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KNOWLEDGE, ATTITUDES AND PRACTICES OF MEN REGARDING PROSTATE CANCER IN MUFAKOSE, HARARE, ZIMBABWE

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A research report submitted to the
Faculty of Health Sciences, University of the Witwatersrand, Johannesburg
in partial fulfilment of the requirements for the degree
of
Master of Science in Nursing

JOHANNESBURG 2020

DECLARATION

I Tendai Chisamba declare that this research report is my own, unaided work. It is being submitted for the degree of Master of Science (in Nursing) at the University of the Witwatersrand, Johannesburg. It has not previously been submitted for any degree or examination at this or any other university.

Signature: 

Date 17 September 2020

Protocol Number: **M170566**

DEDICATION

I dedicate this study to my wife, Locadia Mugova, for the unwavering support and encouragement she gave me and for believing in me. This project is our pride, it is our work that we successfully carried out together, let us look forward to achieving more in Jesus' name.

To my dad, Christopher Tawonanhamo Chisamba, who passed on during the first year of my study, I thank you so much for the kind words of encouragement and support; may your soul rest in eternal peace.

To my mum, Alveirah Chisamba, thank you for the love, words of wisdom, encouragement, and the prayers you had for me, I know finally today you are smiling; stay blessed lovely mom.

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ABSTRACT

Prostate cancer is one of the top diseases killing men worldwide and is the second common cancer that affects men. According to the Globocan statistics, approximately 1.1 million males had prostate cancer globally, approximately 15% compared to other cancers seen in males. The incidence and mortality rate of the disease in the Southern African Development Community region is 40.5 per 100 000 and 22.5 per 100 000 of the population per year, respectively.

The study aimed to describe the knowledge, attitudes and practices of men living in Mufakose, Harare, regarding prostate cancer and prostate cancer screening. A door-to-door survey was utilised in the study, with convenience sampling, with a sample size of n=269.
Structured interviews collected the data, and a questionnaire served as the data collection instrument. The data were analysed using descriptive statistics and the statistical package SPSS version 23 to calculate statistically significant differences between the variables. A Chi-square test measured statistically significant differences between variables.

The results provided evidence that the men living in the study setting had limited knowledge of prostate cancer; however, they presented with a positive attitude regarding prostate cancer, and high percentages were ready to perform prostate cancer screening and to learn about the disease. The study provided evidence that less than half (23.7%; n=69) reported they knew what prostate was, while the majority of respondents (76.3%; n=200) had no idea what it really was. The majority of the respondents (69.5%) showed a positive attitude towards prostate cancer and this positiveness applied across all educational levels and all age groups. In this study, (60.6%) of the respondents indicated a private doctor was the location for prostate cancer screening, with 12.3% having had prostate cancer screening 45.6% confirming having received their results.

The study concluded that the Ministry of Health should avail screening services and scale up dissemination of information regarding prostate cancer and prostate cancer screening in all healthcare facilities throughout the country so that the general population would become knowledgeable.

Keywords: Prostate cancer; Knowledge; Attitude; Practice; Zimbabwe

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ABBREVIATIONS

ANCI	American National Cancer Institute
ACS	American Cancer Society
AJCC	American Joint Committee on Cancer
CT	Computed Tomography
CRT	Conformal Radiation Therapy
DRE	Digital Rectal Examination
EBRT	External Beam Radiation Therapy
HTCZ	Hydrochlorothiazide
IMRT	Intensity Modulated Radiation Therapy
MRI	Magnetic Resonance Imaging
NCAZ	National Cancer Association of Zimbabwe
NCI	National Cancer Institute
PHI	Prostate Health Index
PSA	Prostate Specific Antigen
PSAD	Prostate Specific Antigen Density
TRUS	Trans Urethra Scan
WHO	World Health Organization

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

This chapter presents an overview of the study and includes the background, the problem statement, purpose of the study and the study's significance. Also presented are the summary of the research design and methods and the operational definitions.

1.2 BACKGROUND

Prostate cancer is one of the cancers killing men worldwide and is the most common cancer that affects men (Mofolo et al., 2015).

According to the latest Globocan statistics (International Agency for Research on Cancer and World Health Organization, 2018), prostate cancer is the fourth most common cancer overall and the second most common cancer in men globally. An estimated 1.3 million men worldwide received a diagnosis of prostate cancer in 2018, accounting for 13.5% of cancers diagnosed in men, with an estimated 70% of newly diagnosed men living in the more developed regions.

Incidence rates are relatively high in certain developing regions, such as the Caribbean and Southern Africa. According to Kangamennaang et al. (2016), the relatively lower trends in Sub-Saharan Africa understate the true magnitude of the disease due to the low detection rate. Numerous men go undiscovered due to the absence of information, indicative offices, prepared wellbeing facilities and screening, for example, Prostate Specific Antigen (PSA).

In Southern African men, prostate cancer has an incidence rate of 40.5 per 100 000 of the population per year, and a mortality rate of 22.5 per 100 000 per year (Mofolo et al., 2015). As per Borok et al. (2012) and Katsadza (2016), prostate cancer disease is the most exceptionally analysed harm in men in Zimbabwe.

In addition, the incidence of prostate cancer has increased from 13.9% to 19.7% in Zimbabwe since 2012; the number of patients diagnosed could be higher if a national screening programme for prostate cancer existed in the country. Furthermore, underreporting and a lack of accurate diagnosis has complicated the number of deaths recorded from prostate cancer.

This absence of compelling determination potentially correlates with poor information, with respect to the individual, and most likely because of the absence of organised rules to manage prostate malignant growth in the social insurance framework. According to So et al. (2014), the reasons for prostate cancer growth are not fully comprehended. The conviction is that advance in age, a positive family ancestry of prostate disease and an African-American foundation are hazard factors.

A number of factors, both genetic and environmental and lifestyle contribute to the development of prostate cancer. Symptoms of prostate cancer are difficulty to start urinating, pain during urination, blood in the urine, frequency of urination during the night, delayed or prolonged urination and incomplete emptying of the bladder.

In advanced stages, some men may experience bone pain, often in the spine or pelvis, leg weakness and urinary incontinence. Factors such as prostate hypertrophy, embarrassment, a lack of knowledge, being asymptomatic and financial status contribute to late detection of prostate cancer (So et al., 2014). Prostate cancer screening aims at preventing and diagnosing prostate cancer at an early stage, which makes treatment easier and cure possible.

The standards of screening of prostate malignancy are estimation of serum Prostate Specific Antigen (PSA) and a Digital Rectal Examination (DRE) (Nakandi et al., 2013). These tests are the most normally utilised screening strategies, and utilised in Zimbabwe.

1.3 RESEARCH PROBLEM

The investigation concentrated on prostate malignant growth, explicitly information, perspectives and works on relating to this ailment.

Little is known about the knowledge, attitudes and practices among Zimbabwean men towards prostate cancer and prostate cancer screening, as only one study conducted at the Chitungwiza Central Hospital in Harare focusing on this issue was available (Rusere et al., 2015). In addition, Maree et al. (2017), when reviewing the literature about cancer nursing research conducted in Africa from 2005 to 2014, could not find any study originating from Zimbabwe, and only one study conducted in South Africa focused on prostate cancer.

This study provided baseline data for evidence-based education programmes and addressed the knowledge gap.

1.4 RESEARCH QUESTION AND AIMS OF THE STUDY

The research question for this study was *What do men living in Harare know about prostate cancer and prostate cancer screening, and what are their attitudes and practices towards the disease and screening?* The study aimed to describe the knowledge, attitudes and practices of men who reside in Harare, Zimbabwe, regarding prostate cancer and screening.

1.5SIGNIFICANCE OF THE STUDY

The significance of the study pertains to the little information available about the knowledge, attitudes and practices of men concerning prostate cancer and prostate cancer screening in Harare, Zimbabwe. The prevention of diseases is a national priority for improving patient care (Mofolo et al., 2015), therefore, the findings of the study could provide important information that may be used for planning preventive campaigns.

1.6OBJECTIVES OF THE STUDY

The study's objectives were to describe the knowledge, attitudes and practices of men residing in Harare, Zimbabwe regarding prostate cancer and prostate cancer screening.

1.7 OPERATIONAL DEFINITIONS

Prostate: An exocrine gland of the reproductive system found directly under the bladder, in front of the rectum; it is approximately the size of a walnut (PCFSA, 2013).

Prostate cancer: Prostate cancer is a disease in which cancer develops in the tissues of the prostate gland. The cancer develops when cells of the prostate begin to multiply out of control (ACS, 2016).

Prostate Specific Antigen (PSA) Test: This test measures the blood level of prostate specific antigen, a protein produced by the prostate and released in small amounts into the blood stream (ACS, 2016)

Digital Rectal Examination (DRE): Is an examination of the lower rectum by the physician or nurse to examine the prostate for any abnormalities in size, lesions, symmetry, shape, and texture (Itano et al. 2008).

1.8 RESEARCH DESIGN AND METHODS

The study was conducted in the Mufakose suburb in Harare, Zimbabwe, where a door-to-door survey was utilised. This non-experimental design collects data about people via direct questioning or use of questionnaires (Grove et al., 2013). The target population consisted of all men who lived in Mufakose. A Raosoft calculator calculated the sample size, which consisted of 269 respondents (n=269).

Structured interviews collected the data and the data collection instrument consisted of five sections, with questions on knowledge, attitudes and practices of men concerning prostate cancer and prostate cancer screening. The SPSS version 23 computer programme and Stata version 13 analysed the data and presented it as descriptive statistics. The use of the Pearson Chi-square test determined statistically significant differences between variables.

1.9 OUTLINE OF THE STUDY

This chapter introduced the reader to the study and presented the research problem, purpose of the study, objectives, design and methods, and significance. The chapters are as follows:

Chapter 1 Orientation to the study

Chapter 2 Literature review

Chapter 3 Research design and methods

Chapter 4 Results and discussion

Chapter 5 Justification, limitations, recommendations, and conclusion

1.8 SUMMARY

Chapter 1 presented an overview of the study and included the background, the problem statement, purpose of the study and the study's significance, as well as a summary of the research design and methods, and operational definitions. Chapter 2 presents a review of the literature.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Cancer is an important public health concern throughout the world and is the second most common cause of death in developing countries (Terwase, 2014). Globocan statistics (International Agency for Research on Cancer 2018) estimated 18.1 million new cancer cases and 9.6 million cancer deaths in 2018. Chapter 1 presented an overview of the study. Chapter 2 addresses prostate cancer as a worldwide public health problem. The discussion of prostate cancer and prostate cancer screening is in relation to incidence rates, risk factors, diagnosis, treatment, prognosis and the different types of screening methods of prostate cancer in relation to their sensitivity and specificity. Furthermore, the researcher discusses other studies conducted on knowledge, attitudes, and practices of men with regard to prostate cancer and prostate cancer screening.

2.2 CANCER AS A WORLDWIDE HEALTH PROBLEM

According to Globocan (2018), cancer is a leading cause of deaths worldwide, accounting for an estimated 9.6 million deaths in 2018. It is the second leading cause of death globally, and responsible for an estimated 9.6 million deaths in 2018. Globally, about one in six deaths is due to cancer.

There is an expectation that these figures will double by the year 2030.

2.3 CANCER BURDEN IN ZIMBABWE

In Zimbabwe, cancer has become a common health concern due to the increase in incidence and mortality rates. According to the Harare Triennial Report (2012), there were 6345 newly diagnosed cases, 2847 (44.9%) males and 3498 (55.1%) females, among residents of Harare during the three-year period 2010 to 2012. According to the recorded new cases in the three-year period, prostate cancer was the most commonly diagnosed malignancy in men, with 541cases, followed by 343 Kaposi sarcoma cases. In women, cancer of the cervix was the most predominant cancer with 870 cases followed by cancer of the breast, with 428 cases; no study has been found that could explain why the incidences of prostate cancer and cervical cancer were on the rise as indicated by the available statistics.

2.4 PROSTATE CANCER AS A LIFE-THREATENING DISEASE

2.4.1 Incidence of prostate cancer

Prostate cancer is the second most prevalent cancer worldwide and one of the leading causes of death in men (Mofolo et al., 2015). As indicated by the Globocan statistics (International Agency for Research on Cancer and World Health Organization, 2014), prostate cancer growth is the fourth most basic disease, generally speaking, and the second most regular disease in men. An expected 1.1 million men were determined to have prostate cancer growth in 2012, representing 15% of disease analysed in men, with practically 20% of those recently analysed living in low- middle income countries.

The estimated incidences and mortality rate of prostate cancer according to the 2012 Globocan statistics (WHO; 2012) are illustrated below:

Table 2.1 Prostate Cancer Estimated Incidence and Mortality (2012)

Regions	Estimated incidence	Estimated mortality
Europe	420.000	101.000
America	413.000	85.000
Western Pacific	153.000	46.000
China	47.000	23.000
South East Asia	39.000	25.000
East Mediterranean	19.000	12.000

According to Moyo et al. (2017), the age-standardised incidence of prostate cancer has, on average, increased by at least 200% over the past 30 years, with remarkable increases noted in developing nations. Incidence rates are also relatively high in certain developing regions, such as the Caribbean and Southern Africa. However, according to Kangamennaang et al. (2016), the trends of prostate cancer in Sub-Saharan Africa understate the magnitude of the disease due to a low detection rate. Many patients go undiagnosed due to lack of knowledge, diagnostic facilities, trained health personnel and screening tests, such as such as serum Prostate Specific Antigen. In Southern African men, the incidence of prostate cancer is 40.5 per 100 000 of the population and the death rate 22.5 per 100 000 per year (Mofolo et al., 2015). The National Registry of South Africa (2012) has indicated that the incidence of prostate cancer among men in South Africa is 31.36 per 100 000 (NHLS, 2012).

In Zimbabwe, prostate cancer is the most common cancer amongst Black men (Katsadza, 2016. Borok et al. (2012) indicated an increase in incidence from 13.49% to 19.7% between 2010 and 2012, however, according Chokunonga et al. (2013), the prevalence of prostate cancer increased from 8% in 1989 to 16% in 2014, and an average of 5 000 to 7 000 men are diagnosed each year. The Cancer Association of Zimbabwe (2011) agrees that the reported figures could be an underestimation of the real figures given the limited cancer screening facilities and data capturing of cancer. Zimbabwe has two screening facilities and registries limited to Harare and Bulawayo metropolitan.

4.2 Prostate cancer as disease

Prostate cancer begins when cells in the prostate gland start to grow out of control (ACS; 2019). The disease develops in the tissues of the prostate gland, when epithelial cells begin to multiply uncontrollably Symptoms of prostate cancer are difficulty to start urinating, pain during micturition, blood in urine, increased frequency of micturition during the night, delayed or prolonged urination and incomplete emptying of the bladder.

In advanced stages, some men may experience bone pain, often in the spine or pelvis, leg weakness, urinary incontinence and impotence. Factors such as prostate hypertrophy, embarrassment, lack of knowledge, being asymptomatic and financial status contribute to late detection of prostate cancer (So et al., 2014). In addition, prostate cancer is characterised by both physical and psychological symptomatology, such as depression, stress, anxiety, pain, erectile dysfunction. In Zimbabwe-African culture, where the value of manhood is through reproduction and sexual intercourse, men consider sexual impotence as serious (Desousa et al., 2012).

According to So et al. (2014), no one fully understands the causes of prostate cancer however the belief is that advanced age, a positive family history of prostate cancer and African-American background are risk factors. A number of factors, genetic, environmental and lifestyle, contribute to the development of prostate cancer, as well as a family history of prostate cancer, exposure to carcinogens and diet consisting of fat, high cholesterol and refined foods.

2.4.3 Screening for prostate cancer

According to the National Cancer Institute (2020), screening for male reproductive health problems at healthcare facilities is important for early diagnosis and treatment of the ailment. The Prostate-Specific Antigen Test (PSA) is a simple blood test, which measures the amount of prostate-specific antigen, a protein produced by the prostate gland, found in an increased level in the blood of men who have prostate cancer. PSA may reveal clinically insignificant tumours, ensuing treatment causing side effects resulting in reduced quality of life. The National Cancer Institute (2020) does not recommend PSA screening in men under the age of 40 years, and a screening interval of 2 years or more for those deciding on screening. PSA is also not recommended for men above 70 years or older, as PSA screening for men aged 55 to 69 years is of greatest benefit. Itano et al. (2017) highlighted that a high level of controversy continues with regard to routine screening for prostate cancer with PSA testing.

Prostate cancer, a disease in which cancer develops in the tissues of the prostate gland, develops when epithelial cells of the gland begin to multiply out of control (ACS, 2016).

Symptoms of prostate cancer are difficulty to start urinating, pain during micturition, blood in urine, increased frequency of micturition during the night, delayed or prolonged urination and incomplete emptying of the bladder. In the advanced stages, some men may experience bone pain, often in the spine or pelvis, leg weakness, urinary incontinence and impotence.

Factors such as prostate hypertrophy, embarrassment, lack of knowledge, being asymptomatic and financial status contribute to late detection of prostate cancer (So et al., 2014). Desousa et al. (2012) further state that prostate cancer is characterised by both physical and psychological symptomatology; depression, stress, anxiety, pain, erectile dysfunction and psychosocial factors all affect men with cancer. In Zimbabwe-African culture, where the value of manhood is through reproduction and sexual intercourse, men consider sexual impotence as serious.

According to the National Cancer Institute (2020), PSA levels may be high in men who have prostate hypertrophy (BPH), leading to an amplified, yet non-cancerous prostate. Most men without prostate cancer have PSA levels under 4 nanograms per millilitre (ng/mL) of blood.

Approximately 15% of men with a PSA beneath 4 will have prostate cancer on a biopsy. Those with a PSA level somewhere in the range of 4 and 10 have a I in 4 possibility of having prostate cancer growth, and if the PSA is more than10, there is more than 50% chance of having prostate cancer.

Different components may influence PSA levels; for instance, PSA levels typically rise gradually as you get older regardless of whether you have a prostate variation from the norm. Prostatitis, referring to contamination or aggravation of the prostate, can also raise PSA levels. Additionally, factors such as an ongoing discharge, riding a bike and certain

medications, for example, testosterone, may increase PSA. Interestingly, factors that may cause PSA levels to lower include 5-alpha reductase, medications, for example headache medicine, thiazides and statins.

Tests that join various kinds of PSA are the prostate wellbeing record (PHI) and the 4K score test, which consolidate the effects of various types of PSA to get a general score that mirrors the opportunity of a man having prostate disease. These tests may be valuable in men with slightly raised PSA, to help decide whether they ought to have a prostate biopsy.

Often the use of PSA thickness (PSAD) is for a huge prostate, as PSA levels are higher in these men. The PSAD estimates the volume (size) of the prostate by means of a transrectal ultrasound. The higher the PSA thickness the greater the probability of malignancy; however, as indicated by the American National Cancer Institute (2016), PSA thickness has not demonstrated to be valuable without the percent PSA test.

Consequently, a few specialists have proposed contrasting PSA results and results from other men of a similar age. As the usefulness of age-specific PSA ranges is unproven, most doctors and professional organisations, as well as the manufacturers of the PSA tests, do not recommend their use at this time.

2.2.4 Diagnostic tests

Diagnostic tests and Physical examination (Digital Rectal Examination) and history taking, ultrasound scanning, (bone scans, transrectal ultrasound, MRI) biopsy and laboratory studies (Prostate Specific Antigen) are the common diagnostic tests for prostate cancer.

The updated version of The American National Cancer Institute (2016), recommends the following scientifically proved diagnostic tests effective in diagnosing prostate cancer.

Digital Rectal Examination (DRE) - a simple and inexpensive procedure in which a lubricated gloved finger is inserted into the rectum to feel for any bumps or solid hard areas on the prostate it assesses for size of prostate, lesions, symmetry and texture (Itano et al., 2017). Palpation can only occur of the posterior and lateral aspects of the gland.

Biopsy - performed with transrectal ultrasound guidance, with different specimens obtained from both sides of the prostate and taken to a laboratory for examination. This confirms the diagnosis of prostate cancer. Laboratory studies (PSA) may be significant as an adjunct in differential diagnosis or as a marker for disease progression (Itano et al., 2017).

Scans evaluate the prostate volume or possible metastasis, for example, bone scans (Itano et al., 2017). MRIs evaluate capsular penetration, seminal vesicle involvement and lymph node metastasis.

2.4.5 Staging of prostate cancer

According to the National Cancer Institute (2020), prostate cancer can progress from Stage1 to Stage IV, as the cancer cells multiply and grow uncontrollably within the prostate gland, through the outer layer of the prostate into nearby tissues and then to the regional lymph nodes and other parts of the body.

Table 2.2 illustrates the staging and grading of prostate cancer

The grading is based on the Gleason score and staging on the AJCC (2010) staging system. Primary tumour (T) refers to the size of the tumour; pathologic staging (pT) refers to tissues of the organ involved; regional lymph nodes (L) refers to the extend the regional are involved in terms of metastasis; distant metastasis (M), refers to how far the cancer has spread to other distant organs. The histologic grade refers to the state of the involved cells in terms of structure, function, and morphology.

Table 2.2 Staging and grading of Prostate Cancer

Tumour size	**Primary Tumour (T) Clinical**
TX	Primary tumour cannot be assessed
T0	No evidence of primary tumour
T1	Clinically unapparent tumour, neither palpable nor visible by imaging
T1a	Tumour incidental histologic finding in 5% or less of tissue resected
T1b	Tumour incidental finding in more than 5% of tissue resected
T1c	Tumour identified by needle biopsy (e.g., because of elevated PSA)
T2	Tumour confined within prostate
T2a	Tumour involves half of one lobe or less
T2b	Tumour involves more than half of one lobe but not both lobes
T2c	Tumour involves both lobes
T3	Tumour extends through the prostate capsule
T3a	Extracapsular extension (unilateral or bilateral)
T3b	Tumour invades seminal vesicle(s)
T4	Tumour is fixed or invades adjacent structures other than seminal vesicle: bladder neck, external sphincter, levator muscles, and/or pelvic wall

Organ involvement	**Pathologic staging**
pT2	Organ confined
pT2a	Unilateral, involving half of one lobe or less
pT2B	Unilateral, involving more than half of one lobe but not both lobes
pT2c	Bilateral disease
pT3a	Extraprostatic extension
pT3b	Seminal vesicle invasion
pT4	Invasion of bladder, rectum
Lymph-nodes	**Regional Lymph Nodes**
NX	Regional nodes not sampled
N0	No regional node metastasis
N1	Metastasis in regional node(s)
Metastasis	**Distant Metastasis (M)**
MX	Distant metastasis cannot be assessed
M0	No distant metastasis

M1	Distant metastasis
M1a	Non-regional lymph node(s)
M1b	Bone(s)
M1c	Other site(s) with or without bone disease
Grade	**Histologic Grade**
GX	Grade cannot be assessed
G1	Well differentiated (slight anaplasia) (Gleason 2-4)
G2	Moderately differentiated (moderate anaplasia) (Gleason 5-6)

Source: Core Curriculum Oncology Nursing (2017)

Table 2.3 illustrates the stage grouping of prostate cancer. Stage grouping refers to the different T, M, N and G combined to present an overall picture of the patient's disease stage, for instance:

Stage 1- T1a- tumour incidental histologic finding in 5% or less of tissue resected. N0- no regional node metastasis, M0- no distant metastasis, G1- well differentiated (Gleason 7-10)

Table 2.3 Stage Grouping of prostate cancer

Stage I	T1a	N0	M0	G1
Stage II	T1a	N0	M0	G2, 3-4
	T1b	N0	M0	Any G
	T1c	N0	M0	Any G
	T1	N0	M0	Any G
	T2	N0	M0	Any G
Stage III	T3	N0	M0	Any G
Stage IV	T4	N0	M0	Any G
	Any T	N1	M0	Any G
	Any T	Any N	M1	Any G

The NCI (2020) describe the following stages of prostate cancer, which are different when compared to AJCC staging above.

Stage I - Cancer is found in the prostate only by needle biopsy. Done for a high PSA level. The PSA level is lower than 10 and the Gleason score is 6. Unable to feel cancer during examination and cannot be seen in imaging tests. Cancer is in one-half or less of one lobe of the prostate, with an unknown PSA level and Gleason score.

Stage II - In Stage II, cancer is more advanced than in Stage I, but has not spread outside the prostate. Stage II is divided into different categories namely T1a, T1b, T1c, T1 andT2.

Stage III - Cancer has spread beyond the outer layer of the prostate. The PSA can be any level and the Gleason score can range from 2 to 10.

Stage IV - The PSA can be any level and the Gleason score can range from 2 to 10. The disease has spread beyond the seminal vesicles. Other nearby tissue or organs are affected,

such as the rectum, bladder. Disease has spread to nearby lymph nodes and distant parts of the body, which may include lymph nodes or bones. Prostate cancer often spreads to the bones.

2.4.6 The treatment of prostate cancer

Prostate cancer is treatable in various ways including watchful waiting, surgery, radiation, chemotherapy, radiopharmaceuticals and hormone therapy. The National Cancer Institute (2020) describes the following recommended treatment options for prostate cancer.

Watchful waiting or active surveillance, which refers to a way of monitoring prostate cancer that is not causing any symptoms or problems. The aim watchful waiting or active surveillance is to keep on checking the cancer over a long term. Men who do not have signs or symptoms, or have other medical conditions, or in which the discovery of prostate cancer was during a screening test, are put under watchful waiting.

Vigilant holding up refers to intently checking a patient's condition without offering any treatment until hints or manifestations show up or change. Treatment is to calm the side effects the person is experiencing and improve personal satisfaction.

Medical procedures refer to various procedures including:

Radical prostatectomy is a surgical procedure to remove the prostate, encompassing tissue, and original vesicles

Perineal prostatectomy is a surgical procedure to remove the prostate through an incision made in the perineum. Removal of nearby lymph nodes is possible through a separate incision in the abdomen

Pelvic lymphadenectomy: surgery to evacuate the lymph hubs in the pelvis

Trans-urethral resection of the prostate (TURP): This is surgery to remove tissue from the prostate through an inclusion through the urethra. This strategy is to treat prostatic hypertrophy and to mitigate indications brought about by a tumour before other malignant growth treatment. TURP is possible in men whose tumour is in the prostate only and who are unable to have a radical prostatectomy.

Prostate tissue that is blocking the urethra is removed through the resect scope, and in some cases, nerve-sparing surgery is possible. This type of surgery may save the nerves that control erection.

Radiation: Radiation is a cancer treatment that uses high-energy x-rays or other types of radiation to kill cancer cells or keep them from growing. There are different types of radiation, namely external, internal, and radiopharmaceutical therapy.

Conformal radiation: is a type of external radiation, which uses a computer to make a 3-dimensional (3-D) picture of the tumour and shapes the radiation beams to fit the tumour. This allows a high dose of radiation to reach the tumour and causes less damage to nearby healthy tissue (National Cancer Institute, 2020).

Internal radiation: a radioactive substance sealed in needles, seeds, wires, or catheters placed directly into or near the cancer.

In early-stage prostate cancer, needles insert the radioactive seeds into the prostate through the skin between the scrotum and rectum; images from a transrectal ultrasound or computed tomography (CT) guide the placement of these seeds. The needles are removed after the radioactive seeds are placed in the prostate (NCI 2020). Radiopharmaceutical therapy uses a radioactive substance to treat cancer.

Radiopharmaceutical therapy: Alpha emitter radiation therapy uses a radioactive substance to treat prostate cancer that has spread to the bone (NCL 2020). A radioactive substance, radium-223, is injected into a vein and travels through the bloodstream. The radium-223 collects in areas of bone with cancer and kills the cancer cells. Men treated with radiation treatment for prostate disease have an expanded danger of having bladder and gastrointestinal malignancy. Radiation treatment can cause weakness and urinary problems.

Hormone treatment: a malignant growth treatment that expels hormones or obstructs their activity and prevents disease cells from developing. Hormones are substances made by organs in the body and released in the circulation system. In prostate disease, male sex hormones can make prostate malignant growth develop. Medications, medical procedure, or different hormones decrease the quantity of male hormones or square their activity.

Chemotherapy: a malignancy treatment that utilises medications to stop the development of disease cells, either by slaughtering the phones or by preventing them from separating. Chemotherapy is the most widely recognised method of treatment for malignancy and given orally, intravenously, or intramuscularly. The medications enter the circulatory system and arrive at diseased cells all through the body. At the point when chemotherapy enters straight into the cerebrospinal fluid, an organ or body cavity, for example the gut, the medications mostly influence malignant cells in those regions (provincial chemotherapy). The manner in which the chemotherapy is given depends upon the phase of the disease.

2.5Prostate Cancer Screening in Zimbabwe

There are no specific screening guidelines for prostate cancer in Zimbabwe. The Cancer Association of Zimbabwe recommends screening for every man at the age of 40 years old, and only private healthcare facilities offer screening services.

There are so many barriers associated with prostate cancer screening in Zimbabwe, which includes lack of facilities that offer screening, lack of knowledge among men, issues to do with affordability and accessibility of screening services.

2.6 SUMMARY

This chapter reviewed the literature regarding prostate cancer, which included the incidence, screening, staging, causes, diagnosis and treatment. Chapter 3 will describe the research design and methods.

CHAPTER 3

RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

Chapter 2 presented literature pertaining to prostate cancer and prostate cancer screening. This chapter presents the research setting and design and the research methods, including the population, sampling, data collection, data analysis, validity and reliability and ethical considerations.

3.2 RESEARCH DESIGN

The research design is the overall plan for addressing a research question, including specifications for enhancing the study's integrity (Pilot and Beck, 2012). A door-to-door survey was utilised for the study. The use of this non-experimental design was to collect data about people via direct questioning or use of questionnaires (Grove et al., 2013). A door-to-door survey was applicable to this study because it allowed the researcher to interact with the respondents directly, which had the potential to improve the accuracy of the data due to the direct interaction. The disadvantages of surveys may include poor administration, which may undermine the findings of the study, as well as poor construction of the questionnaire, which may provide answer choices that do not accurately reflect the participants' feelings (Brink et al., 2016). According to Creswell, (2013) a survey may generalise results to a larger population and study relationships between variables.

3.3 RESEARCH SETTING

A research setting refers to the specific place or places where the data are collected (Brink et al., 2016). The conducting of the study was in Mufakose, a high-density suburb in the western part of Harare central business district, about 15 kilometres from the city centre.

This is one of the oldest locations in Harare, designated for the Black African majority during the colonial era. Mufakose is a well-developed area, having electricity and piped water into all houses and residents have access to various methods of sanitation. The population totals 2 123 132, with an average household size of 3.9 (ZimStat, 2012). Mufakose comprises people from different cultural backgrounds who speak different languages, such as Shona, Ndebele, Zezuru, Tonga and English, the most common being Shona and English. The majority of the population are functionally illiterate, but can read and write.

3.4 POPULATION AND SAMPLING

According to Polit and Beck (2012), the population, also referred to as the target population, consists of the entire set of individuals or subjects having some common characteristics. The target population is the entire population in which a researcher is interested and to which he or she would like to generalise the study results (Pilot and Beck, 2012). The target population for this study consisted of all men above 40 years of age living in Mufakose suburb.

Sampling is the way of choosing a segment of the populace to speak for the whole populace (Pilot and Beck, 2012). A non-probability testing strategy, was utilised to choose the example of 269 (n=269) respondents. Comfort inspecting includes the determination of the most promptly accessible individuals for the examination (Brink, 2013). As indicated by Cherly et al. (2010), convenience sampling entails using the most conveniently available people as participants. This method was applicable to the study because it involved respondents being in the right place at the right time for inclusion in the study. Only men 40 years and older were included.

The sample size refers to the number of people who participate in a study, which is an important factor of the analysis and in statistical conclusion validity (Pilot and Beck, 2013). The sample size was based on a population of 1 025 596, a confidence level of 99% and a 5% confidence interval. Inclusion criteria for the study were men aged between 40 and 60 years, living in Mufakose in Harare, speaking Shona or English and willing to participate.

3.5 DATA COLLECTION INSTRUMENT AND PROCEDURE

3.5.1 The data collection instrument

The data collection instrument was a self-developed questionnaire (Annexure C) developed from the literature (Arafa et al., 2015, Ashford et al., 2001, Arnold-Reed et al., 2008, Matsela et al., 2014, Paiva et al., 2010) in collaboration with one of this study's supervisors to ensure the questionnaire was complete, and to enhance the face validity. The questionnaire consisted of four sections: Section A collected demographic data, Section B collected information on the knowledge of prostate cancer, Section C collected information on the attitudes of men regarding prostate cancer and Section D collected information on practices of men regarding prostate cancer.

According to Grove et al., 2013, pretesting is the testing of the instrument on a small sample size to see if it is user friendly and measures the effectiveness of the questions. The questionnaire was pretested to ensure respondents found it easy to understand.

Ten percent of the eligible respondents in the study setting underwent pre-testing to determine whether the questionnaire was applicable and clear. The total population was 269

and the pre-test consisted of the first 26 respondents. There were no changes made to the questionnaire because as it was user friendly and clear; the pre-test respondents were not part of the study. Table 3.1 indicates the different independent variables in the questionnaire.

Table 3.1: The independent variables contained in the questionnaire

QUESTION	VARIABLE	GENERAL INFORMATION
1	Age	
2	Cultural group	Zezuru, Shona, Ndebele, Tonga, Others specify
3	Educational levels	Never went to school, Grade 1-7, Form 1-4, Form 5-6 and Tertiary education
4	Source of income	No income, Self-employed, Employed, Government grant, Other
5	Income per month	Less than USD 562.00 Above USD562.00
6	Preferred healthcare provider	Doctor, Primary healthcare clinic, Traditional healer, Spiritual healer, Others

Table 3.2 illustrates the dependent variables for this study, and section B collected information on the respondents' knowledge of prostate cancer. The first question asked was "Do you know what prostate cancer is?"

Table 3:2: Respondents' knowledge of prostate cancer

Question	Focus	Dependent variable	Characteristics
1	Awareness	Awareness of prostate cancer	Yes; no; unsure
2	Knowledge	Knowledge of what prostate cancer is	Cancer in men; cancer that spread to other organs if left untreated; cancer of the prostate gland; do not know
3	Knowledge	Anatomical position of the prostate gland	Near the penis; near the bladder; in the pelvis; below the stomach; not sure

4	Knowledge	Function of the prostate	Producing fluids during sexual intercourse; male organ that enhances fertility; helps ejaculation; no sure
5	Knowledge	Screening for prostate cancer	Men with prostate cancer; men with family history of prostate cancer; men with urinary problems; not sure
6	Knowledge	Changes in the body	Urinating frequently during the night; delayed or prolonged urination; weak urine stream; incomplete emptying of bladder; pain when passing urine; blood in urine; change in bowel habits; new onset of erectile dysfunction; do not know; other(specify)
7	Knowledge	Influence on sexual functioning	Yes; not sure
8	Knowledge	Changes in sexual functioning	Erectile dysfunction; loss of fertility; partner dissatisfaction; low libido; do not know; others.
9	Knowledge	Risk factors for developing prostate cancer	Family history of cancer; age; consumption of red meat; race; others

			(smoking &drinking alcohol); not sure
10	Knowledge	Factors which could decrease the risk of developing prostate cancer	Balanced diet; low fat diet; reduced intake of red meat; exercises; screening; others; do not know
11	Knowledge	Tests done to check presence of prostate cancer	Blood tests (PSA); digital rectal examination (DRE); biopsy; do not know; others
12	Knowledge	Treatment modalities of prostate cancer	Surgery; radiotherapy; chemotherapy; hormone therapy; do not know; others

Section C collected information on the attitudes of men regarding prostate cancer (Table 3:3). This section's focus was to determine what men think about prostate cancer screening methods and prostate cancer.

T**able 3.3 Attitudes of respondents regarding prostate cancer and screening**

Question	Focus	Dependent variable	Characteristics
1	Attitude	The impact of prostate cancer as compared to HIV/AIDS	Yes; no; unsure
2	Attitude	Perceptions about consequences of prostate cancer	Yes; no; unsure
3	Attitude	Perception about treatment	Yes; no; unsure
4	Attitude	Perception about screening from age 40yrs	Yes; no; unsure

5	Attitude	Position about screening only men with urinary problem	Yes; no; unsure
6	Attitude	Perception if it is important to go for screening every five years	Yes; no; unsure

Section D collected information on practices of men regarding prostate cancer (Table 3:4). The focus for this section was to see if men had ever experienced signs and symptoms of prostate cancer and if they were prepared to go for screening.

Table 3:4: Practices of respondents regarding prostate cancer and screening

Question	Focus	Dependent variable	Characteristics
1	Awareness	Awareness of prostate cancer screening	Yes; no; not sure
2	Practice	Healthcare facility for screening	Private doctor; primary health care; government hospital; others
3	Practice	Reason for screening	To see if have disease; know my status, my age is above 40years of age; family history of prostate; routine check-up for men
4	Practice	History of screening	Yes; no; not sure
5	Practice	Procedure/tests done	PSA(blood tests); DRE; biopsy; others
6	Practice	Collection of results	Yes; no;

3.5.1 Data collection instrument

The data collection instrument consisted of four sections:

Section A included the demographic characteristics of participants, such as age group, cultural groups, level of education, source of income and monthly income, and healthcare services.

Section B consisted of knowledge of prostate cancer, understanding of prostate cancer, location of and functions of prostate gland, who should be screened for prostate cancer, signs and symptoms that make you think one has prostate cancer, influence of prostate cancer on sexual activity, risks that promote development of prostate cancer, risks that decrease development of prostate cancer and prostate cancer treatment options.

Section C asked respondents questions referring to their attitudes, such as what men think about prostate cancer as illness, who should be screened and the importance of 5 yearly screening.

Section D asked questions regarding practices of men concerning prostate cancer screening, such as if they have heard about prostate cancer screening, procedures done to screen, whether participants are prepared to be screened, if they ever had prostate cancer screening, and if they collected results.

3.5.2 The data collection procedure

Information gathering commenced after obtaining permission from the Medical Research Council of Zimbabwe (MRCZ). The researcher also received permission from the Harare City Council to do an investigation in the Mufakose suburb.

The researcher moved from one household to the next during data collection, collecting data from all men living in Mufakose, who met the inclusion criteria and who were happy to take part in the study.

The researcher presented himself and the topic of the research in a humble, unhurried way. The researcher explained the study and its significance to the men, and the expectations of the respondents.

An informed consent (Annexure B) was taken from the respondents after the researcher read the participant information letter. The researcher used a self-administered questionnaire, which the respondent needed to complete alone, in a calm spot ideally in the house to guarantee security. For respondents who were illiterate the researcher helped with the filling in. The researcher placed the completed questionnaires in a sealed box. It took 15 to 20 minutes to complete the questionnaire.

3.6 DATA ANALYSIS

Data analysis is the orderly association and combination of research information. The information gathered from the data collection requires systematic analysis for interpretation as conclusions (Burns & Grove; 2003: Polit & Beck; 2012)

The data were entered on an Excel Spreadsheet and the SPSS version16 and Stata version 14 analysed the data. The data were analysed by means of descriptive statistics and recurrence (f), rates (%), extents, means and standard deviations were utilised to present the segment information.

Tables introduced the outcomes for simple understandings. The Pearson Chi-Square examined the differences between the variables. (See Chapter 4). The level of significance was 0.05 (p=0.05).

3.7 VALIDITY AND RELIABILITY

Instrument validity seeks to ascertain whether an instrument accurately measures what it is supposed to, given the context in which it is applied (Brink et al., 2016). The questionnaire developed for the study was peer reviewed by experts in the field of prostate cancer for content and face validity.

Reliability refers to the degree of dependability of the instrument to yield consistent results if used repeatedly over time on the same person (Brink et al., 2016). The researcher pretested the instrument to identify possible flaws, such as ambiguous wording and understanding.

3.8 ETHICAL CONSIDERATIONS

Ethics is a system of moral values concerned with the degree to which research procedures adhere to professional, legal and social obligations to the study's respondents. Ethical research is important as it protects the rights of respondents and prevents research misconduct (Polit and Beck, 2012). The researchers applied five ethical principles as outlined by Burns and Grove (2009) in the study: the right to self-determination, the right to autonomy and confidentiality, the right to fair treatment and the right to protection from discomfort and harm.

The following steps were to enhance ethical conduct:

- The obtaining of ethical clearance from the Human Ethics Committee (Medical) of the University of Witwatersrand (M170566) and Medical Research Council of Zimbabwe.
- Harare City Council granted permission to conduct the study in Mufakose.

- Participation was voluntary and respondents were recruited according to their scheduled times.
- Convenience sampling selected the respondents and ceased on reaching the required sample size. Volunteers gave written informed consent and received an information leaflet explaining the procedure.
- An arrangement was in place with the counsellor to counsel the respondents, should they experience emotional distress.
- Code numbers marked the data collection sheets to promote anonymity**.**
- Only the researcher and the supervisor had access to the data until the submission of the research report.
- All respondents had the right to withdraw from the study at any given time without victimisation or punishment.

3.9 SUMMARY

This chapter presented the research methods, including research design, setting, population, sampling, data collection and analysis, the instrument used including, its validity and reliability, and ethical considerations of the study. Chapter 4 presents the research results.

Chapter 4

RESULTS OF THE STUDY AND DISCUSSION

4.1 INTRODUCTION

Chapter 3 described the research design and the methods used in the study. Chapter 4 presents the results and discussion thereof.

4.2 DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

The ages of the respondents ranged from 40 to 81 years with a mean of 51.6, standard deviation ± 8.9 and a mode of 49. The highest percentage of the respondents (53.2%; n=143) were between the ages of 40 and 49 years. The majority of respondents (69%) had never attended school, more than one third (33.5%; n=90) had no personal income and most lived below the breadline (60.6%; n=163). Anyone receiving less than USD 250 a month, as a family of five, is living below the poverty line in Zimbabwe, according to ZIMSTAT (2018). Primary health clinics were the preferred healthcare providers for the majority of respondents (65.0%; n=175). Table 4.1 presents the details.

Table 4.1 Demographic characteristics of the respondents (n=269)

Age group (Years)	**n**	**%**
40-49	143	53.2
50-59	70	26.0
60-69	41	15.3
70 and above	15	5.5
Educational level		
Never went to school	69	25.7
Grade 1-7 (primary)	62	23.0
Form 1-4 (secondary)	59	21.9
Form 5-6 (advanced level)	64	23.8
Tertiary education	15	5.6
Source of income		
No personal income	90	33.5
Self-employed	52	19.3

Employed	91	33.8
Government grant	0	0
Others (specify)	36	13.4
Monthly income		
USD562.00 and less	163	60.6
USD562.00 and above	106	39.4
Preferred Healthcare Provider		
Primary healthcare clinic (PHC)	175	65.0
Doctor	36	13.3
Traditional healer	33	12.4
Spiritual healer	24	8.9
Others (specify)	1	0 .4

4.3 KNOWLEDGE OF PROSTATE CANCER

On asking the respondents whether they knew what prostate cancer was, only 24.2% (n=65) responded positively; the rest either did not know (74.7%; n=201), or were unsure (1.1% n=3). On asking those who said they knew what prostate cancer was (n=65) and what they understood of prostate cancer, the majority (46.2%; n=30) answered it was cancer of the "male parts." When asked what the function of the prostate was, a small percentage (11.5%; n=31) of participants said it produces fluids during sexual intercourse, with 14.1% (n=38) reporting the prostate gland is located in the pelvis. A small percentage (39.4%; n=106) knew that men with urinary problems should be screened for prostate cancer.

Table 4.2 below illustrates the knowledge and understanding of the prostate among the respondents (n=269)

Table 4.2 Knowledge and understanding of prostate cancer (n=269)

Variable	**n**	**%**
Do you know what prostate cancer is?		
Yes	65	24.2
No	201	74.7

Unsure	3	1.1
What do you understand prostate cancer is (n=65)		
Cancer of the male parts	30	46.1
Cancer of the prostate in men	4	6.2
Cancer of men	8	12.3
Other	23	35.4
Not sure	0	0

What do you think is the function of the prostate? (n=65)		
Producing fluids during sexual intercourse	31	47.7
Produce sperms	6	9.2
Semen production	4	6.2
Others	24	36.9
Where do you think the prostate is situated in the body? (n=65)		
Below stomach	4	6.2
In the pelvis	8	12.3
Near the bladder	12	18.5
Near penis	6	9.2
Others	35	53.8
Who should be screened for prostate cancer? (n=269)		
Men older than 40years	26	9.7
Men with family history of prostate cancer	22	8.2
Men presenting with urinary problems	105	39.0
Do not know	116	43.1
What changes in your body would make you think you might have prostate cancer?		
Urinating frequently especially during the night	12	4.5
Delayed or prolonged urination	15	5.6
Weak urine stream	39	14.5
Incomplete emptying of bladder	13	4.8
Pain when passing urine	2	0.8
Blood in urine	15	5.6
Change in bowel habits	36	13.4
New onset of erectile dysfunction	132	49.1

Do not know	5	1.9
Other(specify)	0	0
Do you think prostate cancer can influence a man's sexual functioning		
Yes	35	13.0
No	167	62.1
Unsure	67	24.9
If yes, how do you think prostate cancer can influence a man's sexual functioning? (n=35)		
Erectile dysfunction	20	57.1
Loss of fertility	7	20.0
Partner dissatisfaction	3	8.6
Low libido	4	11.4
Do not know	0	0
Others	1	2.9
What would increase a man's risk of developing prostate cancer? (n=269)		
Family history of cancer	52	19.3
Age	46	17.1
Consumption of red meat	11	4.1
Race	8	2.8
Others (smoking and drinking alcohol)	3	1.1
Do not know	149	55.4
What would decrease a man's risk of developing prostate cancer?		
Balanced diet	7	2.6
Low fat diet	5	1.9
Reduce intake of red meat	0	0.0
Exercise	8	3.0
Screening	27	10.2
Others (specify) - drinking African herbs to prevent	5	1.9
Do not know	217	80.6
Do you think prostate cancer can be prevented		
Yes	76	28.3
No	71	26.4

Unsure	122	45.3
Which tests can be done to check for presence of prostate cancer?		
Blood tests (PSA)	58	21.6
Digital Rectal Examination (DRE)	41	15.2
Biopsy	11	4.1
Don't know	159	59.1
Others	0	0
Do you think prostate cancer can be treated		
Yes	126	46.8
No	86	32.0
Unsure	57	21.2
If yes, how is prostate cancer treated (n=126)		
Surgery	52	41.3
Radiotherapy	20	15.9
Chemotherapy	54	42.8
Hormone therapy	0	0
Don't know	0	0
Others (specify)	0	0

4.3.1 Age and knowledge of prostate cancer

When cross tabulating knowledge of prostate cancer and age, it was found the highest percentage of respondents who said they knew what prostate cancer was, was from the age group-40- 49years (26.6%; n=37). Respondents from the age group 70years and above (12.5%; n=2) were least inclined to know about prostate cancer. Table 4.3 provides the details.

Table 4.3 Age and knowledge of prostate cancer (n=269)

	Knowledge of prostate cancer					
	Yes		No		Total	
Age	n	%	n	%	n	%
40-49 years	37	26.6	102	73.4	139	51.7
50-59 years	19	26.0	54	74.0	73	27.2
60-69 years	7	17.1	34	82.9	41	15.3
70 and above	2	12.5	14	87.5	16	5.9
Total	65	24.2	204	75.8	269	100

.

A Chi-square test of independence showed no statistically significant relationship between age and knowing what prostate cancer was, $\chi 2$ (1) =2.908, $p > .05$

4.3.2 Educational level and knowledge of prostate cancer

When cross tabulating educational level and knowledge of prostate cancer, it was found that the highest percentage of respondents were those who had tertiary education (50%; n=8). Respondents attending forms 1 to 4 (18.6%; n=11) were the least inclined to know about prostate cancer. Table 4.4 provides the details.

Table 4.4 Level of education and knowledge of prostate cancer (n=269)

	Knowledge of prostate cancer					
	Yes		**No**		**Total**	
Level of education	n	%	n	%	n	%
Never went to school	17	24.6	52	75.4	69	25.7
Grade 1-7	12	19.7	49	80.3	61	22.6
Form 1- 4	11	18.6	48	81.4	59	21.9
Form 5- 6	17	26.6	47	73.4	64	23.8
Tertiary education	8	50.0	8	50.0	16	6.1
Total	65	24.2	204	75.8	269	100

A Chi-square test of independence showed no statistically significant relationship between education and knowing what prostate cancer was, $\chi 2$ (1) =.104, $p > .05$

4.4 ATTITUDES TOWARDS PROSTATE CANCER

When asked whether they regarded prostate cancer as a dangerous disease, such as HIV and AIDS, the majority (74.4%; n=200) agreed. All the respondents (100%; n=269) reported that prostate cancer can kill a man. A portion (50.6%; n=136) were of the opinion that all men above the age of 40 years should be screened for prostate cancer compared to 46.1% (n=124) who reported only those with urinary problems should be screened. A high percentage (69.1%; n=186) responded that they thought it was important to go for screening every five years. Table 4.5 presents the details of the results of the attitude questions.

Table 4.5 Attitudes towards prostate cancer (n=269)

Do you see prostate cancer as a dangerous illness like HIV?	**n**	**%**
Yes	200	74.4
No	9	3.3
Unsure	60	22.3
Do you think prostate cancer can kill a man?		
Yes	269	100
No	0	0
Unsure	0	0
Do you think prostate cancer is treatable?		
Yes	136	50.6
No	13	4.8
Unsure	120	44.6
Do you think all men above 40 years should go for screening?		
Yes	136	50.6
No	28	10.4
Unsure	105	39.0
Do you think only men with urinary problems should go for screening?		
Yes	124	46.1
No	35	13.0
Unsure	110	40.9
Do you think it is important to go for screening every 5 years?		
Yes	186	69.1
No	9	3.3
Unsure	74	27.6

4.4.1 Association between attitude and age groups of respondents.

The total number of correct answers in the attitude section was six, therefore respondents who scored less than three were considered as having a negative attitude, while those who scored between three and six were regarded as having a positive attitude towards prostate cancer. The majority of the respondents (69.5%; n=187) had a positive attitude towards prostate cancer, while 30.5% (n=82) had a negative attitude. The information is summarised in Table 4.6 below.

Table 4.6 Association between attitude and age groups (n=269)

Attitude towards prostate cancer	**Positive (n=187)**		**Negative (n=82)**		**Total (269)**
Age	**n**	**%**	**n**	**%**	**N**
40-49 years	98	70.5	41	29.5	69
50-59 years	54	74.0	19	26.0	61
60-69 years	27	65.9	14	34.1	59
Above 70 years	8	50	8	50	64
Total	187	69.5	82	30.5	269

A Chi-Square test of independence indicated that there was no statistically significant difference between age and attitudes towards prostate cancer (p=0.274)

4.4.2 Association between attitudes and educational level of the respondents

The majority of the respondents (69.5%; n=187) had a positive attitude towards prostate cancer, while 30.5%; (n=82) had a negative attitude. Respondents who had completed forms 5 to 6 (advanced level) had the highest score in positive attitude towards prostate cancer (75.0%; n=48), while those who never attended school (33.3%; n=23) scored the highest mark in the negative attitude. These results are summarised in Table 4.7.

Table 4.7 Association between attitudes and educational level (n=269)

Attitude towards prostate cancer	Positive (n=187)		Negative (n=82)		Total	P-value
Educational level	**n**	**%**	**n**	**%**	**n**	n
Never went to school	46	66.7	23	33.3	69	
Grade 1-7	40	65.6	21	34.4	61	
Form 1-4	39	66.1	20	33.9	59	
Form 5-6	48	75	16	25	64	0.356
Tertiary education	14	87.5	2	12.5	16	
Total	187	69.5	82	30.5	269	

A Chi-Square test of independence indicated there was no statistically significant difference between attitudes towards prostate cancer and educational level of the respondents (p=0.35)

4.5 PRACTICES OF MEN REGARDING PROSTATE CANCER AND SCREENING

When asked if they had heard of prostate cancer screening, 22.3% (n=60) of respondents responded positively, and out of these, 66.7% (n=40) reported PSA as the screening test and 28.3% (n=17) DRE. When asked whether they would be prepared to go for prostate cancer screening, 78.8% (n=212) responded positively. When asked if they had had prostate cancer screening, only 12.3% (n=33) responded positively. Of the 12.3% (n=33) who had been screened, 60.6% (n=20) had had the tests done in private institutions and 39.4% (n=13) in government hospitals. When the 78.8% (n=212) who reported they were prepared to go for prostate cancer screening were asked why they would be prepared to do so, 54.7%

(n=116) reported to know their status as their reason, and 18.1% (n=6) mentioned routine check-up as their reason. When asked which procedure they had undergone, 66.7% (n=22) reported having had a blood test done and 6.0% (n=2) had had a biopsy. When asked whether they had gone back to the health facility to receive the results, 45.5% (n=15) responded positively, and 54.5% (n=18) said they never went back.

Table 4.8 Practices of men regarding prostate cancer and screening (n=269)

Have you ever heard about prostate cancer screening?	**n**	**%**
Yes	60	22.3
No	40	14.9
Not sure	169	62.8
If yes tell me how it is done (n=60)		
PSA	40	66.7
DRE	17	28.3
Other	3	5.0
Do not know	0	0
Would you be prepared to go for prostate cancer screening (n=269)		
Yes	212	78.8
No	57	21.2
If yes why (n=212)		
Knowing my status	116	54.7
Age above 40 years	80	37.8
Family history	10	4.7
Routine check up	6	2.8
If no why (n=57)		
Not sick	50	87.7
No symptoms	7	12.3
Have you ever had prostate cancer screening? (n=269)		

Yes	33	12.3
No	236	87.7
Not sure	0	0
If yes, where did you have prostate cancer screening (n=33)		
Private doctor	20	60.6
Primary healthcare	0	0
Government hospital	13	39.4
Others	0	0
If yes, what procedure/tests did you have (n=33)		
PSA (blood test)	22	66.7
DRE	9	27.3
Biopsy	2	6.0
Others	0	0
Did you receive the results of the screening? (n=33)		
Yes	15	45.6
No	18	54.4

4.5.1 Age and having heard about prostate cancer screening

When cross tabulating age and having heard about prostate cancer screening, the highest percentage of men who had heard (10.1%; n= 14) was between the ages 40 and 49 years, followed by those between 50 and 59 years (15.1%; n=11). Table 4.9 illustrates the ages and having heard what prostate cancer screening is.

Table 4.9 Age and having heard what prostate cancer screening is (n=269)

	Having heard what prostate cancer screening is					
	Yes		No		Total	
Age	n	%	n	%	n	%
40-49 years	14	10.1	125	89.9	139	51.7
50-59 years	11	15.1	62	84.9	73	27.2
60-69 years	2	4.9	39	95.1	41	15.3
70 and above	0	0.0	16	100.0	16	5.9
Total	27	10	242	90	269	100

A Chi-Square test of independence indicated there was no statically significant association between having heard of prostate cancer screening and age, $\chi 2$ (1) = 5.040, p > .05

4.5.2 Educational level and having heard of prostate cancer screening

When cross tabulating educational level and having heard what prostate cancer screening is, the highest percentage of men who had heard (62.5%; n=10) was those who had tertiary education. Respondents who had never attended school (2.9%; n=2) were least inclined to have heard about prostate cancer screening. Table 4.10 presents the details.

Table 4.10 Educational level and having heard what prostate cancer screening is (n=269)

	Yes		No		Total	
Educational level	**n**	**%**	**n**	**%**	**n**	**%**
Never went to school	2	2.9	67	97.1	69	25.7
Grade 1-7	2	3.3	59	96.7	61	22.6
Form 1-4	3	5.1	56	94.9	59	21.9
Form 5-6	10	15.6	54	84.4	64	23.8
Tertiary education	10	62.5	6	37.5	16	6.0
Total	27	10	242	90	269	100

A Chi-square test of independence showed a statistically ~~a~~ significant relationship between educational level and having heard about prostate cancer screening, $\chi 2$ (1) = .000 $p < .05$

4.5.3 Age and having had prostate cancer screening

When cross tabulating age and having been screened, the highest percentage of men who had had prostate cancer screening (13.7%; n= 19) was between the ages 40 and 49 years, followed by those aged 50 and 59 years (16.4%; n=12). None of the respondents 70 years and older had had prostate cancer screening. Table 4.11 illustrates the ages and having had prostate cancer screening.

Table 4.11 Age and having had prostate cancer screening (n=33)

	Having had prostate cancer screening					
	Yes		No		Total	
Age	**n**	**%**	**n**	**%**	**n**	**%**
40-49 years	19	13.7	120	86.3	139	51.7
50-59 years	12	16.4	61	83.6	73	27.2
60-69 years	2	4.9	39	95.1	41	15.2
70 and above	0	0.0	16	100.0	16	5.9
Total	33	12.3	236	87.7	269	100

A Chi-square test of independence showed no statistically significant relationship between age and having had prostate cancer screening, $\chi 2$ (1) = .124 p > .05

4.6.4 Educational level and having had prostate cancer screening

When cross tabulating educational level and having had prostate cancer screening, the highest percentage of men (62.5%; n=10) who had been screened had a tertiary education, and the lowest percentage (4.3%; n=3) never attended school. Table 4.12 presents the association between educational level and having had prostate cancer screening.

Table 4.12 Educational level and having had prostate cancer screening (n=33)

	Having had prostate cancer screening					
	Yes		No		Total	
Educational level	**n**	**%**	**n**	**%**	**n**	**%**
Never went to school	3	4.3	66	95.7	69	25.7
Grade 1-7	3	4.9	58	95.1	61	22.7
Form 1-4	5	8.5	54	91.5	59	21.9
Form 5-6	12	18.8	52	81.2	64	23.8
Tertiary education	10	62.5	6	37.5	16	6.0
Total	33	12.3	236	87.7	269	100

The Chi-square test of independence showed a statistical significant difference between educational level and having had prostate cancer screening, $\chi 2$ (1) = 47.88, $p < .05$

4.6 DISCUSSION

The study provided evidence that the respondents had limited knowledge of prostate cancer.

Only 23.7% of the respondents reported they knew what prostate cancer was, with the majority (76.3%) having no idea. The current study agrees with other studies conducted in Africa, where researchers also found a lack of knowledge. For instance, Moyo et al. (2017), in his study conducted in Zimbabwe on men's knowledge about prostate cancer, found only 21% of the respondents were aware of what prostate cancer was; similarly, Rusere et al. (2014), in their study in Zimbabwe, found 23.0% of men had heard what prostate cancer was. As revealed by this study, the low level of knowledge of prostate cancer amongst Zimbabwean men is below the 45.9% noted by Nakandi et al. (2013) in Uganda and other

studies conducted outside Zimbabwe. For instance, Atulomah et al. (2010), in a study conducted in Nigeria, found 60.8% of respondents were aware of prostate cancer, Mofolo et al. (2015), in South Africa, found 46% of the men had heard of prostate cancer, whilst Pereira et al. (2010), in Brazil, found 97% of men had heard of prostate cancer. The consistent and low percentages in this study, as supported by the other studies conducted in Zimbabwe, regarding awareness of prostate cancer compared to studies conducted outside Zimbabwe is of concern. This low level of awareness and understanding of what prostate cancer is among men in this study may contribute to increased morbidity and mortality of prostate cancer in Zimbabwe. The incidence of prostate cancer has increased by 100% from 8% in 1989 to 16% in 2014 (Cancer Association of Zimbabwe, 2011; Chokunonga et al., 2011).

The study provided evidence that the majority (53.8%) of the respondents did not know where the prostate gland was in the body; in contrast, a study carried out by Mofolo et al. (2015) indicated good knowledge about the location. Knowledge about who should undergo screening for prostate cancer was also low, as less than 9.0% of the respondents mentioned men with prostate cancer and men with family history of prostate cancer. Having urinary problems was a better-known indication for screening, as identified by 39.4% of the respondents and confirmed by other studies. A study conducted in Zimbabwe by Moyo et al. (2017) also found that men had little knowledge about who should go for screening for prostate cancer and what could have an impact on the risk of disease. This is in contrast with a study carried out in the UK by Horwood et al. (2014), where the majority of the respondents believed lifestyle, diet, smoking and exercise would influence the risk of the disease.

It was interesting to note that age and educational level influenced knowledge about who should undergo screening for prostate cancer. However, Rusere et al. (2014) supported this finding as their study, conducted in Zimbabwe, also found a relationship between age and educational level and knowledge on who should undergo screening for prostate cancer. It is worth mentioning that those who knew what prostate cancer was were more common in men between the ages of 40-49 years and those with advanced educational level and tertiary education respectively. The results of this study are in contrast with the findings by Mofolo et al. (2015) in South Africa, where up to 37% of the respondents had comprehensive knowledge about some signs and symptoms of prostate cancer, whereas such knowledge in this study was very low at 14.8% despite 25.7% of respondents reporting knowing what prostate cancer was. The finding that knowledge on signs and symptoms of prostate cancer is low in this study may contribute to late seeking of healthcare services by men having prostate cancer, resulting in poor prognosis, poor survival rate, and expensive treatments.

Comprehensive knowledge about signs and symptoms in this study was generally low, which is in tandem with both studies conducted in Zimbabwe by Rusere et al. (2014) and Moyo et al. (2017). This finding corresponds with a Nigerian study conducted by Atulomah et al. (2010), who found only 1.5% of their respondents knew the specific symptoms of prostate cancer.

The study provided evidence that respondents had limited knowledge of the risk factors of prostate cancer, and confirmed in a study by Nakandi et al. (2013), who reported poor knowledge of the risk factors, such as family history of cancer and race. Knowledge of men regarding screening was equally low, as only 22.3% of respondents indicated they had heard what prostate cancer screening was. This trend was similar to that of Moyo et al. (2017), where a paltry 3% of the respondents' reported having knowledge about DRE and PSA. Nakandi et al. (2013) found similar trends and reported that 47.9% of the men in their study were unaware of the methods used to investigate the presence of prostate cancer. Similarly, knowledge about prostate cancer treatment was low in this study as 50.5% of the respondents either did not know or were unsure of the treatment for prostate cancer. These findings were consistent with a study by Moyo et al. (2017), where men scored very low on knowledge about prostate cancer treatment, with respondents having misconceptions about use of high-energy electricity to burn a tumour.

It was positive to note that the majority of the respondents (69.5%) showed a positive attitude towards prostate cancer and that this positivity was across all educational levels and age groups. Furthermore, the majority of the respondents in this study (69.1%) confirmed the importance of going for prostate cancer screening every five years. Contrary to this study, Moyo et al. (2017), in a study carried out in rural Mhondoro-Ngezi, found only 43% of men highlighted the importance of going for screening, which is possibly due to their type of settlement, cultural groups and economic status. Additionally, when exploring the attitudes towards prostate cancer amongst Benue State University male students, Terwase et al. (2014) found that attitude contributed 1.8% towards vulnerability to prostate cancer, which showed the students had negative attitudes in their study.

This study found the majority of the respondents (74.4%) considered prostate cancer as dangerous as HIV/AIDS, however this finding contrasted with a study done in Uganda by Nakandi et al, (2013), which found the majority of respondents never considered prostate cancer as a bad disease as HIV/AIDS, and were only worried about going for HIV testing. All the respondents (100%) indicated that prostate cancer could kill a man, similar to a study by

Moyo et al. (2017), where the majority of men (63%) were aware that death is the major effect of prostate cancer.

In this study, 60.6% of the respondents indicated a private doctor as the location for prostate cancer screening followed by 39.4% mentioning government hospitals; however, this finding contrasted with a study by Rusere et al. (2014), in Chitungwiza, where 68% of respondents did not know where to go for prostate cancer screening. Additionally, only 12.3% of the respondents had prostate cancer screening done, with 45.6% confirming to have received their results. This is consistent with a study by Moyo et al. (2017), where many respondents who had undergone prostate cancer screening never collected their results, the reasons assumed to be ignorance about signs and symptoms of prostate cancer, geographical location and economic status, which results in delays in decision-making with regard to screening.

4.7 SUMMARY

This chapter presented the results of the study and discussed the general information, knowledge, attitudes and practices of respondents regarding prostate cancer. Chapter 5 will present the justifications, limitations, recommendations and conclusions of the study.

CHAPTER 5

JUSTIFICATION, LIMITATIONS, RECOMMENDATIONS AND CONCLUSIONS

5.1 INTRODUCTION

Chapter 4 presented the results of the study and discussed the general information, knowledge, attitudes and practices of respondents regarding prostate cancer. Chapter 5 presents the justification, limitations, recommendations and conclusions of the study.

5.2 JUSTIFICATION

The study will be justified in terms of the study aim and research problem. As stated in Chapter I, the study aimed to describe knowledge, attitudes and practices of men residing in Harare, Zimbabwe, regarding prostate cancer and screening. The research problem focused on prostate cancer, specifically knowledge, attitudes, and practices pertaining to this disease and the research question was what do men living in Harare, know about prostate cancer and prostate cancer screening and practices towards the disease and its screening. Chapter 3 described the research setting, design and methods selected for the study. Chapter 4 presented the results of the study and a discussion of the results. The researcher can therefore state the aim of the study to describe the knowledge, attitudes and practices of men living in Mufakose concerning prostate cancer, was achieved. The study is justified as the study fulfilled its purpose and objectives.

5.3 LIMITATIONS

The study had various limitations. Conducting the study in only one high-density suburb area made it difficult to generalise to all men in Zimbabwe. Although the sample was adequate for data analysis, it was not representative of the total number of men in Zimbabwe. A questionnaire was the data collection instrument, which could have led to recall bias and socially desired answers given by the respondents. In addition, a survey tends to reflect relatively superficial knowledge of the topic investigated. The respondents were at times not willing to answer all questions because they complained of time wasting. Some respondents wanted incentives to be included in the study, resulting in respondents' withdrawal from the

study. However, the researcher believes the rigorous process followed in this study resulted in provision of relevant authentic baseline data.

5.4 RECOMMENDATIONS

From the findings of this study, the researcher wishes to recommend the following:

Men in the Mufakose high-density area should be educated about prostate cancer regarding risk factors and screening. The recommendation is that education should occur at Mufakose Primary Healthcare Clinic since the majority of men indicated they use this to access healthcare services.

Knowledge about prostate cancer among men in Zimbabwe is low hence there is a need to design an intervention programme through innovative health education strategies by the Ministry of Health to improve knowledge about prostate cancer.

The high school curriculum should include cancer education in their curriculum.

The Ministry of Health should organise health promotion campaigns and road shows in all provinces in Zimbabwe and emphasise the need to do regular prostate cancer screening.

All levels of the health delivery system in Zimbabwe must offer prostate cancer screening services and treatment at an affordable subsidised cost, to enhance accessibility and affordability.

Dissemination of information through media, such as radios, television, health magazines, pamphlets, freely available in all government health facilities, could scale up knowledge among Zimbabwean men regarding prostate cancer.

Undertaking a similar study in other institutions, such as universities, colleges, district and provincial hospitals, so that there can be a comparison of baseline data provided by this study, and a sound body of knowledge on prostate cancer can be implemented to effect changes.

Undertaking of similar studies in other rural areas of Zimbabwe, so that generalisation can be made to the entire population, or since it has been done three times in Zimbabwe with the same results, maybe planning an intervention study to improve knowledge among men in Zimbabwe is recommended.

5.5 CONCLUSIONS

The study provided evidence that the men living in the Mufakose high-density suburb had limited knowledge of prostate cancer. Knowledge about what prostate cancer is and the signs, symptoms and risk factors were low, with most of the respondents having never heard of the disease. However, men had a positive attitude towards prostate cancer, since the majority was willing to go for prostate cancer screening and learn more about prostate cancer. Furthermore, the study revealed that men did not have a positive practice concerning prostate cancer, since less than half of them scored high in the 10 answers conside red as positive practices. Only (12.3%; n=33) had had prostate cancer screening but less than half went back to collect their results. The last recommendation is that all local primary healthcare centres in the research setting conduct health education about prostate cancer to increase knowledge about the disease. Scaling up of dissemination of information through existing government and private health institutions in the research setting will be important to educate men about prostate cancer and screening.

5.6 Summary

Chapter 5 presented a summary of the study, including the justification, limitations, recommendations and conclusions.

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ANNEXURE A

INFORMATION LEAFLET

Good day,

My name is Tendai Chisamba, I am a postgraduate student for Masters of Science in Nursing (Oncology and Palliative Care) in the Department of Nursing Education, at the University of the Witwatersrand. I write to invite you to consider participating in a research study entitled *A survey* of *Knowledge, Attitudes and Practices of men living in Mufakose, Harare, Zimbabwe towards prostate cancer and prostate cancer screening.* It is necessary for you to understand the explanations below regarding the purpose of the study, risks, benefits and your rights before you agree to participate. Should you have any question, you are free to ask me in person. You should agree to participate only if you are satisfied about procedures involved. Please do not agree to participate if you are engaged in another study at present. Should you decide to take part in this study, you will be required to sign this document as a proof of agreement and you will get a copy.

Purpose

The purpose of the study is to describe the knowledge, attitudes and practices of men concerning prostate cancer and prostate cancer screening, in order to gather information which will be able to guide preventive campaigns. Health care professionals and health care educators would be able to utilise this information when planning such campaigns.

Your rights

You have the right to self-determination, therefore, participation in this study is voluntarily and your decision not to participate will not attract any penalty or denial of any privileges.
You will be given a number which will be used instead of your name throughout the interview and in the report in order to maintain your right to privacy and confidentiality. Your information will be treated with high level of confidentiality. However, your information might be inspected by the Supervisor, the University of the Witwatersrand and Human Research Ethics Committee (HREC).

Benefits of the study

This study may not have direct benefit for you as a participant, however the information will help health professionals in planning of care and services for other patients with prostate cancer.

Risks

No risks are anticipated in this study, however should you have any psychological discomfort regarding sharing your information at any point, do not hesitate to inform me and you will be referred to a counsellor for counselling.

Ethical approval

This study protocol has been submitted to the University of the Witwatersrand, Human Research Ethics Committee (HREC) and written approval has been granted by that committee. An approval was also sought from the research site and an approval was granted. This study is sponsored by the researcher.

Reimbursement for the study participation

You will not be paid for participating in this study, however your transport may be reimbursed when necessary.

Sources of information

If you need further clarification or have a question about your participation in this study, you are free to contact me (Tendai Chisamba) at 0617579535 or write email to tchisamba555@gmail.com at any time. If you want any information regarding your rights as a research participant, or complaints regarding this research study, you may contact Prof. Cleaton-Jones, Chairperson of the University of the Witwatersrand, Human Research Ethics Committee (HREC), which is an independent committee established to help protect the rights of research participants at (011) 717 2301.

Yours faithfully

Tendai Chisamba

Date_____

INFORMED CONSENT FOR PARTICIPATION

ANNEXURE B

I hereby confirm that I have been informed by the researcher, ...(name of the researcher) about the nature, conduct, benefits and risks of study entitled 'Knowledge, Attitudes and Practices of men regarding prostate cancer in Mufakose, Harare, Zimbabwe.

I have also received, read and understood the above written information (Participant Information Leaflet and Informed Consent) regarding the research study.
I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
In view of the requirements of research, I agree that the data gathered during this study can be accessed by the supervisor and other Authorities.
I may, at any stage, without prejudice, withdraw my consent and participation in the study.
I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.

Participant:

Printed Name Signature / Mark or Thumbprint Date and Time

I, ...(Name of the researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Researcher:

Printed Name Signature Date and Time

Witness **:**

Printed Name Signature Date and Time

INFORMED CONSENT FOR PARTICIPATION

ANNEXURE B

I hereby confirm that I have been informed by the researcher, ...(name of the researcher) about the nature, conduct, benefits and risks of study entitled 'Knowledge, Attitudes and Practices of men regarding prostate cancer in Mufakose, Harare, Zimbabwe.

I have also received, read and understood the above written information (Participant Information Leaflet and Informed Consent) regarding the research study.
I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
In view of the requirements of research, I agree that the data gathered during this study can be accessed by the supervisor and other Authorities.
I may, at any stage, without prejudice, withdraw my consent and participation in the study.
I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.

Participant:

Printed Name Signature / Mark or Thumbprint Date and Time

I, T. CHISAMBA (Name of the researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Researcher:

TENDAI CHISAMBA [signature] 17.02.2020 1045hrs

Printed Name Signature Date and Time

Witness :

Printed Name Signature Date and Time

DATA COLLECTION INSTRUMENT **ANNEXURE C**

Date..... Participant number.....

SECTION A : DEMOGRAPHIC CHARATERISTICS			OFFICIAL USE
1. How old are you?			
2. Which cultural group do you belong to?	Shona	1	Q2=
	Zezuru	2	
	Ndebele	3	
	Tonga	4	
	Others specify	5	
3. What level of education did you complete?	Never went to school	1	Q3=
	Grade 1 to 7	2	
	Form 1-4(secondary level)	3	
	Form 5-6 (advanced level)	4	
	Tertiary education	5	
4. What is your personal main source of income at the moment?	No income	1	Q4=
	Work for self	2	
	Employed	3	
	Government grant	4	
	Other	5	
5. If you have a personal income, how much is it per month?	USD559.00 and less	1	Q5=
	More than USD559.00	2	
6.Where would you go if you needed health care?	Primary Health Care	1	Q6=

	Doctor	2	
	Traditional Healer	3	
	Spiritual healer	4	
	Other (specify)	5	
SECTION B: KNOWLEDGE OF PROSTATE CANCER			
1. Do you know what prostate cancer is?	Yes= 1	No= 2	Unsure= 3	Q1=
1.1 If yes, what do you understand prostate cancer is?			
1.2 If yes, what do you think is the function of the prostate?			

3. If yes, where do you think prostate is situated in the body?					
4.Who do you think should be screened for prostate cancer? *(Read options)*	Men older than 40 years= 1	Men with a family history of prostate cancer= 2	Men presenting with urinary problems= 3	Do not know= 4	Q4=

5. What changes in your body would make you think that you might have prostate cancer? (*Do not read answers, only tick what respondent says*)	Urinating frequently especially during the night	1	Q6=
	Delayed or prolonged urination	2	
	Weak urine stream	3	
	Incomplete emptying of the bladder	4	
	Pain when passing urine	5	
	Blood in the urine	6	
	Change in bowel habits		

	New onset of erectile dysfunction			7	
	Do not know			8	
	Other (specify)			9	
6.Do you think prostate cancer can influence a man's sexual functioning?	Yes= 1	No=2	Unsure=3		Q=6
6.1.If yes how? (*Do not read answers, only tick what respondent says*)	Erectile dysfunction			1	Q7=
	Loss of fertility			2	
	Partner dissatisfaction			3	
	Low libido			4	
	Do not know			5	
	Others			6	
7. What would increase a man's risk of developing prostate cancer? (*Do not read answers, only tick what respondent says*)	Family history of cancer			1	Q8=
	Age			2	
	Consumption of red meat			3	
	Race			4	
	Other (specify)			5	
	Do not know			6	
	Balanced diet			1	Q9=

8. What would decrease your risk of developing prostate cancer? (*Do not read answers, only tick what respondent says*)	A low fat diet		2	
	Reduce intake of red meat		3	
	Exercise		4	
	Screening		5	
	Other (specify)		6	
	Do not know		7	
9. Do you think prostate cancer can be prevented	Yes= 1	No= 2	Unsure= 3	Q 10=
10. Which tests can be done to check for presence of prostate cancer? (*Do not read answers, only tick what respondent says*)	Blood test (PSA)		1	Q11=
	Digital Rectal Examination (DRE)		2	
	Biopsy		3	
	Do not know		4	
	Others (Specify)		5	
11. Do you think prostate cancer can be treated?	Yes= 1	No= 2	Unsure=3	Q11=
12. If yes how?	Surgery		1	Q12=

(*Do not read answers, only tick what respondent says*)	Radiotherapy	2	
	Chemotherapy	3	
	Hormone therapy	4	
	Do not know	5	
	Others (specify)		

SECTION C: ATTITUDES TOWARDS PROSTATE CANCER

1. Do you see prostate cancer as a dangerous illness just like HIV/AIDS	Yes= 1	No=2	Unsure=3	Q1=
2. Do you think prostate cancer can kill a man?	Yes=1	No=2	Unsure=3	Q2=
3. Do you think prostate cancer can be treated?	Yes=1	No=2	Unsure=3	Q4=
4.Do you think all men above 40 years should go for screening?	Yes=1	No=2	Unsure=3	Q5=
5. Do you think only men with urinary problems should go for screening?	Yes=1	No=2	Unsure=3	Q6=
7. Do you think it is important to go for screening at least every 5 years?	Yes=1	No=2	Unsure=3	Q7=

SECTION D: PRACTICES OF MEN REGARDING PROSTATE CANCER AND SCREENING

1. Have you ever heard about prostate cancer screening?	Yes=1	No=2	Unsure=3	Q1=
1.1 If yes, can you please tell me how it is done?				

2. Would you be prepared to go for prostate cancer screening?	Yes	
	Why?	
	No	
	Why?	

3. Have you ever had prostate cancer screening?	Yes=1	No=2	Unsure=3	Q4=

3.1. If yes, where? (*Do not read answers, only tick what respondent says*)	Private Doctor	1	Q4.1=
	Primary Health Clinic	2	
	Hospital	3	
	Others (Specify)	4	

4. What procedure did you have?	5.0.Blood test	Yes=1	No=2	Unsure=3	Q5=
	5.1.Digital Rectal Examination	Yes=1	No=2	Unsure=3	Q5.1=
5. If yes, did you go back to the health care facility to receive the results?			Yes=1	No=2	Q6=

R14/49 Mr Tendai Chisamba

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M170566

NAME: (Principal Investigator)	Mr Tendai Chisamba
DEPARTMENT:	Nursing Education Mufakose High Density, Harare, Zimbabwe
PROJECT TITLE:	Knowledge, Attitudes and Practices towards Prostate Cancer and Prostate Cancer Screening among Men Living in Harare, Zimbabwe
DATE CONSIDERED:	26/05/2017
DECISION:	Approved unconditionally
CONDITIONS:	South African Human Research Ethics Committees (HRECs) have no standing outside South Africa. Ethics approval is also required from local HRECs in Zimbabwe
SUPERVISOR:	Prof Lize Maree
APPROVED BY:	Professor P. Cleaton-Jones Chairperson, HREC (Medical)
DATE OF APPROVAL:	23/08/2017

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary in Room 10004,10th floor, Senate House/3rd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand. I/We fully understand the conditions under which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. in this case, the study was initially review May and will therefore be due in the month of May each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature

Date 26.05.17.

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

CITY OF HARARE

HUMAN CAPITAL AND PUBLIC SAFETY DEPARTMENT
ROWAN MARTIN BUILDING, HARARE, ZIMBABWE
POST OFFICE BOX 1680
TELEPHONE 752979 / 753000

EMAIL: hrd@hararecity.co.zw
ADDRESS ALL CORRESPONDENCE TO THE HUMAN CAPITAL AND PUBLIC SAFETY DIRECTOR

04 September 2017

Parirenyatwa School of Nursing
P.O.Box CY 198
Causeway
Harare

Dear Tendai Chisamba

RE: AUTHORITY TO UNDERTAKE RESEARCH: TENDAI CHISAMBA

This letter serves as authority Tendai Chisamba to carry out a research survey on the topic **"KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS PROSTATE CANCER AND PROSTATE CANCER SCREENING AMONG MEN LIVING IN HARARE, ZIMBABWE".**

The objective of the study is to describe the knowledge, attitudes and practices of men living in Harare in terms of prostate cancer and prostate cancer screening.

The City of Harare has no financial obligation and neither shall it render any further assistance in the conduct of the research. The researcher is however requested to avail a soft and hard copy of the research to the undersigned so that residents of Harare can benefit out of it. The research should not be used for any other purpose other than the study purpose specified.

Yours faithfully

PP Raradza 08/09/17

DR. C. CHINGOMBE
HUMAN CAPITAL DIRECTOR