; Use of a coding framework; Audit trail of code generation; Documentation of all team meeting and peer debriefings
Phase 3: Searching for themes
Researcher triangulation; Diagramming to make sense of theme connections; Keep detailed notes about development and hierarchies of concepts and themes
Phase 4: Reviewing themes: Researcher triangulation
Themes and sub-themes vetted by team members; Test for referential adequacy by returning to raw data
Phase 5: Defining and naming themes: Researcher triangulation
Peer debriefing; Team consensus on themes; Documentation of team meetings regarding themes; Documentation of theme naming
Phase 6: Producing the report: Member checking

Peer debriefing; Describing process of coding and analysis in sufficient details; Thick descriptions of context; Description of the audit trail; Report on reasons for theoretical, methodological, and analytical choices throughout the entire study

Note. Adapted from “Thematic analysis: Striving to meet the trustworthiness criteria” by L.S. Nowell, J M Norris, D. E. White and N. J. Moules, 2017, International Journal of qualitative methods, 16, p.4, (Doi: 10.1171/1609406917733847) CC BY-NC

Table 2: Themes and Sub-Themes Identified during Data Analysis

Themes	Sub-themes
PCa knowledge	PCa signs and symptoms
	PCa prevalence
	PCa management
	Source of information
PCa screening awareness	Awareness on types and processes of PCa screening
	PCa screening services availability
Perceptions towards prostate cancer and screening	Vulnerability
	Severity
	Benefits
Willingness and uptake of screening	Intention to screen
	Low PCa screening uptake
Attitude towards PCa and PCa screening	Fear of PCa and PCa screening
	Motivation to seek PCa services

3.9 Study Trustworthiness

Merriam (1995) explained that in qualitative research consistency is more feasible than replication, claiming human behaviour is never stagnant; therefore, while reliability is about replication, qualitative studies are about the results being consistent with informants' data. Consistency and integrity in a qualitative study can be achieved by ensuring the research trustworthiness. According to Connelly (2016) trustworthiness means confidence of the quality of the data collected and methods used to collect it as well as its accurate interpretation. Trustworthiness has four components which are, credibility, dependability, transferability and conformability, and the researcher put in place measures to ensure each component was achieved.

3.9.1 Credibility

According to Korstjens and Moser (2017) credibility refers to the truth of the research results, which means the results present the collected data. It refers to the quality of the research findings, representation of the views of the participants and doing away with results distortion by the researcher's bias. The researcher ensured credibility by audio recording every interview to ensure that conclusions were made based on the actual data uninfluenced by researcher. Also thematic analysis coding was used to ensure credibility where the researcher had to read and re-read the transcribed interview scripts to code and re-code collected data. Recorded interviews enabled the researcher to capture the true views of participants which were transcribed for easier coding.

3.9.2 Transferability

According to Krefting (1991) transferability applies when the research results are applied to other similar context outside the study. This means that another researcher or reader who regards the study and the setting of the study as similar to their situation may regard results as transferable to their situation. As suggested by Korstjens and Moser (2017), the researcher ensured study transferability by well and elaborately documenting in detail every step of the research process executed.

3.9.3 Confirmability

It refers to the extent to which the study results are confirmed by other researchers to be accurate and portraying the true picture of the data collected from participants instead of being influenced by the researchers' assumptions. It requires the researcher to clearly state how the research conclusions were reached. In the present study, the researcher clearly documented research processes which included the selection of the research design, study population, sampling techniques, the sample, method data collection, the instrument used and data analysis processes as well as any changes that were implemented while conducting the study.

3.9.4 Dependability

Moon, Brewer, Januchowski-Hartley et al. (2016) posited that dependability refers to the consistency of the results if the study was to be repeated with the same study participants. Also, dependability relies on precise documentation of all processes carried out in conducting the research study, which may accurately be followed, authenticated or criticized by someone else outside the actual researcher. According to Korstjens and Moser (2017) dependability is about ensuring that the research processes follows correct standards of the approach used. The current research documented precisely step by step procedures followed in conducting this study, including sampling techniques, data collection and method of analysis used as well as frequently evaluating if research processes are in line with those of a qualitative approach.

3.9.5 Ethical Consideration

According to De Vos, Strydom, Fouche et.al. (2011), research is based on mutual trust between the researcher and the participants, the will to work together and for both parties to keep their promises. Ethical considerations are a set of values and principles that a researcher should put in place in the interest of the participants' dignity and welfare in taking part in a study (Bhandari, 2022). Participants were given full

information about the study before they decided to participate and were well informed about what their participation entailed.

3.9.6 Voluntary Participation

Participants were informed of their right to agree or not to agree to participate in the study. Also, those who have agreed to participate were informed that they could opt out at any time they decide to do so, being before the interview or during the interview. In addition, participants were assured that there were no negative consequences associated to their decisions to participate or not to participate or if they decided to abandon an ongoing interview. Participant were informed that it is entirely their decision to participate and should not feel or be coerced to be part of the study.

3.9.7 Informed Consent

The researcher elaborately explained to the participants that they would only participate given they consented to do so. Therefore, the participant read the consent form or researcher read the consent form out loud to the participant, explained what the study was about, their right before and during the interview. In a case where a participant did not understand the researcher explained what each statement meant. The consent forms clearly stipulated the benefits of the study, the risk, the time the interview was expected to take and explained that there were no food or monetary benefits attached to their participation. All the participants signed the consent form (Appendix B/C) before the interview started. The interviewer's, (the researcher's), the supervisors' and university details were given to the participants in case they wanted further information about the study or the interviewer.

3.9.8 Confidentiality

The researcher ensured that the participants and their information confidentiality is highly maintained by removing all threats to such confidentiality. All the personal identifiers such as names and phone numbers were not written on the transcripts and

a list of their names and numbers was safely kept till they were no longer needed after which they were destroyed. The participants were appointed pseudonym to identify each one of them to ensure anonymity. During and after data collection all the documents were safely kept away in a locked cabinet to avoid being wrongfully placed and being used by unauthorized persons. The participants were informed of authorized persons who had access to their information, being the researcher and her supervisors. The participants were informed of the measures that were put in place to ensure their confidentiality.

3.9.9 No Harmful Consequences

The study topic is very sensitive but I was careful approaching the subject to avoid any kind of harm to the participants, including physical, emotional, psychological and any negative implications such as embarrassment, trauma and cultural discomfort. As discussed under data collection, I allowed the participants to choose the venues where they felt comfortable and safe for scheduled interviews to avoid harm. I further informed the participants that they could withdraw at any stage of the interview if they felt the study may cause them any sort of harm.

3.9.10 Summary

This chapter focused on procedures and processes undertaken in conducting the current study. This processes included the research approach, the design, selection of the sample and sample as well as the techniques used to collect data. Also among other issues discussed were the procedures followed to ensure participants safety through confidentiality and given consent to participate.

CHAPTER FOUR: PRESENTATION OF THE RESULTS

4.1 Introduction

The main purpose of this study was to explore prostate cancer screening awareness among Basotho males aged 40 and above. In 2020, Lesotho, like other African countries, had reported prostate cancer as the most common male cancer and the third cause of cancer-related deaths among all cancers (Globocan, 2020). This chapter focused on presentation of findings. It is a presentation of the participants' views on prostate cancer and prostate cancer screening services. Six major themes were identified from the data collected, which are prostate cancer knowledge, prostate cancer screening awareness, perceptions towards prostate cancer and screening, willingness and uptake of screening, attitude towards PCa and PCa screening.

4.2 Demographic Information

Thirteen males aged 40 and above were enrolled to participate in the current study. Among the 13 participants, four males were aged between 40 to 49, whilst four other participants were aged from 50-59 and the last five were in the ages of 60-69. Twelve participants mentioned that they were married with an exception of one widowed male. Of the 13 participants, two had primary school education while four participants and seven participants mentioned they had high school and tertiary education respectively. Four of the thirteen participants were employed while two participants were pensioners, and the majority, seven, were self-employed. Two married participants from the age groups of 40-49 and 50-57 each respectively held tertiary educational qualifications. Table 3 below presents the participants' demographic information.

Table 3: Description of Sociodemographic Information of the Participants

Demographics	Number of Participants	Participants Ever Screened	Participants Willing to Screen
Age			
40-49	4	1	3
50-59	4	0	3
60-69	5	1	5
Marital Status			
Married	12	2	10
Widowed	1	0	1
Educational Level			
Primary Level	2	0	1
High School Level	4	0	4
Tertiary Level	7	2	6
Occupation			
Employed	4	1	4
Self-Employed	7	1	5
Pensioner	2	0	2

4.3. PCa Knowledge

PCa knowledge summarized the general knowledge of the participants about PCa knowledge. The participants were asked if they were knowledgeable about the symptoms that may be associated with the presence of PCa. It is a summary of the participants' varied opinions about prostate cancer and their sources of information.

4.3.1 Knowledge of the Symptoms Associated with PCa

Amongst the 13 males who participated in the study, two participants who both had primary education level and one who had high school education level did not know of

any symptoms associated with PCa. On the other hand, the remaining 10 mentioned that they have heard of one or more PCa symptoms. All the 10 participants mentioned that the most common PCa symptoms were in relation to the process of urination or urinary problems. They explained that one who has prostate cancer experiences extreme pain during urination and/or difficult urination as well as uncontrollable urine flow. Thabo (aged 69) stated that:

> *The one (symptom) that I know of is that of burning sensation during urination. Pain during urination is only symptom I have heard of. I do not know any other (symptoms) except for this one where one has this burning sensation when they try to urinate or the urine does not come.*

The other participant, Thapelo, aged 57, also mentioned experiencing difficult urination as one symptom and further attempted to mention more symptoms but claimed he could not remember other symptoms. He said:

> *A person passes urine with difficulty, eeemm, eeemm (looking around trying to recall) … which other symptom do I remember or (paused for some seconds) passing urine frequently? Aiiy let me stop trying to remember except if you may remind me other symptoms.*

One of the participants also mentioned the hear-say about retention of urine and uncontrollably urine leaks, *Thoriso (66 years)* stated:

> *I have heard people say when you have it (prostate cancer), urine would leak uncontrollably or be retained even when one felt the need to pass water... One is just unable to control their urine with this illness.*

Tokelo, aged 60, also admitted that uncontrollable urine leakage was a symptom of PCa but also added that passing stool became uncontrollable with frequent leaks as well. He said:

I have heard that urinating becomes uncontrollable…urinating with difficulty which is not normal or faeces become uncontrollable flowing out without one being able to control their faeces.

One participant who was employed in the medical field and holds a tertiary qualification in medical sciences elaborately explained prostate cancer from its causes, symptoms and related signs. He claimed that urinal difficulties such as retention and leakages are most important symptoms of PCa prognosis. Theko, aged 44, said:

Cancer is a cell that grows abnormally and does not function normally, leading to the prostate enlargement. ... (The prostate) its situated on the gallbladder that is why the bladder does not function well hence the urine does not pass through. That is the first most important symptom, difficulty to urinate, because we say the prostate hardens and encloses the bladder's opening.

He continued to explain that some males may report sexual inactivity while they were not experiencing difficulty with the process of urination then such symptoms could not be associated with the presence of prostate cancer.

One of the participants also claimed that he has heard that prostate cancer is caused by sexual activeness at a young age, which has an impact when one grows older. Thabang, 40 years old, said:

I saw an online video on causes of prostate cancer... males at a young age engage in excessive sexual activities where they lose most cells which later cause prostate cancer.

Two more participants mentioned that one of the symptoms of prostate cancer was painful prostate if touched; hence, frequent rubbing and squeezing of the prostate as was recommended to detected if there was any pain when pressure was put on the prostate. One of them, Tsepang, aged 40, said:

The symptom that has frequently being talked about is painful prostates when you touch them, so we have to touch them with pressure frequently when taking a bath to feel if there is any pain. It is the most important sign regarding the presence of prostate cancer.

Though the majority,10, of the participants mentioned at least one symptom associated with PCa. Three of the thirteen participants stated that they did not know any symptoms associated with prostate cancer. One of them, Thabiso aged 69, emotionlessly said:

No, I do not remember any symptoms but you can tell me what those symptoms are. So, like I said I have never heard of the symptoms of prostate cancer and I have never heard or seen anyone who had prostate cancer.

One of these three participant, T'sepo (57 years old), openly communicated about other cancers claiming that he and his peers, as Basotho, believed that people with cancer were rather bewitched. He claimed that they believed that one of his nephews who was diagnosed with cancer on the thigh and was later amputated was bewitched. He also emphasised that the nephew, was also convinced he was bewitched. Referring to prostate cancer symptoms T'sepo briefly said:

I... I (looks away and clears his throat with discomfort) no, I have never heard of any prostate cancer symptoms.

The three participants who claimed not to be aware of prostate cancer symptoms had the lowest level of education where two had primary education and the other had completed high school level.

4.3.2 PCa Prevalence

The participants had different opinions regarding the age at which prostate cancer is most prevalent in Lesotho. Some participants viewed the illness as that of elderly men while others believed its presence reigned even at a younger age. Four of the 13 participants claimed that prostate cancer is more prevalent at age 50 and above. Some

of those participants claimed that though PCa is mostly prevalent at 50 years and above, some people were diagnosed at earlier ages such as 25 to 30. Thoriso aged 66, indicated that:

> *Though PCa is said to be an illness of elderly men, males as young as 26 or 30 may also be diagnosed positive with this illness. It is said not to be selective of age; one may get it at any age among men but it is usually talked of as common in males aged 50 and older*.

Five of the participants thought prostate cancer was more prevalent from age 40 and upwards. Thero, aged 40, explained how though prostate cancer is an illness of older persons but at 40 males may start experiencing the early symptoms of prostate cancer. He said:

> *Indeed, we know prostate cancer is an illness of elderly people but I believe the signs begin developing as early as around our age (40) but because we do not know much about it, the aggressive signs or being symptomatic starts at a very late stage and older age.*

Among the 13 participants, one participant, Tsepang aged 40, believed that prostate cancer was not an old-age illness, explaining that it was actually prevalent among males from mid-twenties upwards. He explained:

> *I think I have heard males are being diagnosed as early as at age 25, 24 or …. maybe eemmm 25 upwards? I think it is actually quite common at around that age.*

Lastly, three other participants mentioned that they did not know of the age at which PCa is most prevalent. Thabiso who is aged 69, said:

Like I said, I have never heard or seen of anyone who has this illness. I do not know the age at which it is most prevalent. Maybe if I had heard or seen someone who had it I would assume that it was prevalent at the age they were at.

4.3.3 Knowledge on PCa Management

Prostate Cancer Management summarised the participants' knowledge on PCa prevention, if PCa is curable and the types of PCa treatment they knew of and the availability of such treatments in Lesotho.

4.3.3.1 PCa Prevention

Some participants, five, mentioned that they have heard that prostate cancer is preventable. Three participants mentioned that traditional medicine could be used to prevent PCa. One of them, Tsepo, 57 years old said:

> *I have heard numerous traditional practitioners talking on the radio about their medications and how such can be used to prevent cancer and heal all illnesses… I wish I had some money so that I can buy it myself because I have asthma and they said this medication prevents and cures all illnesses including all cancers.*

One of the three participants, Thabang, aged 40, mentioned traditional remedies as preventive of PCa, adding that drinking plenty of water and routine exercise also prevent PCa. He said:

> *I do think it is preventable with traditional herbs, frequent exercise and drinking of plenty water.*

Theko, aged 44, also agreed that PCa could be prevented by having frequent sexual intercourse. He mentioned that he heard that that older males are being advised to have sex at least twice a week. On the other hand, he also raised concern that sex can cause other risks. He said:

It is encouraged…hhmmmmm ... though I do not know what causes prostate cancer… but those who have sex are said to be on the safer side than those who do not have sex. When you would think of having sex as risk, it's the other way round (shakes his head in disbelieve).

On the other hand, one participant mentioned that frequent sex at an early stage does not prevent prostate cancer but is the cause of cancer at later stage in males lives.
Eight participants among the 13 did not know if prostate cancer was preventable or not. One of the participants assumed that if people knew the cause of PCa then, maybe, it could be prevented. Tsietsi, aged 54, said:

…ehmmmm I think that, though I do not know… but I think that if we males knew what is the cause (of PCa) then it would be easier for us to prevent it.

Most participants had no knowledge about PCa treatment. Nine participants did not know any types PCa treatment and if there is any kind of treatment available in the country. Thero, aged 40 said:

I do not know the type of treatment used for those who are found to have it but I have heard that cancer patients were being referred to Bloemfontein while others went as far as India. But I do not know if prostate cancer patients were also part of those patients being referred.

On the other hand, a very small proportion of participants had limited knowledge PCa treatment and where such treatment is offered. Four participants mentioned one PCa treatment they knew of. Two of the participants mentioned chemotherapy, which they referred to using terms such as a "treatment that burns" to explain it. Two participants, Thabo aged 69 and Thapelo 57, mentioned that the kind of treatment they have heard of was the chemotherapy and were both not aware if it is available in Lesotho or other countries. Thabo said:

I have heard of a procedure where patients are treated using a process that burns … mmmmmh (paused and sighed) I really can't remember what it is called but people travel outside the country to receive this treatment.

The last two participants, Theko aged 44 and Tokelo aged 60, also claimed to be aware of a type of PCa treatment but they both varied in their opinions. Theko said:

The only treatment I am aware of is the surgical procedure where the cancerous growth is removed unlike other cancers that cannot be operated on as the only treatment but further treatment as chemotherapy may be needed.

On the other hand, Tokelo explained:

Like I said the only treatment I am aware of is where tubes are inserted on a patient's male part to help him pass water… I do not know if this service is available in the country or people have to travel to other countries to get that procedure done.

One of the participants worryingly expressed concern about the survival rate of PCa patients due to lack of specialists in the country where people would have to go to other countries to get the treatment. *Tsepang, aged 4*0, said:

...I do not know if we have (PCa) specialists in the country, so if we do not have any it means one can be at high risk of losing their life if they have to wait to be treated outside the country.

The participants also shared varied opinions about treatment outcomes (thus, the final status of a patient once they have been diagnosed with an illness once there has been an intervention or not) of patients once they received treatment. Six participants believed that prostate cancer can be cured. Four of the six participants claim that it can only be successfully treated if one is diagnosed at an early stage but if not diagnosed on time and is at an aggressive stage then it is likely to cause death. Thabo, aged 6, said:

… but if diagnosed at an early stage it may be cured but if it is at a later stage it cannot be cured.

The other participant, Thoriso 66 years old, opined that:

If one consulted on time it could be cured but if one delayed consultation it could be serious enough to lead to death.

Among the six participants, Theko, aged 44, who is a medical doctor by profession emphasised that prostate cancer could be cured because it grows on the prostate only; hence, a successful surgical procedure could cure a patient. He said:

Yes, it can be cured completely because it is a localised cancer. Once we remove the cancerous cells I believe we have cured it because the treatment is a once-off surgical procedure.

The last participant, of the six, Tsepo, aged 57, believed that as much as cancer may be prevented using traditional remedies, it could also be cured using traditional medicines once a patient was diagnosed positive for illness.

Four participants argued that prostate cancer cannot be cured regardless of any kind of treatment one may receive. One of the four participants argued that PCa treatment only prolonged life but because the illness cannot be cured the patients will, however, end up dead due to PCa. Thulo, aged 57, said:

...people whom I know had the illness died ultimately even after they had the surgery. So there is not a single person whom I know who had it (PCa) and recovered. I suspect it cannot be cured… I have an uncle whom I have heard that was diagnosed of PCa and he was inserted tubes to help him urinate because of prostate cancer… he still uses those tubes as of today. It has not been long since he started using those tubes.

Other participants mentioned that they did not know if prostate cancer could be cured or not.

4.3.3.3 Source of Information

This sub-theme described the sources from which the participants got PCa information. Among all participants, 12 participants acknowledged that they have acquired limited information about PCa from various sources which include radios, TVs, newspapers and group talks with their peers while one of them also mentioned that they were frequently talked to about PCa and other illnesses while he worked in the mines. Thoriso, aged 66, said:

> *You know, when we are together as males we talk about all sorts of things including this kind of cancer but also back at the mines they talked about it a lot; they held sessions for us, where we were encouraged to test for AIDS and to screen for prostate cancer and other illnesses such as TB.*

Thapelo, aged 57, explained that he has various sources of information concerning PCa; he said:

> *Yes...I have heard information about prostate cancer which most of it I acquired through our talks as males and I have heard bits and pieces of information on the radio from those who know more about it and yes… sometimes I got it through newspaper articles.*

Thero ,40, explained how he acquired the knowledge he had about prostate cancer. He said:

> *I usually listen to one specific radio station on my way to work just because of their political updates. So sometimes they would host people who would talked about cancer including prostate cancer. Because I do not usually change the station I just continue listening so that's how I have heard about prostate cancer.*

Thabiso, aged 69, also mentioned the radio and newspapers as his sources of PCa information while constantly emphasising he had never seen or heard of anyone who had PCa. Other participants also claimed the radio as the main source of information through short advertisement and programmes broadcasting on PCa issues.

4.4 PCa Screening Awareness

PCa Screening Awareness among the participants is a main theme that summarised information on the participants' awareness of methods of PCa screening and the processes such screening entailed. The theme was also developed based on the participants' views on availability and accessibility of prostate screening services in Lesotho.

4.4.1 PCa Screening Methods and Procedures

Majority, 11, of the participants were aware that there were screening services offered in the country. Of the 11 participants, three claimed they have only heard of PCa screening but did not have any detailed information about the screening processes. Seven of the 11 participants were aware of one screening type, where the service provider inserted a finger into a male's rectum. The type of screening they referred to is called Digital Rectal Examination(DRE), which is used to feel hardened, enlarged prostate or any abnormalities within the prostate. All the seven participants did not know the name of screening type but explained the procedure in which the service is carried out and did not know why the finger is inserted in the rectum. One of the participants, Thero, aged 40, said:

> *I have heard that there is a test where a finger is inserted in a male's anus. I do not really know what they want to feel but they can tell if one has prostate cancer or not.*

Thabo aged 69, who claimed to have been screened using DRE, said:

I do not know of any other screening except for the one where the finger is inserted in one's behind (anus) to feel what is going on in there and by doing so they can tell if one has prostate cancer or not.

Contrary to the other participants' views, one participant explained that he is not very certain of what is being inserted in the rectum to collect prostate fluids. Tsepang, age 40, said:

They say that something is inserted in one's behind (anus) to collect some fluids but we do not know what is done with those fluids afterwards to detect prostate cancer.

Thoriso, 66 years, also mentioned DRE as the method of screening he has heard of but further explained that he has heard of some advancement in screening methods available. He said:

I have heard that now there are machines that are used to screen because people do not want the type of screening where the finger is used. I do not mind insertion of the finger but I heard there are machines being used currently.

On the other hand, one participant, Theko, the 44 years old medical doctor, was well aware of various screening services offered in Lesotho. He elaborately explained the procedures and processes of different types of cancer screening. He said:

There is something called pa-rectal examination which is where we insert the finger in the anal cavity to feel if there is an enlargement because we said the prostate is close to the bladder so it can easily be reached through the rectum. Then the second one (screening method) is where we draw blood. Blood can be drawn for two different tests where the first test will show if the blood is positive or not. The test will either show 4 meaning positive or 3 which means negative. If the results are positive we further test the level of positivity at level such as 9, 10,11, where numbers above 10 require further screening. … biopsy is this last

test where we take a sample of the prostate to confirm presence of prostate cancer... So we can say there are four screening tests done....

He continued to explain the process of screening to the stage where blood is drawn and tested and finally the last stage of biopsy where a piece of male prostate is taken to the laboratory to confirm the presence of prostate cancer.

Among the 13 participants, only two participants, Tsepo and Thabiso, claimed they have never heard of prostate cancer screening and did not know how the screening process was done. T'sepo, 57 years old, said:

I do not know of such a service, just like I have never heard of prostate cancer. Where is it offered? Maybe it is a service one might want to use in future.

On the other hand, Thabiso,69, emphasised on never seeing or hearing anything that concerned prostate cancer.

4.4.2 Availability of Screening Services

Nine of the participants were aware that prostate cancer screening is offered at least at one health facility in Lesotho. Six of the nine mentioned that they only knew Sankatana health facility, based in Lepereng, Maseru, as the provider of PCa screening services while one of nine participants mentioned Queen Elizabeth II Hospital as one of the facilities that provide cancer screening services. Tsietsi, aged 54, said:

We are always encouraged to seek (screening) services at Sankatana so it's the only place I am aware of.

And Tsepang, aged 40, said:

Queen Elizabeth II is one of the hospitals that I have heard they offer screening services though I cannot certainly say which prostate cancer screening service

is offered.

Among the 13 participants, 2 purported that different health facilities across the country offer PCa screening services. Thekiso, aged 44, said:

> *we are always encouraged to seek (screening) services at Sankatana so it's the only place I am aware of.*

Tokelo aged 60, also mentioned at least two facilities and said:

> *Yes, I know of Sankatana but do not know if Makoanyane Hospital is still offering the service because they once did.*

Thapelo ,57 years old, mentioned that he thought all healthcare facilities provided such a service. While the other four participants claimed they were not aware where PCa screening services are offered, one of them, Thero, aged 40, said:

> *I have heard of these screening services but I… (paused) I do not really know where they are offered.*

With regard to PCa screening frequency, most of the participants believed that prostate cancer screening should be done after every year. One of the participants, Thulo (57), claimed that prostate cancer is not different from other illnesses; hence, it should be screened for annually just like other illnesses. Thabang, aged 40, suggested that PCa screening was ought to be done annually but that is not possible due to the type of screening method used (i.e. DRE). He said:

> *I think screening should be done once in a year because the type of screening used is not preferable for most males but if it was tested using unorthodox and more advanced methods like any other illnesses it would be done more frequently.*

On the other hand, Theko, aged 44, and a medical doctor by profession, claimed that time interval for screening depended on each health facility and the level of risk for each male. He said:

> *It is encouraged for males who have symptoms, or elderly males where they will be drawn blood, where they will start at the age above 40, every three months or six month depending on the facility. However, other facilities choose that those who are not high risk will screen after one year.*

He further explained that high risk group are males of older age and have symptoms such hardened prostate during DRE screening but rather have to go for routine screening for monitoring because not all hardened prostate cases are prostate cancer.

Tsepang, aged 40, explained that he was uncertain about the frequency at which PCa screening should be done but he thought it should be done once or twice in a year. Only four participants claimed they were not aware of the time interval PCa should be done.

In conclusion, most participants were aware of at least one prostate cancer screening method and the processes the screening entailed though they did not know the appropriate names and how such tests produced positive or negative diagnosis. The participants had limited information on facilities offering the services as majority were aware of one place while a smaller number of participants were aware that screening services are offered at more than one health facility. Though this was the case, most of the participants were aware they can access screening services without hindrance. The participants' opinions varied on screening interval but most participant believed males should screen every year for timely update on their prostate health.

4.5 Perceptions towards Prostate Cancer and Screening Using Components of HBM

This theme was composed of the participants' views on the perceptions towards prostate cancer and screening where components of the HBM were used to create

subthemes. The subthemes are perceived level of vulnerability towards prostate cancer, the level of severity of prostate cancer and positive diagnosis as well as perceived benefits of screening service uptake.

4.5.1 Perceived Vulnerability

The participants were asked whether they believed they were at risk of prostate and their views varied from those who perceived they were at risk to those who thought they were not. Nine participants reported they thought they are at a risk of having prostate cancer. Among the nine participants, eight believed they are vulnerable to prostate cancer because it is a male illness; hence, their gender meant they were vulnerable to the illness. They also mentioned that their lack of knowledge on the causes of PCa meant they could not prevent it; hence, they are at risk. Thekiso aged 44, said:

> *Yes, I think I am susceptible because it is said a large number males are being diagnosed with this illness.*

On the other hand, Tokelo, aged 60 explained:

> *Yes, think I am at risk of prostate cancer. People just contact different illnesses so I am aware that I may contact this illness like those who already have it. Also prostate cancer is a male illness and I am a male too, therefore may have this illness.*

Thapelo,57, also mentioned that he might be at risk of prostate cancer for it is an illness like any other illness. He said:

> *Yes, there might be possibility that I am at risk of prostate cancer just because it is an illness and any male can have it.*

Two, participants among nine, Thoriso aged 66 and Thekiso, aged 44, perceived their level of risk in relation to knowing people who died of cancer, hence a testimony to their risk. *Thoriso* said:

> *Yes, I am… you know, I have seen someone close to me die due to prostate cancer. I know I am at a risk because of age. Prostate cancer is said to be common at age 50 upwards. I do not know what happens to our body systems at that age that makes cancer common. But knowing this guy who died because of it who was under 50 years of age…says my chances are higher (putting on a very serious face).*

The other participant's, Thekiso,44, statement also clearly stated that he thought he was at risk because he has attended numerous funerals of people who died due to cancer. He said:

> *I do think I am at risk of prostate cancer. I have attended so many funerals recently of people who died because of cancer. But also the rising number of people whom I have heard were diagnosed of prostate cancer is scary; that's why I feel I might also be at risk.*

Then one of the nine participants, Thabang aged 40, believed that he was at risk because he did not engage in activities which were said to prevent prostate cancer. He said:

> *Yes, I am not engaging in activities and habits that are said to prevent prostate cancer such as frequent exercising and dinking plenty of water.*

On the other hand, Thapelo, aged 57 and Tsepang, aged 40, portrayed their uncertainty about their level of susceptibility towards PCa in relation to whether PCa could be inherited or not, particularly inheritance from their female relatives who were diagnosed of different cancer types.

Thapelo claimed that there were numerous females in his family who died due to cancer; hence, if it was inherited from females relative it would mean he was at a high risk. He said:

> *eeeeehmm I would think I am; I do not know if a man can inherit it (PCa) from a woman... (paused for a moment). I mean obviously a woman cannot have prostate cancer but cancer is common in my family, especially among females and there have been talks about (cancer)inheritance, so I think that I may be at risk by inheritance. As of other ways I do not know if I am at risk of having it.*

Similarly, Tsepang also explained that his mother died of cancer; therefore, he was not aware if males inherited cancer from their mothers, saying:

> *Yes, you know, I might be at risk because my mother passed away because of cervical cancer, so I do not know if only girls inherit it or all the kids in the family do. So you understand that maybe if it's the entire family then I might be at risk but if it would be inherited by girls from their mother then I might be on the save side.*

Tsietsi, aged 54, also claimed to be uncertain of whether he was at risk of PCa or not, claiming he did not have any signs; therefore, he was not aware if he was at risk or not. He further compared PCa to Covid-19 saying:

> *I do not know(giggles) … if I knew prostate cancer symptoms I would think I would be at risk, because like covid if you have a cough it's a symptom that you may be at risk of covid or have it already. One would be afraid to consult because you will be told you have covid because of a cough...so with prostate cancer I do not exactly know the symptoms, hence cannot really say if am at risk or not.*

In contrast to the other participants, Thabo, aged 69, reported he did not know, never seen or heard of anyone diagnosed with prostate cancer, therefore bluntly stated himself as entirely not at any risk of prostate cancer.

4.5.2 Perceived Severity

The participants' views on the seriousness of prostate cancer were more similar, claiming that prostate cancer has dire consequences. Throughout the conversations, at least 12 participants mentioned that prostate cancer may lead to death, particularly if not treated on time. Some participants mentioned that an ultimate end to being diagnosed with PCa is death regardless of whether one is treated or not. One of the participants, Thoriso aged 66, emphasized on end result being death due to late diagnosis saying:

> *It is said to be very deadly if you delay to consult and we are told that it is a dangerous illness that needs to be treated early for effective outcomes. Indeed, it is said to be one deadly illness.*

Thero, aged 40, also shared that may be cancer can be cured if treated but most of people who are diagnosed positive end up dead. He said:

> *People with cancer get so sick and maybe some do recover after treatment but I believe it is more common that people end up dead than recovering.*

Two participants added that as much as prostate cancer caused death it may also cause sexual inactivity in patients. One of them, Tsepang, aged 40, said:

> *It (PCa) ultimately kills people and if I remember well I have heard of one person who became impotent after being diagnosed with this illness. … yes... sexual activity is also affected somehow.*

Thekiso aged 44, emphasised that indeed prostate cancer is deadly but also believed that once one is diagnosed positive with PCa they constantly worry on whether the presence of PCa would hinder they day-to-day functioning which would impact their means of livelihood. He said:

> *I am self-employed and I will not be okay mentally once I am diagnosed with prostate cancer like… maybe at that moment when I am informed of the positive diagnosis I will be a lot worried. But again maybe with time you get used to being diagnosed positive. My worry is that I do not think I may be able to continue with my work, my piece jobs and fail to provide for my family.*

On the other hand, a 69-year-old Thabiso stated that PCa may be fatal like other illnesses such as flue. He compared PCa to leprosy which he has heard of in passing but has never seen anyone with it or its effects.

> *It might be deadly like any illness because even flu can cause one's death. If maybe, I had seen someone with prostate cancer I would say how serious it is, then I would be scared and fear for my life but fortunately I have not seen anyone, so I'm not very concerned about it. It is just an illness like leprosy which has been talked about but I have never personally seen anyone who has it.*

4.5.3 Perceived Benefits of Prostate Cancer Screening

Most of the participants,11, believed that it is important to screen because with screening one is at a better chance of being diagnosed early and deal with PCa on time. Three participants mentioned that it is beneficial to screen for prostate cancer because one will know their health status in relation to prostate cancer.

One of the eleven participants, Thekiso aged 69, explained that the benefit of screening is to eliminate the thought of whether one has prostate cancer or not, thus to stop questioning or worrying over any symptom they may have concerning their prostate. He stated:

Screening helps ease the thoughts of whether you have prostate cancer or not. It would worry you the most when you see or feel anything around your prostate. So because no one likes to find themselves with prostate cancer it is important to screen and know what the real diagnosis is.

Thero aged 40 mentioned that it is very healthy to screen for illnesses not just prostate cancer as to know one's status regarding such illnesses. He said:

It is important to screen for all different illnesses where such services are available, as well as screening for prostate cancer so that one knows their health status and deal with positive diagnosis on time and maintain negative diagnosis in such cases through prevention of those different illnesses.

Only two participants argued that there are no benefits attached to PCa screening. Thulo aged 57 maintained that PCa screening would be a source of stress and unnecessary worry once one was diagnosed positive. He said:

It is not important to screen because once you are diagnosed positive all you do is worry and get stressed about the illness. Some people die because they know they were diagnosed positive of certain illnesses. So I would rather not screen.

Thabiso, 69, also mentioned that he did not see any benefits as PCa is an illness like any other disease. He explained:

Prostate cancer is an illness like any other illness so I do not see the importance of screening for this illness. I do not even know where such services are offered.

4.6 Willingness and Uptake of PCa Screening

The third main theme was a summary of the participants' views on their willingness to screen for prostate cancer and of actual uptake of screening services among them. The subthemes developed were (a) intention to screen and(b) low PCa screening uptake.

4.6.1 Intention to Screen

Most participants expressed willingness to screen for prostate cancer and some inquired about places and times at which screening services were offered. Among the 13 participants 11 claimed to have interest in screening for prostate cancer. Seven participants mentioned that they were willing to screen for various reasons, some mentioning the presence of symptoms while others said they wanted to know if they have PCa or not. Thoriso, aged 66, stated that the reason he is willing to test is the symptoms that he has which were associated with the presence of PCa. Therefore, he is eager to consult as soon as possible in case he was diagnosed positive then he should undergo treatment immediately. He said:

> *I am going to go and I ask a friend of mine to go with me for screening so as to screen as well. I heard that they attend to you on time when you get there. mmmhm ...I feel like I have symptoms of that illness. Those symptoms are the reason I want go because when I urinate, I would think I am done but there would still be those last drops that were retained and would come out after I have zipped up my trousers.*

Thekiso, aged 44, claimed he was willing to screen and had discussed it with his wife a few times but usually postponed and ultimately forgets to go seek the screening services. He also mentioned he is willing to go as the facility where the services are offered is very close to where he stays.

Other participants who claimed to be willing to screen for prostate cancer further explained that they would be willing to screen only when they see the symptoms

associated with this illness. Among them is Theko, the.44-year-old medical doctor who said:

> *I would screen the moment I see the symptoms. This is also what I tell my patients, to go for screening services once they see any symptoms. We encouraged the patients to come and screen if they feel they have any signs of PCa like retention of urine. So that is the reason I feel anyone including me should seek screening services.*

Tsietsi aged 54, mentioned he was willing to screen only if the method of screening done does not cause any discomfort. Though he did not clearly state what he meant or what he considered to be a discomfort, he said:

> *I am willing to screen only if the kind of screening done does not violate or put my body at risk because like Covid I cannot stand the kind of testing where something is inserted in your nose; it's something that is too much for me. So just like Covid I would only do it if I do not have to endure such invasion.*

- Cultural factors

Some participants showed lack of interest to screen for prostate cancer citing cultural reasons, including that Basotho males have to act tough in the face of various illnesses. One of the reasons mentioned was the discomfort associated with DRE screening processes. Thulo, aged 57, and Thabang, aged 40, reported that they will not screen for prostate cancer. Thulo acknowledged the deadliness of PCa but claimed that some people died because they knew of their positive diagnosis. He said:

> *To screen for this illness might be important but, like any Mosotho man, I do not believe in screening or testing for just anything or everything that we are told to screen for because I know some people die just because they know they have a certain illness. I am not interested in screening for anything that comes by or is being talked about.*

On the one hand, Thabang, aged 40, stated that he had once screened yet expressed his unwillingness to screen due to the discomfort he experienced undergoing DRE, where fingers were inserted in his rectum to test if there were any signs of PCa.

4.6.2 PCa Screening Uptake

Eleven participants claimed they had never screened for PCa. Only two participants, Thabang aged 40 and Thabo aged 69, among the thirteen claimed to have screened for prostate cancer. Thabo mentioned that he willingly decided to screen for prostate cancer services while Thabang was advised by a doctor to screen during a medical consultation in South Africa. Thabang claimed that though his consultation was not related to prostate cancer the doctor suggested he should also be screened for PCa. He said:

> *When I was less than 40 years old, I got tested for prostate cancer because the doctor I had consulted suggested I should though my consultation was not regarding prostate cancer. I did get screened but I was not okay with the type of screening done. They inserted a finger in my anus.*

When asked what were his reasons to seeking PCa screening, Thabo, aged 69, explained that he wanted to know if he has prostate cancer or not. He said:

> *I have heard about prostate cancer on the radio that is why I decided to go for screening. ... they did that type of screening where they insert their finger in one's anus.*

Most participants in all the age groups had never screened for PCa and their opinions differed on why they never screened. Some of the participants argued that they had not screened because they were demotivated by poor service delivery at government facilities. Tsietsi, aged 54, had the following to say:

There is no particular reason I do not go for screening services but services at government facilities are demotivating. One may be busy with some work and decide to go screen hoping to spend a minimal time at the facility unlike when you go seeking for other general services, but you will still waste as much of your time waiting to be offered such services.

Tokelo aged 60 also said:

One day that I decided to go and screen and I found long queue of patients so I returned home and never went back again.

Thapelo, aged 57, and Tsepang, aged 40, mentioned that they have not utilized screening services because of the screening method used. Thapelo said:

Maybe I am reluctant to go because I have heard of how prostate cancer screening is done. For me it's a no; that insertion is a no.

Tsepang also said:

The reason I am afraid of screening is the fact that something will be inserted in my anus but maybe if I am desperate or have symptoms then I can go and seek this service.

Theko, 44, also admitted that he has never screened and stated that he could only utilize screening services if he had symptoms associated with PCa.

Other three participants, Thero, Tsepo and Thekiso, mentioned that they had not screened because they had limited information about prostate cancer screening or places where such services were offered while the other participant mentioned negligence as the reason he had not screened for PCa.

Thulo, aged 57, indicated that he did not utilize the screening services because he was not interested nor had any desire to find out his PCa status. He said:

That is one service that I will never bother to seek. I do not have any desire to find out anything about being diagnosed with prostate cancer.

4.7 Attitude towards PCa and PCa Screening

The fourth major theme, Attitude Towards PCa and PCa Screening, was derived from the participants' attitude towards prostate cancer and how they felt about PCa screening. The following sub-themes were derived (a)fear of PCa and PCa screening and (b) motivation to seek PCa services.

4.7.1 Fear of PCa and PCa Screening.

The study participants mentioned that they were scared of being diagnosed with PCa once they heard information about it. They mentioned that they had fear of positive diagnosis because cancer is associated with death. However, other participants mentioned that it was scary not knowing if one is safe from PCa or not. Theko, the 44-year-old medical doctor, talked about his reaction when he first learned of PCa and he said:

It was scary, particularly because I do not know if am safe or not and unlike other illnesses where one knows what to avoid to be safe from from such. with PCa there is not much information on prevention.

Some of the participants mentioned that it scared them enough to an extent of wanting to screen in order to know their PCa statuses. Tsepang, aged 40, said:

You know it's (PCa) really scary; it's so scary that when listening to information concerning the disease you will feel the need to go and screen but us, males, we are afraid to go because it is said that the test is done through our anuses.

Thabang, aged 40, mentioned that he was scared of PCa diagnosis so much he did not want to listen to anything concerning prostate cancer. He said:

At a younger age, less than 40, it scared me so much that I would switch off the radio. I wasn't also okay with the type of test that was done, insertion of fingers in my anus. But as I grew older and was getting closer to age 40 I started to pay attention to any information I could get...

Some participants also had negative attitude towards PCa screening as well. Their concern was the method of screening, suggesting the need for a different type of screening and claiming inappropriateness of the DRE towards Basotho males. Thapelo, aged 57, stated that though he and his peers were willing to screen, they were against the method of screening used where fingers were inserted in males' rectums to carry out PCa investigations. He said:

The only type of screening I know is the one where fingers are put into one's anus where most of us men - let me say those that I have talked with – disliked. I equally detest it too so much that one wishes there were other alternative screening methods …. (paused). Indeed, I have heard there are other methods but have not heard much about such methods.

Some participants acknowledged the discomfort of DRE but still held positive attitude towards prostate cancer screening emphasizing the importance of screening against short-lived discomfort one may experience. Thoriso, aged 66, said:

...so males are afraid to consult because it is said a finger is inserted. I do not know where but there is an insertion of the finger. And I do not understand why ameans insertion a finger.

4.7.2 Motivation to Seek PCa Services

People get motivation to seek services due to various reasons including to know one's current status regarding an illness or the presence of symptoms and knowledge on the impact of illness. Thero (40) and Thoriso (66) mentioned that after hearing about PCa they were encouraged and motivated to seek screening services to know whether they have it or not. Thoriso ((66) said:

This person whom I worked with who was diagnosed positive (PCa) is the greatest encouragement for me to go and find out so that if I do have it, so that if I do it should be treated early rather than delay until it has progressed to an advanced stage.

Thero (40) explained his reasons and said:

It is important to know if I have prostate cancer or not…. I want to know my health status, particularly because it's a frequent topic among us males. I would really like to screen though I do not know where such services are offered.

Thabo (69) was motivated to seek screening services after he heard of prostate cancer on the radio. Thulo (57) and Thabiso (69) mentioned that they had no reaction to hearing about PCa as it is an illness like any other; hence, none of the two participants was not motivated to screen. Thulo said:

I seriously do not feel anything as prostate cancer is an illness like any other, so I would not feel the need to go out of my way to screen.

Another aspect to seeking screening that demotivated the participants was late consultations and poor services by government health facility workers, prolonging patients' waiting time for services. Tsietsi (54) explained that he once went for screening services and found a long que and poor attendance by facility workers; therefore, he decided not treat such screening as an emergency and abandoned the service and never returned.

It is discouraging even if you are interested to know your status because one is going to spend the whole week going there without receiving the services. When you get there, you stand on long line and you also find annoyed servants so we end up going for private services.

In addition, most of the participants were aware of the DRE as the primary screening method, therefore, they were demotivated to seek the service as it was deemed to cause discomfort and invaded their manhood.

4.8 Summary

The participants had a limited knowledge about prostate cancer as well as a limited awareness about PCa screening and the facilities that offered the screening services. The participants mentioned that they were aware of the screening method where a finger is inserted into a male's rectum but they did not know the name of such screening method. The participants were not aware how that process was used to diagnose positive or negative symptoms of PCa. Also most of the participants were aware of one health facility, Senkatana, as the sole provider of PCa screening services in the country. Though the participants had limited PCa knowledge, most of them were willing to screen yet were set aback by the type of screening used to investigate the presence of PCa and the time spend at facilities awaiting services. A very low number of participants, two out of 13, claimed to have screened for PCa while one of the two showed reluctance to ever screen again using DRE.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion

The objectives of the study were to establish male knowledge about prostate cancer, to determine male awareness about prostate cancer screening as well as explore male willingness to test for prostate cancer. The findings reveal that males have limited knowledge about prostate cancer and screening awareness while, on the other hand, the results show high willingness to be screened for prostate cancer among males. Also, using the four constructs of HBM, the results reveal that there is not a relationship between awareness and willingness to be screened but rather a positive relationship between screening awareness and actual uptake of screening services. Also modifying factors to uptake of prostate cancer screening are discussed based on the views of the study participants. In addition, recommendations which may contribute to the improved knowledge about PCa, screening and uptake screening services are discussed.

The study explored PCa screening awareness among Basotho males aged 40 years and above. This included screening methods and places where such services are offered. The assessment was also done on how knowledgeable the participants were regarding PCa, that is, knowledge on prostate cancer symptoms, prevention and treatment. Equally important, the study also intended to explored the participant's intention to screen for PCa and how all these factors including the participants' perceptions, using HBM constructs, knowledge and awareness influenced their intention to screen.

The current study participants portrayed limited knowledge about prostate cancer screening. Generally, their knowledge was limited across all ages and marital status. Though still limited, the knowledge was possessed by those with higher educational levels was better compared to those with lower educational qualifications. Of the 13 participants, 11 participants mentioned that they have heard of prostate cancer mentioning difficult and painful retention or flow of urine as the main symptom of prostate cancer. The participants also had limited knowledge about how prostate cancer is prevented and treated once one is diagnosed positive. Only two participants

mentioned chemotherapy, referring to it as “the burning process”, and one participant who is a medical doctor mentioned that a surgical removal of the cancerous cells is the only treatment for prostate cancer. Some participants claimed prostate cancer may be prevented through frequent sexual intercourse in males of older age while others mentioned traditional medicine prevention of the illness. The current study results on males limited knowledge about prostate cancer are similar to the results of studies conducted by Gift, Nancy, and Victor (2020), Mbugua, Oluchina and Karanja (2021) and Onyeodi, Akintelure, Oladipo et al. (2014), while it refutes a study conducted by Musalli, Alobaid, Aljahani, et al. (2021) which shows generally high prostate cancer knowledge among Saudi Arabian males.

Similar to the limited knowledge among the participants, they also had limited PCa screening awareness, where DRE was the one common screening method mentioned. The participants did not know the medical term of DRE and it was referred to as “insertion of the finger”. The participants were aware that a finger is inserted in a male rectum but they were not aware of how such process was used to detect prostate cancer. The participants did not mention PSA and biopsy except for one participant who is a medical doctor who elaborately explained both DRE and PSA. The participants were not aware of PSA and biopsy as the other screening methods which were also available in the country. The results reported in current study are consistent with studies conducted by Agho and Lewis (2001), Ford, Vernon, Havstad et al. (2006), Shungu and Sterba (2021) and Ghodsbin, Zare, Jahanbi et al. (2014), showing lack of awareness on screening methods hindering the decision to utilise screening services. In addition, most participants were not aware of various health facilities in the country that offered PCa screening services but one, Sankatana. I believe it is mainly because this facility is responsible for management of a large number of different cancer patients including PCa; hence, it is well known for the provision of PCa services. Limited information on facilities that offer PCa screening engravers the depth of lack of knowledge among Basotho males towards PCa and PCa screening services.

Almost all, except for two participants in the current study, were willing to be screened for prostate cancer though only two participants claimed to have ever been screened.

Though the participants stated their willingness to be screened for cancer only two participants mentioned they would proceed being tested with DRE while others raised concerns with this type of screening used. The concerns raised included discomfort of the test and how DRE violates their manhood. Other participant stated they were willing to be screened for PCa only if they have signs that were associated with prostate cancer. Though the participants portrayed willingness to be screened, this did not translate into the actual uptake of screening services.

Almost all the participants, with an exception of one participant who was a doctor by profession, reported that their primary source of information was the mass media, particularly the radio. My finding is similar to the findings of other researchers, including Amoah, Acheampong, Kofi et al. 2018; Morlando, Pelullo and Di Giuseppe,2017; Oranusi, Mbieri, Oranusi et al. 2012; Nakandi, Kirabo, Semugabo et al. 2013 and Ogundele and Ikuerowo, 2015, who all mentioned that mass media was the primary source of their participants on PCa and PCa screening information. According to some participants, they were also exposed to PCa and PCa screening information through peer to peer conversations with their friends and acquaintances.

None of the participants mentioned receiving any PCa and PCa screening information from healthcare providers or persons from relevant stakeholders which is contradictory to Adibe, Aluh, Isah et al. (2017) results showing constant PCa discussion among doctors and male patients of older age. One of the participant, a medical doctor, maintained that he constantly advised his elderly patients to go seek PCa screening services once they have symptoms such as retention of urine. This findings addresses lack of proper information dissemination from health personnel during consultations.

5.2 HBM Components

The HBM components focuses on participants' individual perceptions towards prostate cancer which include perceived vulnerability and severity of prostate cancer. It also focuses on factors that may influence uptake of prostate cancer screening services positively or negatively among study participants. Lastly, this section embraces

participants perceived benefits attached to uptake of prostate cancer screening services.

5.2.1 Participants' Individual Perceptions Regarding Prostate Cancer and Screening

Most participants in the current study perceived themselves vulnerable to prostate cancer, majority of them stating older age as the major cause of susceptibility. The participants also perceived the consequences of positive diagnosis as detrimental mentioning concerns such as uncontrollable retention of urine and painful urination, inability to provide for families financially and, in most cases, death.

5.2.1.1 Perceived Susceptibility

The study revealed that more than half of the participants perceived themselves vulnerable to PCa except for very few who claimed not to be at any risk of developing prostate cancer. These findings were consistent with numerous studies where most males acknowledged they were at risk of PCa (Price, Colvin and Smith, 1993; Ghodsbin, Zare, Jahanbin et al., 2014; Morlando, Pelullo, Di Giuseppe, 2017; Mutua, Pertet and Otieno, 2017; Amoah, Acheampong, Kofi et al., 2018; Bugoye, Leyna, Moen et al., 2019 and Shungu and Sterba, 2021).

The participants perceived themselves to be vulnerable to PCa due to prostate cancer being an illness of males of older age, mentioning 40 years upwards, their age making them susceptible and the risk only increasing with age. These results are similar to those of studies conducted by Colvin and Smith, (1993), Shungu and Sterba, (2021) and Opondo, Onyango and Asweto, (2022). They also acknowledged that prostate cancer being a male disease naturally meant their gender exposed them to the risk of developing prostate cancer. The results are similar to reports made by Amoah, Acheampong, Kofi et al. (2018). A few participants among those who acknowledged their vulnerability also emphasised on the presence of history of cancer in their families including cancers on females, hence assuming vulnerability to PCa by inheritance.

Though the participants have admitted to being susceptible, only two of the participants claimed to have actually ever screened for prostate cancer. Therefore, the study proves that perceived vulnerability did not translate into the actual screening uptake among males. Similar to the current findings are results of the study conducted by Opondo, Asweto and Onyango (2022), which showed that there is no relationship between perceived vulnerability and uptake of screening services among Kisumu County male health workers. Instead, the participants who indicated being at risk of developing PCa stressed on their willingness to screen for prostate cancer. This current study results, which show most of the participants perceiving their vulnerability towards PCa, contradict the results of studies conducted by Yeboah-Asiamah, Yirenya-Tawiah, Baafi et al., (2017) and Necku, Anaba and Abuosi (2019) where majority of males claimed they were not at risk of PCa.

Therefore, the current study affirms a positive relationship between the participants' perceived susceptibility and the intention to screen for prostate cancer in future, yet with acknowledged susceptibility the relationship is determined negative with uptake of the screening services.

5.2.1.2 Perceived Severity

The participants perceived PCa as an illness which leads to detrimental consequences if not treated or treated at a late stage while others believed that with or without treatment this illness has serious health implications in one's life. Most participants associate positive PCa diagnosis with stress, sickliness and mortality. They stated that patients had to be diagnosed early for effective treatment because for most people who are diagnosed positive at a late stage do not survive. For those who survive their health state is very poor requiring the use of medical support such as insertion of tubes to urinate.

The problems stated as caused by positive diagnosis varied from modest, such as inability to perform daily duties, to the most severe problems such as death. This HBM construct is also concerned with emotions of persons in response to the thought of

having an illness. Most of the participants mentioned that they were scared of being diagnosed with prostate cancer because of the problems associated with such a diagnosis. They mentioned that one of the predicaments brought by prostate cancer was urinal problems where there would be inability to control the flow or retention of urine and tubes would be inserted in their male parts to rectify this problem. These problems are similar to issues raised in a study conducted by Nakandi, Kirabo, Semugabo et al. (2013) claiming males perceived problems with the urinary system due to prostate cancer.

Another perceived serious issue associated with prostate cancer diagnosis is infertility and sexual inactivity. The participants perceived positive prostate cancer diagnosis severe enough to cause impotence and inability to perform sexual activities among males. These results are consistent with the study conducted by Price, Colvin and Smith (1993). Some of the participants stated that regardless of whether one is treated or not the ultimate outcome of this illness is death. Reports by Shelton, Weinrch, and Reynold, (1999), Blocker, Smith Romocki, Thomas et al., (2006) and Mutua, Pertet; and Otieno, (2017) also showed that prostate cancer has been associated with death.

On the other hand, prostate cancer was associated with financial insecurities where participants mentioned that once one is diagnosed with PCa they will not be able to financially fend for their families. The belief is that once a male, who culturally is the provider of the family, is diagnosed with prostate cancer they will not be able to carry out their daily activities, due to morbidity, which includes working to secure their financial statuses. Therefore, among other serious problems caused by prostate cancer loss of income was also of great concern. Though studies by Odedina, Dagne, Pressey et al. (2011); Adibe, Aluh, Isah et al. (2017) and Ghodsbin, Zare, Jahanbin et al. (2014) generally refute my finding regarding the PCa fatalism but to some extent, they reported similar results as the current study where inactivity and loss of income were regarded as problems associate prostate cancer.

Though HBM assumes that perceived negative implications of a health condition may lead to health seeking behaviour, in this case, the current study refutes that assumption

showing no relationship between perceived severity and actual uptake of PCa screening services. The participants mentioned that indeed they perceived prostate cancer to cause serious troubles but failed to seek screening services. On the other hand, the relationship between perceived severity and intention to screen was not determined.

5.2.2 Modifying Factors

Modifying factors are variables that may directly or indirectly influence health seeking behaviour among individuals. In the current study, knowledge, age and educational attainment were regarded as modifying factors. In various studies, age, economic status and education were shown to influence health seeking behaviour.

5.2.2.1 Age, Education and Marital Status

All the participants of different ages and education levels similarly had limited knowledge about screening services, venues that offer screening services as well as the age at which screening should be utilised. The participants were purposively selected from age 40 and above, which is the age at which some males believe prostate cancer is most prevalent, which may explain these participants' willingness to be screened for prostate cancer. Therefore, in this case the results imply that generally with the chosen age groups and attained education the two variables do not have any influence on the intentions to screen for prostate cancer. On the other hand, regarding the tested education instead of acquired education, the medical doctor expressed a sense of in-depth understanding towards prostate cancer and the importance of screening, particularly at the first signs associated with prostate cancer.

Among all the participants, only two claimed to have ever screened while majority of the participants of different ages and different levels of education have never participated in any PCa screening services. This is observed regardless of associating age with perceived risk and susceptibility. Therefore, this study shows that age does not influence the actual PCa screening positively or negatively because among all the different age groups only two participants claimed to have ever screened for prostate

cancer. These results are similar to those of studies conducted by Price Colvin and Smith (1993), Opondo, Asweto and Onyango (2022) and Yeboah-Asiamah, Yirenya-Tawiah, Baafi et al. (2017), showing low uptake of screening services among the study participants.

There was generally limited PCa knowledge and screening awareness among all the participants, though the participants with higher education level portrayed better PCa knowledge and screening awareness than the participants with lower level of education. However, the intention to screen for PCa was consistent among most participants in this study portraying willingness to be screened for PCa. Prostate cancer screening uptake is also not influenced by attained education among the participants.

The current study results are similar to the results of the studies conducted in Uganda by Nakandi, Kirabo, Semugabo et al., (2013) and in South Africa by Mofolo, Kenna, Koroma et al. (2015), Kabore, Kambou, Zango et al. (2014), in Burkina Faso by Gift, Nancy and Victor (2020), in Zambia by Musalli, Alobaid, Aljahani et al. (2021), showing willingness among studies' participants to screen for prostate cancer and low numbers of males who have actually screened for prostate cancer. However, the current study was not able to determine whether marital status did or did not influence uptake of screening services as all participants were married except for one widowed, and no single males were enrolled.

5.2.2.2 PCa Knowledge and Screening Awareness

The participants had limited knowledge about prostate cancer as well as limited awareness about prostate cancer screening. Generally, most of the participants portrayed the intention to be screened for prostate cancer though they had limited PCa knowledge and screening awareness. The study shows that there is no relationship between prostate cancer screening intention and prostate cancer knowledge and screening awareness. Nonetheless, the assumption is that lack of both adequate PCa knowledge and screening awareness may have negatively influenced actual uptake of screening services.

5.2.3 Likelihood of Action

The participants mentioned a few factors that motivated and demotivated them to be screened for prostate cancer. Motivating factors were perceived benefits of being screened for prostate cancer while perceived barriers stalled their actual uptake of screening services.

5.2.3.1 Perceived Benefits

One common benefit mentioned by the participants consistently is that they believed that PCa screening leads to early detection and with early detection cancerous cells are not yet metastatic; hence, chances of treatment success are higher. Also knowing one's health status in relation to PCa was among the mentioned benefits of PCa screening and this is similar to the result of the studies conducted by Price, Colvin and Smith (1993) and Morlando, Pelullo, Di Giuseppe (2017). Most of the participants did agree that PCa screening was beneficial but that did not positively influence uptake of screening services among the participants as only two participants among 13 confirmed to have ever been screened. This was also discovered in a study conducted in Kenya by Mutua, Pertetand and Careena, (2017).

Though the participants had limited knowledge about PCa screening, more than half of the participants had positive attitudes towards PCa screening due to the perceived benefits. This is consistent with findings of Amoah, Acheampong, Kofi et al. (2018). Willingness to screen because of the perceived benefits did not translate into an actual uptake of screening among these participants which is similar to the results of studies conducted by Ekwan, Bua, Nantale et al. (2023) and Musalli, Alobaid, Aljahani et al. (2021) in Saudi Arabia. Therefore, this implies that the perceived screening benefits and the positive attitude did not have any impact towards uptake of screening services but willingness to screen for PCa.

5.2.3.2 Perceived Barriers

Men in this study asserted that the processes entailed in digital rectum exam (DRE) were the main barrier to utilising screening services. DRE was the most common

screening method known among the participants. The main concern raised include the violation of manhood, discomfort and awkwardness of being inserted a finger in the anus - hence suggesting alternative testing methods. The embarrassment associated with the kind of screening and the feeling of their bodies being invaded was among the reasons there was low screening uptake. The participants also mentioned fear of being diagnosed positive with PCa. These findings are similar to those of studies conducted by Conde, Landier, Ishida et al. (2011); Adibe, Aluh, Isah et al. (2017); Medina-Perucha, Yousaf, Hunter et al. (2017) and Aluh, Anyachebelu, Azubuike et al. (2018) showing that males are reluctant to screen for prostate cancer because of the fear of being diagnosed positive, the method of screening that contradicts with values of manhood as well as discomforts of such tests.

This study determined that most men were unwilling to take DRE as a screening service due to the aforementioned problems and were reluctant to discuss much about processes that DRE entailed. Therefore, this study established a negative relationship between the method of screening the participants were aware of and the intention to be screened and actual uptake of the service.

5.3 Conclusions

There is obvious lack of knowledge about PCa and PCa screening awareness among the participants. Though males are willing to be screened for prostate cancer, their lack of knowledge about prostate cancer and screening awareness may have negative impact on the uptake of screening services. Also the perceived barriers attached to DRE, which was the most known method among the participants, outweigh the benefits of utilising the service; as a result, there is very low uptake of screening services. Like other African males Basotho are very cultural and will abstain from lifestyles, including healthy lifestyles, that challenge their culture or are believed to violate their manhood. This is the case with utilisation of DRE which in this study is portrayed as a challenge to male’s uptake of screening services, where they assumed a degree of discomfort and feeling of violation of manhood associated with DRE.

Perceived threats associated with prostate cancer screening do not have enough impact to persuade the actual health seeking behaviour among the study participants. Though the study revealed that participants with lower education level had lesser knowledge, there was no difference on the actual uptake of services among participants with other higher educational levels. There also was no difference in PCa screening awareness.

5.4 Implications

This sections highlights the issues brought to light by the current study and suggested remedies to issues.

5.4.1 Lessening of the Gap on PCa Knowledge and Screening Awareness

Poor knowledge portrayed among the participants calls for all stakeholders to put in more effort to ensure improvement on the level of knowledge possessed by males. To address this gap, there should be advanced health talk at facility level through open communication between health professionals and males promoting the uptake of PCa screening services. Male community leaders, such as chiefs, pastors and village health workers should also be approached to promote PCa screening among members of their communities. Similarly, as with the TB programme, traditional healers should also be trained on symptoms associated with prostate cancer to avoid late detection and misdiagnosis of patients. This maybe done through the office of traditional healers at the Ministry of Health.

Adult community gatherings could be efficiently used to disseminate PCa information. One of the participants also suggested that the researcher should mobilise healthcare personnel to attend monthly community gatherings to share PCa information with his community members while others thought such personnel should go to different churches to inform people about PCa.

5.4.2 Advocacy on Improvement of Doctor-Patient Relationships

There is a need for improvement on doctor-patient relationships which would allow for better communication on prostate cancer issues between the doctor and the patient. I believe this improvement could be more effective in influencing prostate cancer related health seeking behaviour among males. Therefore, advocacy and promotion of improved doctor-patient relationship would allow for doctors to advice and patients to inquire on prostate cancer services. Also, there should be advocacy and financial support from the government health partners to implement one-stop shop for male services, which include PCa screening, at all different health facilities including rural based health facilities as there is with women cancers.

5.4.3 Frequent Utilisation of Different Modes of Information Dissemination

Limited dissemination of information using the commonly used mass media, radio and television, has led to males acquiring limited information about prostate cancer and prostate cancer screening. Diverse information dissemination including newspapers and pamphlets may influence health seeking behaviour among Basotho males. Equally important is mobilising funds for frequent slots in different mass media platforms such as different radio stations and television, which may contribute positively to male's health seeking behaviour as most participants mentioned their source of information as both the television and the radio. Information shared should be broader to capacitate positive health decision making.

5.5 Suggestion for Further studies

- This research can be used not only to identify PCa and screening knowledge gaps but also to identify the target approach addressing identified gaps to different male's groups in the country. Further research on screening uptake barriers and appropriate intervention strategies to address the knowledge gap among Basotho males may go a long way to positively influence males to utilise the screening services.

- Similarly, further research maybe conducted on comprehensive male-centred health provision services for different age groups also addressing prostate cancer screening to appropriate age groups. Strategies to address the knowledge gap using appropriate language and different platforms to different strata of Basotho male population would achieve lessening of such a gap. Lack of screening awareness on prostate cancer calls for research on the impact of such on actual uptake of screening services using a broader study sample.

5.6 Summary

This chapter outlines the final views of the researcher on the study, presenting the discussion on the results of the study and how the study relates to the used theoretical framework being the HBM. The section also outlines conclusions, implications of the study as well as recommendations on how knowledge and awareness gaps about prostate cancer screening among Basotho males maybe be addressed to achieved heighten participation on screening service uptake.

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APPENDIX A: interview guide

Interview guide:

Date of interview…….

Interviewee #……

Q1. Demographic and socioeconomic information

How old are you?

Where do you reside?

What is your marital status?
What do you do for a living?
What is your highest level of education?

Q2. Respondent's healthcare seeking behaviour

a) When was the last time you visited a health facility?
b) If you do mind telling me, what were your reasons for consulting?
c) Do you ever visit a healthcare facility for general examination?

Q3. Respondent's knowledge about prostate cancer

Have you ever heard/received any information about PCa?

What have you heard?
Where did you hear or receive information about PCa?
Were you invited to the session? [if these are organized sessions/what was going on?]

How many people attended the session?

How often are these sessions held?

How many times have you attended the sessions?

How many sessions are you encouraged to attend?

e) If yes to Q3 a)] Did you hear/receive information on

i. age at which PCa is most prevalent
ii. PCa symptoms
iii. risk factors associated with PCa
iv. If PCa is preventable
v. If PCa is curable
vi. types of PCa treatment available

Q4. Respondents' perceptions about prostate cancer

How did you react when you learned of PCa?

Do you think you are at the risk of PCa?

Why do you think you are at risk?

If at risk, what he is doing about it?

How serious do you think being diagnosed with prostate cancer is?

Q5. Prostate cancer screening awareness

a) What do you know about screening for PCa?
b) What information have you received on the types of PCa screening available in Lesotho? Would you consider screening for PCa?
c) Have you ever utilized any of the PCa screening services?
d) If yes, what PCa screening services have you ever utilized?
e) What made you acquire PCa screening services?
f) If not, why?

i. Do you believe it is important to screen for PCa?
ii. At what interval?

Q6. Family history of prostate cancer.

a) Do you have any family members with a history of prostate cancer?
b) how do you relate to them?
c) How do you think they contacted the illness (trying to determine if the respondent knows that PCa is inheritable)?
d) What were the outcomes for those family members who had of prostate cancer? (determine if the family member died or survived)

APPENDIX B: Informed consent form

Dear Participant,

You are hereby invited to participate in a research study entitled "**Awareness towards Prostate Cancer screening among males aged 40 and above in Lesotho.** The study is being conducted by Boitumelo Malapo, a postgraduate student in MSc Sociology at the National University of Lesotho. The study is conducted under the supervision of Dr. Morojele and Dr. Phokojoe.

The aim of the study is to help the me understand how much knowledge you have on prostate cancer and your level of awareness about prostate cancer screening through your views on the topic. Your participation will help me understand what determines and obstructs male uptake of prostate cancer screening services as well as identify the knowledge gap that exist on prostate cancer. I will conduct the interview. It is anticipated that the interview will last for at least 20-30 minutes. I will take notes during the interview, and with your consent, I will audio record the interview.

You will be given an opportunity to ask the interviewer any questions before and after the interview for clarity of any issue concerning the study or your participation. There is no monetary benefit to participating while declining to participate and reconsideration of your consent will not present any harm or risks. Your participation will benefit you and the entire Basotho male population with the information on the level of prostate cancer screening awareness and gaps that may need to be addressed concerning prostate cancer knowledge and screening.

Your participation is voluntarily and you are allowed to reconsider your decision to participate at any time during the interview. All the information you provide will be safely kept to ensure confidentiality where the tapes will be destroyed once the transcription is completed. The information you provide will be strictly used for this study only and will not be shared with anyone but me and my supervisors. Also, your identity will not

be revealed in the final finding and documentation of the study. This is to ensure that I as the researcher protect you as a participant and the information you provide.

Below are contact details of the researcher's supervisors and the researcher if you wish to find out any further information concerning the research study.

Dr. R. Morojele, Department of Sociology and Social Work. National University of Lesotho
P.O. Roma 180.
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Dr. M. Phokojoe, Department of Sociology and Social Work. National University of Lesotho. P.O. Roma 180.
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I..... (name or signature) on this date …… have read/or have been read the above information concerning the research study and I understand clearly the nature the study.
I opt to be audio recorded: tick the correct box
Yes [ ] No [ ]
Thank you,

Boitumelo Malapo
boitumelomalapo@gmail.com OR +266. 5851.0742

APPENDIX C: Informed consent form: Sesotho translation

Tumello ea ho nka karolo

Ntate ea khabane,

O kupuoa ho nka karolo boithutong bo bitsoang “temoho mabapi le mofet’se/ kankere ea batona bathong ba ba tona ba lilemo tse mashome a mane ho ea holimo” (“ awareness towards prostate cancer screening among males aged 40 and above in lesotho”. Boithuto bona bo tlo etsoa ke Boitumelo Malapo, ke moithuti oa boemo ba masters lekaleng la Sociology sekolong se seholo sa sechaba sa Lesotho(NUL). Boithuto bona o tlo bo etsa tlasa tataiso ea Dr. Morojele le Dr. Phokojoe.

Sepheo sa boithuto bona ke ho nthusa hore a utloisise tsebo le maikutlo a hao ka mofet’se/ kankere ea botona le temoho litabeng tsa litlhahlobo tsa mofet’se ona. Ho nka karolo hoa hao ho tla nthusa hore ke utloisise hore ke eng e susumetsang le ho sitisang batho ba batona ho sebelisa litsebeletso tsa litlhahlobo tsa mofet’e/ kankere ea t'soelesa ea senya hape le ho hloaea khaello ka tsebo ea litaba tsa mofet’se/ kankere ea t'soelesa ea senya. Ke nna ea tlang ho tsoara puiano ena. Tebello ke hore puisano enke metsotsoana e mashome a mabeli ho isa ho a mararo. Ke tla ngola lintlha ka puiano ena me ka tumello ea hao ke tla hatisa puisano ea rona.

O tla fumana monyetla oa ho botsa lipotso pele le kamora puisano moo o hlokang tlhakisetso litabeng tse amanang le boithuto bona kapa ka ho nka karolo boithutong bona. Ha hona chelete e tla fanoa ha o nkile karolo boithutong bona me ho se lumele le ho ikhula ho nkeng karolo boithutong bona ha hona tlisa litlamorao tse kotsi kapa tse ka o behang tlokotsing. Ho nka karolo boithutong bona ho tla o tsoela molemo le batho ba batona ba Basotho ka tlhahisoleseling ka sekhahla sa tsebo le temoho litabeng tsa le likhaello tse ka hlokang ho buoe ka tsona malebana le litaba tsena .

Ke ka boithatelo ba hao ho nka karolo boithutong bona me o lumelletsoe ho ikhula ho nka karolo nakong ea puisano. Litaba tsohle tseo o fanang ka tsona puisanong li tla behoa ka polokeho ho nnetefatsa lekunutu me likhatiso tsohle li tla sengoa hang hoba li feteleloe ho lingoliloeng. Maikutlo a hao a tla sebelisoa boithutong bona feela me a ke ke a aroreloa mang kapa mang ntle ho batataisi ka. Hape boitsibiso ba hao bo ke

ke ba hlahisoa tokomaneng ea ho qetela ea boithuto bona. Sena ke ho netefatsa hore nna ke le mouputsi ke o sireletsa o le monkakarolo oa boithuto bona.

Tlase ke lintlha tseo o ka lisebelisang ho ikopanya le batataisi ba ka le tsa ka ke le moithuti mabapi le litaba tse amanang le boithuto bona ka botebo.

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Nna..... (lebitso kapa boitekeno) ka letsatsi la …… ke balile kapa ke balletsoe litaba tse ka holimo tse malebana le boithuto bona me ke utloisisa hantle ka bona.
Ke fana ka tumello ea ho hatisoa hoa puisano eaka le oena : t'soaea ka lebokising

Ho joalo [ ] Che [ ]

Kea leboha,

Boitumelo Malapo
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APPENDIX D: Access requisition letter(NUL)

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Loetse 30, 2022

Lithabaneng LESCA
Maseru 100
Lesotho

Mookameli,

Kopo ea ho lumelloa ho etsa boithuto

Kea lumelisa.

Ke kopela Boitumelo Malapo, moithuti sekolong se seholo sa sechaba, The National University of Lesotho, ho etsa boithuto kerekeng ea Lithabaneng LECSA, khoeling ea Pulungoane 2022. Moithuti enoa o lakatsa ho utloisisa ka botebo litsebo le maikutlo a bo-ntate ka lefu la mofetše oa botona. Mme ke hona, o lakatsa ho buisana le bo-ntate ba bonyane lilemo tse 40 le ho feta, e le ho fumana hore na ba na le tsebo ka lefu lena, haholo tšoaetso kapa kalafo.

Ke kopa ke hona ho khothalletsa bo-ntate ba kereke ea LECSA ho thusa 'M'e Boitumelo ka ho poka le eena mabapi le litaba tsena. Re le tiisetsa hore litaba tsa bo-ntate li tla sebelisoa feela mabapi le boithuto ba M'e Boitumelo. Mabitso a bona kapa libaka tseo ba tsoang ho tsona, 'moho le Kereke eo ba e kenang, e tla ba lekunutu la 'M'e Boitumelo le barupeli ba hae feela.

Ke tebello ea sekolo hore barutuoa ba etse boithuto bona hore ba tle ba atlehe lithuto tsa bona, 'me ke mo kopela hore le mo amohele, le mo lumelle ho etsa boithuto bona.

Ka boikokobetso,

Relebohile.

Relebohile Morojele
Mokoetlisi oa NUL