Deanship of Graduate Studies
Al-Quds University

Men's Knowledge, Attitudes, and Practices Regarding Prostate Cancer Screening Among Those above 45 years at Beit Jala Hospital

Ahmad Hassan Saleh Salahat

M.Sc. Thesis

Jerusalem-Palestine

1446-2025

Men's Knowledge, Attitudes, and Practices Regarding Prostate Cancer Screening Among Those above 45 years at Beit Jala Hospital

Prepared By:
Ahmad Hassan Saleh Salahat

M.P.H. in Policies and Health Management
Al-Quds University-Palestine

Supervisor: Dr. Maysa Al Usta

A thesis submitted in Partial fulfillment of the requirements for the master's degree in policies and health management/ Faculty of Public Health / Al-Quds University

1446 – 2025

Deanship of Graduate Studies
Al-Quds University
Policies and Health Management\ Faculty of Public Health

Thesis approval

Men's Knowledge, Attitudes, and Practices Regarding Prostate Cancer Screening Among Those above 45 years at Beit Jala Hospital

Prepared by: Ahmad Hassan Saleh Salahat
Student No: 22220203

Supervisor: Dr. Maysa AL-Usta, PhD

Master thesis submitted and accepted, Date: 10/5/ 2025

The names and signatures of the examining committee members are as follows

1- Head of committee. Dr. Maysa Al Usta Signature.....
2- Internal examiner. Dr. Asma Imam Signature.....
3- External examiner. Dr. Buthaina Surkhi Signature.....

Jerusalem-Palestine

1446-2025

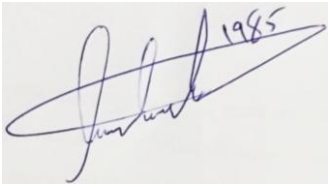
Dedication

I dedicate this work to my parents, with deepest gratitude to my mother, who was the first to encourage me to pursue and complete my master’s studies, and to my beloved father, who has always supported and motivated me throughout this journey. I also dedicate this to my beloved Akhlas for her support, inspiration, and constant encouragement throughout my master's degree. To my brothers, sisters, and dear children (Jouri, Jana, Mustafa, and Karam). To all my friends and colleagues who supported me along the way.

Ahmad Salahat

Declaration

I certify that this thesis submitted for the Master's degree is the result of my research, except where otherwise acknowledged, and that this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed 

Ahmad Hassan Saleh Salahat

2025-05-10

Acknowledgement

I want to express my gratitude to my supervisor, Dr. Maysa Al Usta, for her supervision, encouragement, guidance, and patience throughout this study.

I want to thank the academic staff at the Faculty of Public Health at Al-Quds University.

My special thanks go to the Beit Jala Governmental Hospital staff for their cooperation and help during my data collection.

I would like to thank statistical analysts Mr. Raed Abu Taha and Mr. Abed Al Rahman Salahat.

I would like to thank my brother-in-law, Hatem AL A dam.

Ahmad Salahat

Abstract

Introduction: Prostate cancer screening is a test to detect cancer before it causes symptoms, enabling early intervention and better outcomes. However, men's participation in prostate cancer screening appears to be minimal, and the disease remains a global public health concern. This causes most men to be diagnosed with advanced prostate cancer, in which cancer cells migrate to other parts of the body, making prostate cancer the second leading cause of death among men with cancer.

Aim: To assess knowledge, attitudes, and practices regarding prostate cancer screening tests among men aged 45 years and above at Beit-Jala Hospital, Palestine.

Method: A descriptive cross-sectional survey was employed using a structured self-administered closed-end questionnaire. A total of 300 males aged 45 and above were selected, with the sample selected using the non-probability convenience sampling technique.

Analysis: Data were analyzed using SPSS version 25, and the findings were expressed as percentages and frequencies to describe categorical variables. One-way ANOVA, Chi-square, t-test, and Pearson correlation were used to test the association and effect size at a 0.05 *p*-value.

Findings: Analysis showed that most participants (73%) had a moderate level of knowledge, 20% had a high level, and 7% had a low level. Also, most of the respondents (74%) showed a moderate level of attitudes, and 26% had a high level of positive attitudes toward prostate cancer screening. However, 86% of the respondents had never undergone screening, while only 14% had. Pearson correlation analysis revealed a significant positive association between knowledge and attitude (r=0.196, p=0.001). Conversely,

knowledge was negatively correlated with practice (r=*-0.14*, p=0.01), and attitude and practice (r= -0.04, p=0.046).

Recommendation: This study highlights the need for public health campaigns to raise awareness about prostate cancer risk factors and the importance of screening utilization. It is recommended that the Palestinian Ministry of Health implement policies to promote prostate cancer screenings across health organizations.

Table of contents

Abbreviations

BPH	Benign Prostatic Hyperplasia
DRE	Digital Rectal Examination
ENT	Ears, Nose, Throat
HIS	Health Information System
HSD	Honestly significant differences
KAP	Knowledge, Attitude, and Practice
MOH	Ministry of Health
NGOs	Non-Governmental Organization
PC	Prostate Cancer
PCBS	Palestinian Central Bureau of Statistics
PSA	Prostate-Specific Antigen
SPSS	Statistical Package for Social Scientists
STDs	Sexually Transmitted Disease
WHO	World Health Organization

List of Figures

List of tables

Chapter One

Introduction

1.1 Background

Cancer is a serious health concern worldwide, accounting for approximately 10 million deaths around the world in 2020 (WHO, 2022). Cancer is the second largest cause of death in Palestine after cardiovascular disorders (Palestinian Ministry of Health [MOH], 2022). In Palestine, 2,147 people died from cancer in 2022, representing a rate of 42.6 per 100,000 people (MOH,2023). Prostate cancer, a common illness globally, results from uncontrolled cell proliferation within the prostate gland. These tumors might be benign growths that do not metastasize or malignant tumors with the potential to infiltrate distant bodily sections. Prostate cancer risk factors include age, genetic susceptibility, lifestyle decisions, and obesity (Cancer.Net, 2023).

In 2020, around 1,400,000 persons worldwide were diagnosed with prostate cancer. Prostate cancer is the fourth most frequent disease in the world, killing around 375,000 people (Cancer.Net, 2023). In 2023, the United States alone reported 288,00 new instances of prostate cancer, making it the second cause of cancer-related deaths among

American males that year (Cancer.net, 2023). While cancer incidence is increasing in Palestinian territories, comprehensive data documenting age- or type-specific trends remains scarce (MOH, 2023). Prevalent kinds of cancer in Palestine include breast, colorectal, and thyroid for the general population, with colorectal, lung, bladder, and prostate cancers being most frequent in males, with prostate cancer particularly being a leading cause of death following lung cancer (MOH, 2023). Screening for prostate cancer is a preventive strategy that detects illness before symptoms appear, considerably improving treatment prospects (American Cancer Society, 2023).

The Prostate-Specific Antigen (PSA) test, which detects PSA levels in the blood, is the major screening method. A high PSA level may suggest prostatic problems. Furthermore, the digital rectal exam (DRE) allows professionals to examine the prostate for any form, size, or texture anomalies. These screening tests determine if more testing is required based on the results. These screening tests guide the need for further diagnostic procedures, such as biopsies (American Cancer Society, 2023). Good knowledge and awareness of illnesses are often linked to more positive healthcare-seeking attitudes and behaviors (Kanungo et al., 2015). Assessing individuals' knowledge, attitudes, and behaviors regarding specific conditions is crucial for reducing the impact of diseases. In the case of prostate cancer, poor outcomes and delayed diagnoses are frequently attributed to a lack of awareness or complete lack of knowledge about the condition (Aluh et al., 2018). Regular prostate cancer screening is essential for early detection and reducing the disease's adverse effects. However, screening practices vary across different populations. Studies in the United States have identified several barriers to prostate cancer screening, including fear, poor patient-provider communication, socioeconomic status, and the discomfort or embarrassment associated with digital rectal examinations (Mostafa et al., 2015). Despite the significance of prostate cancer screening, the factors

influencing men's decisions to participate or decline remain largely unclear, particularly in Arabic-speaking countries. Research on prostate cancer awareness, attitudes, and screening practices is limited in this region, where the disease is less prevalent compared to the United States and Europe. Additionally, there is no national screening program for prostate cancer in these countries to improve the screening process and increase participation. it is essential to understand the reasons behind men's decisions to accept or refuse screening and to gather background information to guide the invitation process (Mostafa et al., 2015). This study aims to provide updated information on prostate cancer (PC) awareness, as there is a lack of research in the Palestinian Territory examining knowledge, attitudes, and practices regarding prostate cancer screening tests.

1.2 Problem Statement

The escalating incidence of prostate cancer within the Palestinian population, as evidenced by the rise from 7.1% of all male cancers in 2020 to 9% in 2022, underscores an urgent public health concern. With this notable increase in incidence rate, the mortality rate from prostate cancer has remained relatively stable, continuing to rank as the second leading cause of cancer-related deaths among men (MOH, 2023). This indicates that policies and strategies regarding prostate cancer screening tests are absent among this population. Therefore, this study aims to delve into the knowledge, attitudes, and practices (KAP) towards prostate cancer screening among the at-risk group of men over 45 at Beit Jala Hospital. By understanding these factors, the study seeks to identify barriers to screening uptake and inform targeted interventions that could enhance early detection rates, potentially altering the current trajectory of prostate cancer mortality in the West Bank.

1.3 Justification of the Study

The necessity for this study emerges from the critical need to understand the dynamics influencing prostate cancer screening among Palestinian men over 45, amidst rising incidence rates. The prostate cancer incidence has escalated from 7.1% to 9% among all male cancers from 2020 to 2022, and the mortality rates remain the second cause of death among male cancer patients (MOH,2023).

According to the annual Health Report Palestine 2022, the total number of referrals outside the Ministry of Health Facilities was 110,810 cases. Oncology patient management ranked first with the highest number of referrals, amounting to 26.3% of all referrals in 2022. Moreover, the Palestinian (MOH) expenditure on purchasing services was about 40.2% of all health expenditure in 2022 (MOH, 2023). Studies in high-income countries have shown that treating early diagnosis is two to four times cheaper than treating patients diagnosed with advanced cancer (WHO, 2017). Male early screening methods are adversely affected by inadequate understanding and bad attitudes toward prostate cancer (PC). Inadequate screening, late reporting, and therapy are all contributing factors to the rising PC death rate (Maladze et al., 2023).

The current study was motivated by limited studies on the topic of PC in Palestine, the absence of strategies related to prostatic screening tests, and the need to assess the knowledge, attitude, and practice among Palestinian men over 45 years. Clarifying the importance of prostatic screening may assist the government in developing and implementing appropriate and successful strategies to prevent, manage, and control prostate cancer by using the study's findings to learn more about the knowledge, attitudes, and practices surrounding the disease at Beit-Jala Hospital. Consequently, appropriate strategies might lower the prostate cancer death rate in Palestine. Additionally, the study

is being conducted at a government hospital (Beit Jala Governmental Hospital) that may collaborate with non-governmental organizations and other stakeholders to put in practical solutions. These efforts might not only save lives but also lessen the financial burden of cancer on the MOH, especially the government, which bears the full responsibility of covering all cancer expenditures and treatment.

1.4 Aim and Objectives

1.4.1 The aim of the study

To assess the Knowledge, Attitudes, and Practices among men above 45 toward prostatic cancer screening tests at Beit Jala Hospital.

1.4.2 Objectives, Questions, and Hypotheses

Objective 1: To assess the level of knowledge among men above 45 years of age regarding prostate screening tests at Beit-Jala Hospital.

Question 1: What is the level of knowledge among men above 45 years about prostate cancer (definition, risk factors, signs and symptoms, treatment, and complications) at Beit Jala Hospital?

Objective 2: To describe men's attitudes above 45 years toward prostate screening tests at Beit-Jala Hospital.

Question 2: What is the attitude among men above 45 years at Beit Jala Hospital toward the importance of screening tests for early detection of prostate cancer?

Objective 3: To measure the practice of men above 45 years toward prostate screening tests at Beit-Jala Hospital.

Question 3: What is the rate of men over 45 years of age who have undergone prostate screening tests (PSA, DRE) at Beit Jala Hospital?

Objective 4: To assess the relationship between age and prostatic cancer screening uptake

Question 4: What is the relationship between age and prostate cancer screening uptake?

Hypothesis 4: There is a positive relationship between men's age and prostate screening uptake.

Objective 5: To assess the relationship between men's socioeconomic status and prostatic screening test uptake.

Question 5: What is the relationship between men's socioeconomic status and prostate screening test uptake?

Hypothesis 5: Higher socioeconomic status is associated with higher prostate screening test uptake.

Objective 6: To assess the relationship between knowledge, attitude, and practice about prostate cancer screening tests.

Hypothesis 6.1: A higher level of knowledge among men about prostate cancer is associated with higher men’s attitudes.

Hypothesis 6.2: A higher level of knowledge among men about prostate cancer screening is associated with increased male screening uptake.

Hypothesis 6.3: A higher level of attitude among men about prostate cancer screening is associated with high male screening uptake.

1.5 Definitions of Terms

- **Knowledge** refers to the information, understanding, and skills that one gains through education or experience (Oxford Dictionary, 2024). In this study, knowledge refers to participants' understanding of prostate cancer, including its signs and symptoms, risk factors, and available prostate screening tests. It is assessed using a structured questionnaire consisting of fourteen multiple-choice

questions designed to measure men's knowledge about prostate cancer and its screening methods.

- **Attitude** is an individual's thought or feeling toward a person, concept, or practice (Oxford Dictionary, 2024). In this study, attitude refers to participants' perceptions and beliefs regarding prostate cancer screening tests. It is measured using a questionnaire consisting of nine statements rated on a five-point Likert scale to capture the degree of positivity or negativity in men's attitudes regarding prostate cancer screening tests.
- **Practice:** refers to the regular engagement in an activity or behavior often aimed at skill improvement or routine performance (Oxford Dictionary, 2024). In this study, practice refers to the actual behaviors of participants regarding prostate cancer screening, specifically whether they have undergone prostate-specific antigen (PSA) testing or digital rectal exam (DRE). It is measured by using a questionnaire consisting of three closed-ended (Yes, No) questions in the survey.
- **Prostate-specific antigen (PSA):** A protein produced by prostate gland cells, including both healthy and malignant cells. While the majority of PSA is found in semen, some amount is also circulated in blood (American Cancer Society, 2023).
- **Digital Rectal Examination (DRE):** A clinical procedure in which a healthcare provider examines the prostate gland by inserting a gloved, lubricated finger into the rectum to assess the size, shape, and texture of the gland, aiding in the detection of potential abnormalities (American Cancer Society, 2023).

Chapter Two

Literature Review

2.1 Introduction

This chapter presents a review of literature related to prostate cancer, focusing on its pathophysiology, risk factors, clinical staging, signs and symptoms, and available screening methods. It also examines men's knowledge, attitudes, and practices regarding prostate cancer and the factors that influence screening uptake. Lastly, the researcher also outlined the conceptual framework that guided the study.

2.2 Prostate Cancer: Overview, Symptoms, Staging, and Screening

Prostate cancer arises from the uncontrolled growth of cells in the prostate gland, a male-specific organ that produces part of the seminal fluid (American Cancer Society, 2021). In its early stages, prostate cancer often presents no symptoms, though some individuals may experience difficulty urinating, a weak or slow urinary stream, or increased frequency of urination. As the disease progresses, more severe symptoms such as blood in the urine or semen, erectile dysfunction, pain in the hips, unexplained weight loss, and fatigue may occur (American Cancer Society, 2021). The progression of prostate cancer

is categorized into four stages: Stage One features a slow-growing tumor confined to a small portion of the prostate; Stage Two remains localized but with a higher chance of growth and spread; Stage Three indicates high PSA levels and aggressive cancer likely to extend beyond the prostate; and Stage Four marks the spread to lymph nodes, bones, or other organs (Cancer.Net, 2022). Early detection through screening is crucial and can significantly improve treatment outcomes. The two most common screening methods are the Digital Rectal Examination (DRE), where a physician manually checks the prostate for abnormalities, and the Prostate-Specific Antigen (PSA) blood test, the normal range of PSA in serum is up to 4 ng\ml more than it considered an abnormal result. While PSA screening can detect cancer early and potentially save lives, it is also controversial due to the risk of overdiagnosis and overtreatment of slow-growing cancers that may never become life-threatening, potentially impacting the quality of life negatively (Cancer.Net, 2022).

2.3 Risk Factors of Prostate Cancer

Anything that raises a person's chances of getting cancer is a risk factor. While risk factors frequently affect an individual's likelihood of developing cancer, most do not cause cancer directly or exclusively. Certain individuals with many established risk factors never have cancer, but others without any known risk factors do. Some of the risk factors related to prostate cancer are as follows

Age: Prostate cancer risk rises with advancing age, particularly after the age of 65 years of age or older is the cutoff point for prostate cancer diagnosis. When prostate cancer is detected in older persons, they may have particular difficulties, particularly when it comes to cancer therapy (Cancer.Net, 2022)**.**

Race. Prostate cancer is diagnosed in more African American males than in any other race, especially among Black men living in the United States. Prostate cancer claims the lives of Black men more frequently than White men (Cancer.Net, 2022)**.**

Family history: About 20% of all prostate cancers are familial prostate cancers or malignancies that occur in families. Together with common environmental or lifestyle variables, this kind of prostate cancer arises as a result of shared genes (Cancer.Net, 2022)**.**

Diet: Men are more likely to acquire prostate cancer due to their food and lifestyle choices. Men who consume large amounts of red and processed meat are more likely to get prostate cancer (National Cancer Institute, 2023). Moreover, eating foods high in calories, animal fats, refined sugar, and fewer fruits and vegetables raises the chance of developing prostate cancer. Men can lower their risk of prostate cancer by exercising and eating a well-balanced diet (National Cancer Institute, 2023)**.**

2.4 Previous Studies regarding Men's Knowledge, Attitudes, and Practices regarding Prostate Cancer

From February through December 2011, this study was carried out in Saudi Arabia, Egypt, and Jordan. Men 40 years of age and older were their target demographic. This cross-sectional research was population-based and included 400. Topics for every location in Saudi Arabia, Egypt, and Jordan. Aside from sociodemographic information, medical history, both past and present, prostatic cancer examination history, and family history of the disease. Two distinct Likert measures were used to ask participants about their knowledge, attitudes, and screening practices regarding prostate cancer. The range of people who underwent routine prostate exams was 8–30%. Men demonstrate varying levels in knowledge and attitude toward prostate cancer in Saudi Arabia, Egypt, and Jordan. The mean total attitude score was 18.3±4.08, 20.68±6.4, and 17.96±5.3,

respectively, while the mean total knowledge score was 10.25±2.5, 10.76±3.39, and 11.24±3.39. These results indicate low knowledge and a fair attitude about prostate cancer screening behavior. While 64% of the respondents said that doctors were the primary source of this knowledge, despite not being the primary reason for routine examinations. In the numerous regression models, knowledge was the only variable significantly related to participants' attitudes. Participants' attitudes depend mainly on knowledge level and the quantity of information provided to the patients and their families. Such attitudes should rely on a solid background of proper information and motivation from physicians to enhance and empower behaviors towards prostate cancer screening practices (Arafa et al., 2012).

A cross-sectional quantitative study was conducted in Al-Shifa and European hospitals (major cancer departments at governmental hospitals) using an analytical technique based on a structured review. Interviews were conducted with 41 individuals who had been diagnosed with primary cancer of the prostate between March and June of 2014. Additionally, oncologists and hospital archives provide information about demographics, health status, medical examinations, and testing for the previous five years (2010-2014). According to the present study, the incidence rate of prostate cancer was 5.1 per 100,000, with 41 new cases reported in three months. Patients over 70+, namely those between the ages of 70 and 74, had the greatest occurrence rate (29.3%). The findings revealed that 58.1% of the patients were current smokers, 22.6% had smoked in the past, and 16.1% had never smoked. Chemotherapy was the most often utilized treatment modality among the individuals, followed by hormonal therapy and prostatectomy. In addition, 90.3% of patients do not have diabetes, 77.4% of current cases do not have a family history of prostate cancer, and 58% of registered patients do not have prostatitis (Alajerami et al., 2015).

A cross-sectional quantitative study at schools in Naples, in the south of Italy, was conducted to evaluate the knowledge, attitudes, and practices of a sample of Italian men on 625 dads of pupils enrolled in eight public schools who were randomly chosen. Sociodemographic details, personal and family medical history of prostate cancer, knowledge of prostate cancer and screening tests, assessment of the advantages and disadvantages of a PSA test, and willingness to undergo the test are all covered by the administered questionnaire. According to the study, the average age of participants was 48.7 years (27–71 years). Around 72.7% of respondents had heard of the PSA test, and 51.1% of those had learned about it from their doctor. Men who were older and more educated had better knowledge of this test than those who had a relative who had prostate cancer or other problems. Those who had issues with their prostates believed they had a higher personal risk of developing prostate cancer than people with prostate issues, and those who had heard about prostate cancer from a doctor. Men were just 29.6% who had taken a PSA test, and 59.4% said they would be willing to do so in the future (Morlando et al.,2017).

Descriptive cross-sectional research was conducted with 305 men who lived in the community of Southwest Nigeria. The respondents were chosen through multi-staged sampling approaches. Knowledge, attitudes, and screening behaviors were identified based on replies to a semi-structured KAP questionnaire. Data analysis was done with SPSS version 18. The statistical significance level was ascertained using Fisher's exact test (two-tailed) with a significance level of 0.05 and Pearson's chi-square. The correlation between the variables was determined using Pearson's correlation coefficient. The average age of those surveyed was 63.4±11.8 years. Only 99 (32.5%) and 91 (29.8%) of the participants knew about BPH and prostatitis, respectively, and slightly less than half, 145 (47.5%), were aware of prostate cancer (PC). Of them, around 25% had heard

of PSAs. The two primary information sources were television and radio. In all, 162 (53.1%) respondents had inadequate knowledge, compared to 143 (46.9%) with sufficient knowledge. The most widespread myth regarding the causation of prostatic illnesses was that it was caused by STDs. In general, 44.3% held positive sentiments. Just 31 respondents, or 10.2%, had ever done a PC screening. The only factors significantly correlated with participants' knowledge and attitudes were their educational background and employment. Educational attainment was the only variable that affected the screening procedures (Ojewola et al., 2017).

The study examined men's attitudes and knowledge about prostate cancer screening in the Oshana region. This study was Cross-Sectional and involved men in the Intermediate Hospital Oshakati (IHO) Outpatients Department between the ages of 18 and 72 through thorough random sampling. They were able to recruit 384 people. They produced proportions and frequencies. To identify the factors influencing the degree of knowledge and attitudes, bivariate analysis was used; components that were found to be significant were then further examined using logistic regression .The respondents ranged in age from 18 to 72, with a mean age of 30.4 ±12.5 SD. 219 (57%) of the participants were single, and 271 (70.6%) were in an urban area. The radio was the most popular way to get information. The respondents' overall statistics included poor screening uptake (21%) among eligible males (>45 years), positive attitudes (331; 86.2%), and inadequate knowledge (269; 70.1%). The responders exhibited a general lack of screening and insufficient knowledge. The main indicator of sufficient knowledge was advanced education or higher education (Nakwafila, 2017).

This study was carried out among males in Dar es Salaam, Tanzania, to ascertain knowledge and perceived risk of prostate cancer, the use of prostate cancer screening services, and related variables. Created between May and August of 2018, a population-

based cross-sectional research study including men in Dar es Salaam who were 40 years of age or older was selected. Participants participated in structured in-person interviews after being selected using a multistage random selection process. While continuous data were described as medians and the inter-quartile range (IQR), categorical variables were summarized using proportions. The study employed the Chi-square test to assess variations in proportions, and logistic regression modeling was employed to identify the variables linked to the usage of prostate cancer screening. A total of 388 males, whose median age was 53, took part. Regarding prostate cancer and prostate cancer screening, half (52.1%) did not know enough, and 33% said there was little chance of prostate cancer. Just 30 people, or 7.7% of the sample, had ever received a prostate cancer screening. Ages above 60 years of age were shown to be independently correlated with prostate cancer screening service use. Men in Dar es Salaam had limited knowledge about prostate cancer and prostate cancer screening facilities, and a third believed they were not at risk for the disease. Low use of screening services was linked to younger age, low perceived risk of prostate cancer, poor income, and little awareness of the illness (Bugoye et al.,2019).

Male patients at Kitwe Teaching Hospital in Zambia who were 40 years of age or older were the subjects of a descriptive cross-sectional study designed to evaluate their knowledge, attitudes, and practices about prostate cancer screening. Participating in the study were 200 men in total. the response rate was 100%, only 33.5% of the 200 respondents had heard about prostate cancer, and 58 (29%) of them said they knew something about it, with 37 (63.8%) having little or no awareness of it. Prostate cancer screening was performed on 26 individuals (13%) throughout the previous two years. Prostate cancer screening was viewed favorably by 98.5% of the participants. Based on binary logistic regression analysis, screening for prostate cancer was more common

among those who were older (p = 0.017), had more education (p = 0.041), knew more (P=.023), and had a family history of the disease (p = 0.003). Following multivariate analysis, those with higher knowledge (p = 0.001) and a family history of cancer (p = 0.002) were shown to be more likely to screen for prostate cancer (Gift et al., 2020).

From January to June 2022, a descriptive cross-sectional survey emphasizing Saudi Arabia's general population was carried out. An electronic questionnaire had been constructed. Participants' data, medical histories, data sources, knowledge, attitudes, and practice topics were all included in the study questionnaire. The target audience received the questionnaire electronically, and it was utilized as a digital survey. The result was that 1313 individuals filled out the study's questionnaire. The age range of the participants was 18–67 years old, with a mean age of 28.3 ± 11.4 years. around 60.4% of research participants were aware of cancer screening. Regarding the advantages of cancer screening, 91.8% of participants said they were aware that early diagnosis of the disease aids in treatment, and 81.1% recognized that early detection leads to better treatment results. Furthermore, 872 (66.4%) participants knew very little about cancer and cancer screening, compared to 441 (33.6%) who knew a lot. Additionally, 106 individuals (8.1%) were screened for cancer (Elmaghraby et al., 2023).

A descriptive cross-sectional design, the study surveyed 245 randomly selected men to measure knowledge and attitudes toward prostate cancer and screening in Limpopo Province, South Africa. Data were gathered through a structured questionnaire, and statistical analysis was conducted using Fisher's exact tests and logistic regression to explore associations between sociodemographic factors, awareness, and attitudes toward PC. The results showed that 64.1% of participants had insufficient knowledge about PC. Despite this, 84.9% of the respondents exhibited a generally positive attitude toward PC. However, 87.4% expressed uncertainty about the effectiveness of PC treatments.

Notably, 96.7% had never undergone a prostate-specific antigen (PSA) test, although more than half (53.1%) indicated a willingness to take the test. A significant positive correlation was found between PC awareness and attitudes towards the disease. Additionally, health status emerged as a predictor of PC awareness. Both age and health status were found to influence attitudes toward PC (Maladze et al., 2023).

A descriptive method of surveying was applied. It was believed that there were 1000 adult males in Rumuodor (Obalga) and Kula Kingdom (Akulga). Using an intentional sampling strategy, Taro Yamane's approach produced a sample size of 286 respondents (149 from the Kula Kingdom and 137 from Rumuodor). Data were collected using a well-structured questionnaire with a reliability value of 0.81. The hypothesis was tested using the Z-test. The findings indicated that adult males in Rumuodor (Obalga) and Kula Kingdom (Akulga) receive information about prostate cancer from medical professionals, radio, and television. Research findings indicated that the busy schedules of adult men often prevent them from attending prostate cancer screenings. Superstition also plays a role; it leads some men to refuse screening. Additionally, prostate cancer is commonly viewed as a disease that primarily affects older men. Many adult men fear the uncertainty associated with prostate cancer screening. Financial constraints further discourage them from seeking screening, and illiteracy is another factor that inhibits access to prostate cancer screening for many adult males. The way adult guys feel about getting screened for prostate cancer boosts early diagnosis, increases prognoses for recovery, and even saves lives (Amachree et al., 2023).

A cross-sectional survey conducted in the Jazan region of Saudi Arabia between December 2022 and March 2023 focused specifically on males aged over 40 years. Utilizing a web-based questionnaire, the authors of the study collected data on participants' sociodemographic characteristics, knowledge of PC, and attitudes toward

screening practices. The findings revealed that approximately 44% of the 468 respondents demonstrated limited awareness regarding PC, suggesting a considerable knowledge gap among this population. Despite this, a noteworthy 60.3% exhibited a positive attitude toward PC screening, indicating a degree of openness to early detection measures. In terms of healthcare engagement, 35.7% reported having consulted a urologist for screening purposes, while 25.6% had undergone a prostate-specific antigen (PSA) test, most commonly following medical advice (25.8%).

Further analysis identified several predictors of PC awareness and screening behavior. Multivariate regression indicated that being married (adjusted odds ratio [AOR] = 4.5, p = 0.011) and having a family history of PC (AOR = 4.6, p = 0.001) were significantly associated with higher awareness levels. Additionally, a personal history of PC (AOR = 6.8, p = 0.001) and attainment of a postgraduate qualification (AOR = 5.5, p = 0.024) were significantly correlated with proactive screening practices. These findings underscore the influence of sociodemographic and medical history factors on PC related health behaviors and contribute to the growing body of literature advocating for targeted awareness campaigns among high-risk populations (Elyas et al., 2024).

A study conducted in an urban community in Lagos, Nigeria, aimed to assess men's knowledge, attitudes, and screening practices related to prostate cancer. The research employed a descriptive cross-sectional design involving 270 male participants, who were selected through a multistage sampling technique. Data were collected using a pretested, interviewer-administered questionnaire and analyzed with Epi Info version 7.2. Statistical associations were determined using Chi-square and Fisher’s exact tests, with a p-value of less than 0.05 considered statistically significant. The results showed that the mean age of participants was 49.4 ± 8.0 years. Notably, 24.8% of respondents (n =

67) demonstrated no knowledge of prostate cancer risk factors. Overall, only 15.2% (n = 33) of participants had good knowledge of the disease, while 58.4% (n = 28) exhibited a positive attitude toward prostate cancer screening. Despite this, just 11.0% (n = 24) had ever undergone screening. The predominant reason cited for not participating in screening was a lack of awareness about the disease. Importantly, the study found that good knowledge of prostate cancer ($p < 0.001$) and positive attitudes toward screening ($p = 0.003$) were significantly associated with actual screening practices. These findings highlight the critical role of awareness and perception in influencing health-seeking behavior related to prostate cancer prevention (Onyeodi et al., 2022).

2.5 Factors that may Prevent Men from Seeking Prostate Cancer Screening

- **Socioeconomic status**

People's perceptions and understanding of prostate cancer may be influenced by their socioeconomic level, both individually and in the community. Prostate cancer screening is less likely to be participated in by members of underprivileged groups because they are more likely to lack access to quality healthcare services and knowledge about health concerns in general, including prostate cancer. On the other hand, people in industrialized nations are more likely to participate in prostate cancer screening because they have access to quality healthcare facilities and greater knowledge about prostate cancer and other health conditions. People from socioeconomically challenged neighborhoods, regardless of race, are less likely to get screened for prostate cancer because they are unaware of how important it is (Ogunsanya, 2014).

- **Lack of access to health care services**

People's intentions to seek prostate cancer screening and testing were also impacted by their lack of access to healthcare facilities. (Nnoko's, 2017). Access to care is one of the hardest parts of getting medical attention. One way to address the sense of lack of access is as an uninsured person. those without insurance have limited access to healthcare, while those with insurance have access to quality treatment. Furthermore, people without insurance have a higher chance of receiving an advanced cancer diagnosis; as a result, they report avoiding getting screened for prostate cancer since it is costly and they lack insurance (Nnko's, 2017).

- **Embarrassment**

Studies indicate that feelings of humiliation partly influence men's low uptake of prostate cancer screening and testing (Catalonia, 2018). African American men's prostate cancer screening was shown to be hampered by their humiliation, particularly when it came to using the DRE technique. Because most men find this screening method embarrassing, they don't participate in prostate cancer screening (Catalonia, 2018).

2.6 Conceptual Framework

The Conceptual Framework for this study is adapted from Schwartz's (1976) knowledge, practice, and attitude model. This model is based on cognitive-affective-behavioral behavior. A lot of public health initiatives and programs have used Schwartz's KAP model to address health-related concerns, including behavior modification, illness prevention, and health promotion. Education professionals and public health practitioners may create more potent campaigns to encourage healthy habits and enhance population health by comprehending the connections between information, attitudes, and practices (Schwartz,1976). According to the KAP model, the Schwartz study was developed to measure nutrition knowledge, attitude, and practice among public health nurses in British

Columbia, Canada. Attitudes are influenced by knowledge, which in turn affects behaviors. As per the approach, improving people's knowledge and cultivating good attitudes towards health behaviors can result in desirable practice improvements, promoting improved health outcomes (Schwartz,1976). The researcher used this model and made a simple modification to measure men's knowledge toward prostate screening tests, the Attitude of men toward uptake screening tests, and men's practice toward prostate screening uptake, in addition, to clarifying the effect of knowledge on attitude and practice, also, the effect of attitude on practice, finally what effects of sociodemographic and family history on knowledge, attitude, and practice among men above 45 years toward prostate screening test, as shown in (Figure 1.1).

Conceptual Framework

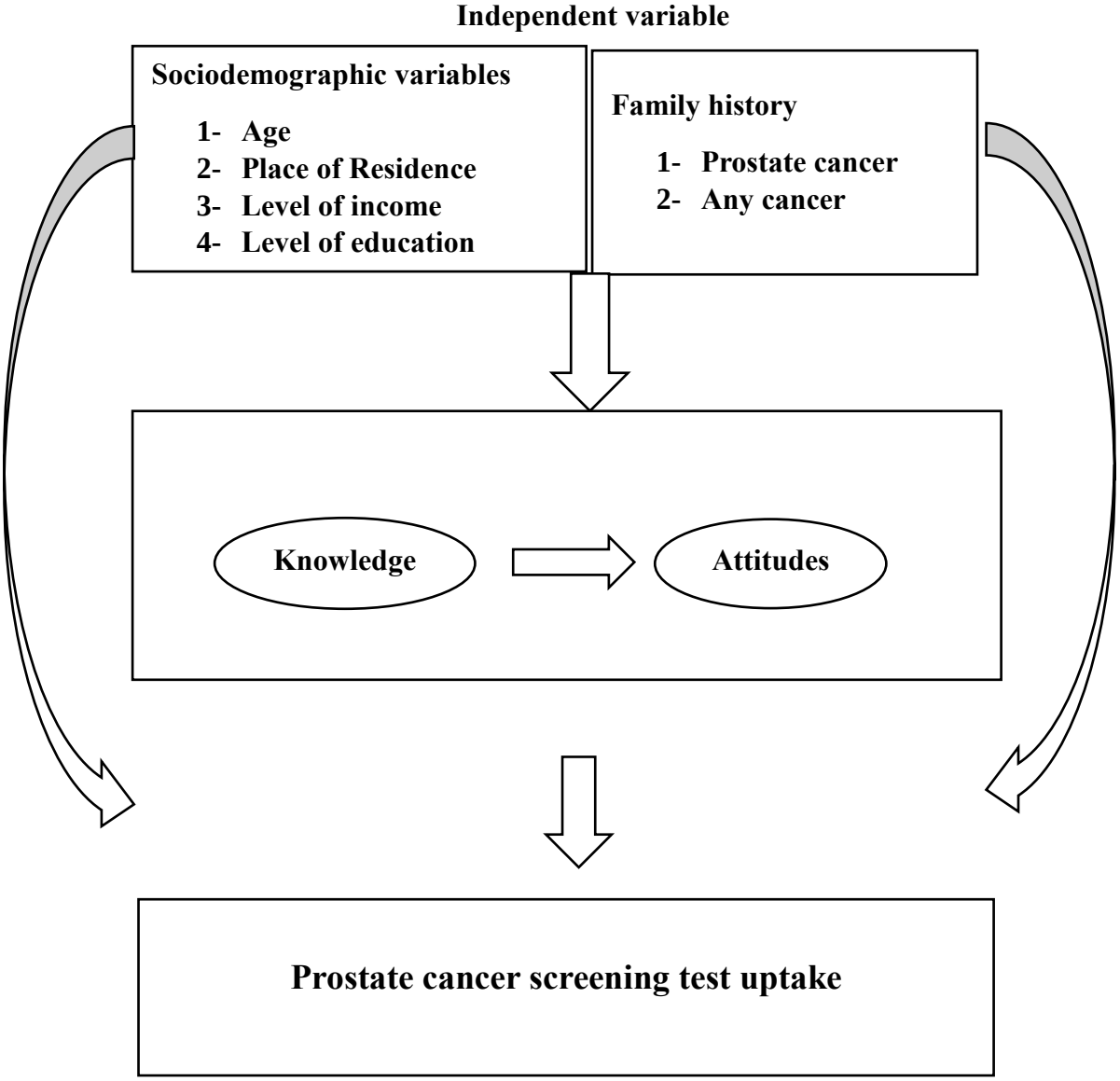


Figure 1: Relationships between sociodemographic variables and family history on knowledge, attitudes, and practices about prostate screening uptake.

Basic components of the Schwartz model

- **Knowledge**: In Schwartz's model, knowledge and awareness of health-related facts, ideas, and processes are referred to as knowledge. Knowledge is necessary for behavior change since people need to know the advantages and disadvantages of certain health behaviors before committing to them (Schwartz, 1976).
- **Attitudes**: These are people's thoughts, feelings, and assessments about particular health-related actions or procedures. As good attitudes are more likely to encourage people to adopt and sustain healthy behaviors, while negative attitudes may operate as obstacles to behavior change, attitudes play a critical role in influencing behavior (Schwartz, 1976).
- **Practices**: Practices, also called behaviors, represent the actual actions and habits that individuals engage in concerning their health (Schwartz, 1976).

2.7 Conclusion

This chapter provided an overview of prostate cancer, including its definition, stages, signs and symptoms, risk factors, and the different types of screening tests. Additionally, it reviewed the gaps and similarities in studies conducted on men's knowledge, attitudes, and practices regarding prostate cancer screening across various regions, including Asia, Africa, and Europe. The theoretical framework for the study was also discussed in this chapter.

Chapter Three

Research Methodology

3.1 Introduction

Research methodology is a section that explains all the research methods that the researcher used to achieve the study's objectives (Creswell, 2018). This chapter presents in detail the study approach and design, study population, study setting, sampling procedures, and ethical considerations that guided the research process. The data collection method and tool, including its reliability and validity, and analysis methods are explained.

3.2 Research Approach

A research methodology is a plan and process that progresses from general hypotheses to specific techniques for gathering, analyzing, and interpreting data (Creswell, 2018). Choosing a research methodology is a very significant choice. This study employed a quantitative approach to evaluate the knowledge, attitudes, and screening practices of adult males over 45 at Beit-Jala Hospital regarding prostate cancer.

3.3 Study Design

This study employed a descriptive cross-sectional survey design. This design is used to examine a specific population at a single point in time, allowing for the assessment of the prevalence and characteristics of a condition (Yao & Mao, 2023). This study design was chosen because it is simple, quick, inexpensive to perform, and it is useful for descriptive purposes. It shows both the determining factors and the outcome at the same time. Also, it is useful in identifying associations between many factors and variables. (Yao & Mao, 2023). The researcher aimed to characterize the knowledge, attitudes, and practices of men above 45 years old regarding prostate cancer screening at Beit-Jala Hospital.

3.4 The study Setting

The study was conducted at Beit-Jala Governmental Hospital, one of the Palestinian hospitals managed by the Palestinian Ministry of Health. Established in 1955 in Beit Jala City, Palestine. The hospital has a capacity of 136 beds and 514 staff to provide medical services. It serves a population of approximately 240,000 and is the only governmental hospital in the Bethlehem district that offers medical services. Beit-Jala Hospital is considered the oncology center for pediatric and adult patients in the West Bank and Gaza Strip. The hospital provides secondary medical services across various specialties, including medical and surgical units, emergency, pediatric, and pediatric oncology departments, gynecology, cardiovascular, Orthopedic units, vascular surgery, outpatient services, operating rooms, dialysis, urology, intensive care, and ENT units.

3.5 Study Population

The target population of this study was men 45 years and above who visited outpatient clinics at Beit-Jala Hospital regardless of their marital status, level of education, or

working experience. The estimated number of male patients above 45 years old who visit the outpatient clinic according to the health information system (HIS) at Beit-Jala Hospital was 2250 men in December 2024.

3.6 Study Sampling and Sample

A sampling is a manageable subset of a population that represents the entire population (Creswell, 2018). It has been noted that no specific number or percentage determines the size of an adequate sample. Studies have shown that larger sample sizes produce more significant and reliable results (Creswell, 2018).

3.6.1 Sample Size

The minimum number of participants needed to examine the study hypothesis was 300 from the Beit-Jala Hospital outpatient clinic. The study sample size was determined following Slovin's formula.

n = sample size of the adjusted population

N = total population size

e = accepted level of error set at 0.054

$$n=\frac{N}{1+N*e2}$$

2250/1+2250

n= 2250/1+2250*0.0029

n= 2250/7.5= 300

3.7 Inclusion and Exclusion Criteria

3.7.1 The Inclusion Criteria

- Male who is 45 years old and above, who visited outpatient clinics at Beit-Jala Hospital, including a medical clinic, surgical clinics, ophthalmic clinics, orthopedic clinics, neurological clinics, cardiovascular clinics, and ENT clinics, irrespective of their working experience, level of education, and marital status.

3.7.2 The Exclusion Criteria

1. Male patients above 45 years old with mental disorders or cognitive problems, rendering them unable to consent. They can't fulfill the questionnaires.
2. Patients diagnosed with cancer. Because they are in the treatment stage, not screening.
3. Patients at the oncology and urology clinic.

3.8 Sampling method

A non-probability convenience sampling technique was employed to select participants from the outpatient clinic population. The participants were approached based on their availability, willingness to participate, and their fulfillment of the inclusion criteria. All patients who visited the outpatient targeted clinics and agreed to participate in the study during December 2024 were included. This approach facilitated easier recruitment and faster data collection. According to the Health Information System at Beit Jala Hospital, the estimated number of men above 45 years who had an outpatient clinic appointment in December 2024 was 2,250.

3.9 Instrument of the study

The instrument in this study was a structured self-administered questionnaire with closed-ended questions (see Appendix B). This instrument was developed after thoroughly reviewing the literature and pre-existing instruments to assess men's knowledge, attitudes, and practices regarding prostate cancer screening. The English version of the structured questionnaire was organized into four sections. Section (A) Sociodemographic information with 12 items (demographic information (4) items, socioeconomic status (3) items, health status (2) items, family history (3) items). Section (B) knowledge regarding prostate cancer with 14 items, including (definition, signs and symptoms, risk factors, and prostate screening test). Section (C) attitude regarding prostate cancer screening with nine items, and Section (D) Screening Practice with three items. Some items were adopted from a study by Maladze (2023) from the public domain on knowledge and attitude toward prostate cancer screening among males in Dzingahe Village, Limpopo Province. The supervisor reviewed the questionnaire to ensure its quality and relevance. The questionnaire had two versions (English and Arabic). The original questionnaire was in English and then translated into Arabic by an English translator, Mr. Abed Al-Rahman Salahat, to distribute to respondents their mother language (See appendix A). The English form is for study purposes. The respondents' knowledge and attitudes levels will be examined and described as (high, moderate, or low), while the practice rate will be measured and described as (good or poor). The knowledge domain comprised 14 main questions and 33 points (*See Appendix B*). Multiple Choice Questions (MCQs) aimed at measuring respondents' knowledge of prostate cancer and the importance of early screening. Each correctly answered question was scored '1' and incorrectly answered question '0'. To facilitate comparison, the knowledge status was divided into *'low'* for those who scored below 12 points, *'moderate'*

for those who scored 12-22 points, and′ *high′* for the respondents who scored above 22 points out of the maximum score of 33**.** To assess the attitudes regarding early prostate cancer screening, the researcher used nine statements on a 5-point Likert scale: strongly agree which scored ‘5’, agree ‘4’, neutral ‘3’, disagree ‘2’, and strongly disagree ‘1’ for all items’ expression of positive attitudes. However, the negative attitude questions were scored as strongly agree '1', agree '2', neutral '3', disagree '4', and strongly disagree '5'. The maximum mean score was ‘5’, and the minimum mean score was ‘1’, each respondent who scored from 1 up to 2.33 was classified as having a low attitude, the participant who scored from 2.34 up to 3.67 was classified as having a moderate attitude, and each participant who scored from 3.68 up to 5 was classified as having a high attitude towards prostate cancer screening test. Prostate cancer screening practices were assessed by calculating frequencies and percentages of those who have had prostate cancer screening done, which method used, and the outcome of the test were quantified and described descriptively.

3.10 Validity and Reliability

3.10.1. The Validity:

Validity is the extent to which an instrument accurately measures what it is supposed to measure (Robison, 2014). The content validity of the questionnaire was established through evaluations by four experts. The researcher discussed the validity questionnaire with the thesis supervisor, who reviewed the questionnaires to assess their relevance and identify any questions that needed revision to align with the study's objectives. Then, it is sent for validation by specialists in the field. Two experts are academic staff at the Palestine Polytechnic University, the third is working at the Palestinian National Institute of Public Health, and the fourth is a urologist doctor at Beit-Jala Hospital (See appendix

C). The questionnaire was written in simple Arabic to ensure clarity and prevent misunderstandings.

3.10.2. The Reliability

Reliability refers to the consistency of results over time. To ensure reliability in this study. Pre-testing is a vital process for assessing the validity and reliability of a research instrument (Babbie, 2016). In the study, a Pre-test was conducted on 20 men from the neighborhood who met the inclusion criteria, though they did not participate in the main study. This pre-test sample was selected because it shared the same characteristics as the main study's target group. Pre-testing helped identify ambiguities, sensitivities, and the overall acceptability of the questions. Additionally, a focus group of five participants was applied to review the questionnaire and provide feedback on any unclear items before distributing it for the pilot study. Cronbach's alpha, a measure of internal consistency, was used to assess the reliability of the instrument. This test checks the degree to which all items in the questionnaire measure the same construct. In this study, Cronbach's alpha was 0.70 for knowledge-related questions and 0.80 for attitude-related questions.

3.11 Data Collection

Before data collection, the researcher obtained formal approval from the Palestinian Ministry of Health and the administration of Beit-Jala Hospital, ensuring compliance and permission to distribute the questionnaires. Ethical approval was also secured from Al-Quds University. The head nurse at the outpatient clinics assisted by guiding the researcher to appropriate clinic locations and excluding certain clinics, such as the urology and oncology clinics, based on study relevance. Data collection was conducted during the researcher's off-duty hours. Upon arrival, the researcher introduced himself to the respondents as a master's student researcher and then provided a brief explanation

of the study's purpose and significance. The Arabic version of the questionnaires was distributed to the participants, with the researcher remaining available to collect the completed forms. Additionally, the researcher was available to clarify any questions, and a psychologist was present at the hospital to provide support if needed. Throughout the process, every effort was made to ensure that participants fully understood their role, with their rights and privacy respected at all times.

3.12 Data Management and Analysis

The collected data were coded and analyzed using the Statistical Package for Social Science (SPSS) version 25.0. All responses in the collected data were complete. Descriptive statistics were used to summarize the data, and the results were presented in frequencies and percentages. Also, several statistical tests were used, such as Chi-square, Pearson correlation, One-way ANOVA test, and t-test, to test the association and effect size, respectively, at a 0.05 level of significance. The analysis was intended to uncover whether there are effects of the demographic variables (age, monthly income, level of education, place of residence, and family history) on both the level of knowledge and attitudes, in addition, to uncovering the effects of the demographic variable (age, monthly income, Level of education, family history) on the percentage of screening uptakes.

3.13 Ethical Considerations

Ethical approval was obtained from Al-Quds University (Research Ethics Committee). In addition, the researcher also received permission to conduct the study from the Palestinian Ministry of Health, including the Beit-Jala Hospital administration. The participants were provided with an information sheet about the study that provided a detailed explanation of the purpose of the study and the procedures followed. Their participation was voluntary, and the participants were informed that they had the right to

refuse to participate in the study, and they could withdraw from the study whenever they felt they did not want to continue. The researcher made it clear to participants that their information would be kept confidential, and they would be assured that data from this study would be used for study purposes only. In addition, the researcher explained that there is no effect on receiving health care services due to their participation in this study. A Consent form was obtained verbally from each participant before responding to the questionnaire. Participants were asked to thoroughly read the consent form, which clarified their rights as study participants. The participants were also informed that submitting the questionnaire was considered consent for participation. In addition, the participants were informed that the researcher had collaborated with a mental health specialist at Beit Jala Hospital, whom they could refer to in case they experienced stress or anxiety as a result of their participation in the study. The specialist was ready to provide debriefing and psychological support for participants when needed.

Chapter Four

Findings of the Study

4.1 Introduction

This chapter presents the findings from the data collected through questionnaires completed by male patients over 45 years old at outpatient clinics in Beit-Jala Hospital. Three hundred participants (n=300) responded, and the results are organized in tables according to the study objectives. The chapter begins with an analysis of the participants' sociodemographic characteristics, followed by findings related to the study objectives and interpretation of the results.

4.2 Sociodemographic Characteristics of the Participants

The study sample consisted of 300 male participants aged 45 years and above. The largest group of participants was aged between 45 and 54, making up 50.7% of the sample. The next largest group was 55-64, with 30.0%. A smaller proportion (16.0%) were aged between 65 and 74, and just 3.3% of participants were over 74 years. Regarding religion, the sample was predominantly Muslim, with 96.3% of the respondents identifying as Muslim and a small minority, 3.7%, identified as Christian. The majority of participants

were married, comprising 83.0% of the participants. While the rest were divorced (4.3%), widowed (8.3%), single (3.7%), and separated (0.7%). For employment status, 31.0% of the participants reported being unemployed. The remaining participants were employed in different sectors: 25.0% worked as government employees, 17.7% were private sector employees, and 26.3% were freelancers. Regarding monthly income, the largest group earned less than 2000 Israel shekels (ILS), accounting for 33.7% of the participants. The same percentage of participants, 33.7%, earned between 2000-2999 ILS, while 26.3% earned between 3000-4000 ILS. Only 6.3% of the respondents earned above 4000 ILS. The participants' educational backgrounds varied, with 27.0% holding a university degree, 26.3% having a diploma, 25.0% completing secondary education, 11.7% having elementary education, and 10.0% of participants were illiterate. In terms of health status, 46.0% of the participants reported being in good health, followed by 36.0% in intermediate health, 11.0% in bad health, and 7.0% in excellent health. The place of residence showed that 47.7% of the participants lived in cities, 43.7% in villages, and 8.7% in camps. Regarding health problems, 30.7% of the participants reported having health issues, while the remaining 69.3% had no health problems. Among those reporting health problems, 19.3% mentioned chronic diseases, 5.3% had issues related to rheumatism and bone-related issues, 1.0% reported vision and hearing problems, and 3.3% had other health issues. In terms of a family history of prostate cancer, only 12.0% of participants had a family history of prostate cancer, while the vast majority, 88.0%, did not. As for a family history of any cancer, 46.3% of participants reported a family history of cancer, while 53.7% did not. Finally, regarding previous prostate problems, 91.3% of participants had never experienced prostate-related issues, while 8.7% reported having had such problems in the past, as shown in the table (1).

***Table 1A*: Socio-demographic characteristics of the study participants (n=300)**

Variable	Category	Frequency	Percentage (%)
Age			
	Between 45-55 years	152	50.7
	Between 56-64 years	90	30.0
	Between 65-74 years	48	16.0
	More than 74 years	10	3.3
Religion			
	Islam	289	96.3
	Christianity	11	3.7
Marital status			
	Married	249	83.0
	Widow	25	8.3
	Divorced	13	4.3
	Single	11	3.7
	Separated	2	0.7
Type of work			
	Governmental employee	75	25.0
	Don't work	93	31.0
	Freelancer	79	26.3
	Private employee	53	17.7
Monthly Income	Less than 2000 ILS	101	33.7
	2000-2999 ILS	101	33.7
	3000-3999 ILS	79	26.3
	Above 4000 ILS	19	6.3
Level of Education	University	81	27.0
	Diploma	79	26.3
	Secondary	75	25.0
	Elementary	35	11.7
	Illiterate	30	10.0

***Table 2B*: Socio-demographic characteristics of the study participants (n=300)**

Variable	Category	Frequency	Percentage
Health Status			
	Good	138	46.0
	Intermediate	108	36.0
	Bad	33	11.0
	Excellent	21	7.0
Place of Residence	City	143	47.7
	Village	131	43.7
	Camp	26	8.7
Any Health Problem	No	208	69.3
	Yes	92	30.7
Type of Health Problem	Chronic disease	58	66.6
	Rheumatism and bone	16	18.3
	Others	10	11.4
	Vision and hearing	3	3.7
Family history of prostate cancer	No	264	88.0
	Yes	36	12.0
Family history of any cancer	No	161	53.7
	Yes	139	46.3
Any prostate problems	No	274	91.3
	Yes	26	8.7

4.3: Participants' level of knowledge about screening test

The majority of participants, 219 (73%), have a moderate level of knowledge about prostate cancer screening tests. In comparison, 60 participants (20%) exhibit a high level of knowledge of prostate cancer screening tests, while only a small portion, 21 participants (7%), have a low level of knowledge regarding these tests. As shown in Table2.

Table 3: Level of knowledge among participants about prostate cancer

Level of knowledge	Frequency	Percent%
Low level of knowledge (scored less than 12 points)	21	7%
Moderate level of knowledge (scored between 12-22 points)	219	73%
High level of knowledge (scored more than 22 points)	60	20%
Total	300	100%

4.4 The Relationship Between knowledge and Socio-demographic Variables

To explore the differences among the participants, the results present the descriptive statistics for the knowledge variable across different educational levels. The "university" group has the highest mean score of 20.68 with a standard deviation of 4.37, followed by the "elementary" group with a mean of 18.51 and a standard deviation of 5.23. The "illiteracy" group has a mean of 18.37 with a standard deviation of 4.41, while the "diploma" group has a mean of 18.01 and a standard deviation of 3.92. The "secondary" group has the lowest mean score of 17.57 with a standard deviation of 4.74. These results indicate varying levels of knowledge based on educational attainment, with the highest

mean observed in the university group and the lowest in the secondary group. The results showed significant differences in the level of knowledge among the participants depending on their level of education (F-value=5.69), P value =0.001. The Tukey test was used. The Tukey HSD test results for multiple comparisons of the knowledge-dependent variable show significant differences between some education levels. Specifically, there were significant mean differences between "university" and "diploma" (2.67* and 3.11*) and between "diploma" and "secondary" (-2.67*). However, there were no significant differences between "university" and "secondary" (2.16), "university" and "elementary" (2.31), "secondary" and "elementary" (-2.16), or between "diploma" and "illiteracy" (-2.31), "secondary" and "illiteracy" (0.35), and "elementary" and "illiteracy" (0.79). The asterisk (*) indicates significant mean differences at the 0.05 level (Tukey table in Appendix F). Regarding participants' income levels, the results of the Tukey HSD test for multiple comparisons on the knowledge variable based on income levels show significant mean differences between certain groups. Specifically, individuals earning "less than 2000" have significantly lower knowledge scores compared to those earning "2000-2999" (mean difference = -1.75*), "3000-3999" (mean difference = -1.91*), and "4000 and more" (mean difference = -5.01*). Those earning "2000-2999" also show a significant difference compared to the "less than 2000" group (mean difference = 1.75*), but no significant difference with other income groups. Similarly, individuals earning "3000-3999" exhibit a significant difference compared to the "less than 2000" group (mean difference = 1.91*) but no significant difference with the "2000-2999" group. The "4000 and more" income group has significantly higher knowledge scores compared to all other income groups, with mean differences of 5.01* to 3.10*. The asterisks (*)

indicate that the mean differences are statistically significant at the 0.05 level. (F-value=8.05) P value is >0.000 (Tukey tables in appendix F).

However, the Tukey HSD test for multiple comparisons on the knowledge variable based on residence location reveals significant differences between certain groups. Specifically, individuals residing in the "city" have significantly lower knowledge scores compared to those living in the "village" (mean difference = -1.84*) but no significant difference when compared to those in the "camp" (mean difference = -0.77). Those in the "village" show a significant difference with the "city" (mean difference = 1.84*) but no significant difference when compared to the "camp" (mean difference = 1.07). Lastly, individuals in the "camp" have no significant difference in knowledge scores compared to those in the "city" or "village." The asterisks (*) indicate that the mean differences are statistically significant at 0.05 (See a Tukey table in Appendix F).

Residence location shows that individuals residing in the "city" have a mean score of 17.85 with a standard deviation of 3.75. while the "village" had a higher mean score of 19.69 with a standard deviation of 4.94, and Residents of the "camp" had a mean score of 18.62 with a standard deviation of 6.13. The overall mean score for all participants is 18.72, with a standard deviation of 4.60. These results suggest that individuals in the village tend to have higher knowledge scores on average compared to those in the city or camp. The result shows significant differences in knowledge among the participants regarding place of residence, F value 5.04 (P-value=0.004<0.05). On the other hand, the results showed no significant differences in the level of knowledge between the participants regarding age and family history (P-value=0.053>0.05) as shown in Table 3.

Table 4: The difference in knowledge among participants regarding variables (One-way ANOVA, t-test).

Variable	Level of knowledge					Significance
	Number	Mean	St deviation	DF	F \ T	P-value
Level of education						
University	81	20.68	4.37	4	F 5.69	>0.001
Diploma	79	18.01	3.92			
Secondary	75	17.57	4.74			
Primary	35	18.51	5.23			
Illiterate	30	18.37	4.41			
Level of Income						
Less than 2000	101	17.31	4.81	3	F 8.05	>0.001
2000-2999	101	19.06	4.97			
3000-3999	79	19.22	3.31			
4000 and more	19	22.32	3.46			
Place of Resident						
City	143	17.85	3.75	2	F 5.04	>0.004
Village	131	19.69	4.94			
Camp	26	18.62	6.13			
Family history						
Yes	36	18.92	2.95	289	T 0.39	>0.69
No	264	18.69	1.79			
Age						
45-54	152	19.07	4.09	3	F 5.64	>0.053
55-64	90	18.96	5.04			
65-74	48	17.04	4.05			
75 and more	10	18.70	8.23			

4.5 Level of Participants' Attitudes Regarding Prostate Screening Test

The majority of the respondents (74%) exhibited a moderate level of attitude toward the prostate cancer screening test, and about 26% showed a high level of attitude toward the prostate cancer screening test; none of the participants had a low level of attitude. The total number of respondents is 300, making the overall percentage 100%. As shown in Table 4.

Table 5: The level of attitude toward prostate cancer screening test

Level of attitude	Frequency	Percent
Moderate	223	74.3%
High	77	25.7%
Total	300	100.0

The mean and standard deviations for attitude-related questions regarding prostate cancer screening among 300 male participants. Overall, participants showed a positive attitude toward screening, with high agreement on the necessity of prostate screening for men over 45, and the belief that early consultation for urinary symptoms is important. There was also strong agreement that prostate screening tests improve clinical outcomes, and that lack of awareness is a barrier to screening. In contrast, lower mean scores were observed for items related to barriers, such as financial constraints, embarrassment, and fear of results, as shown in Table 5.

Table 6: Mean and Standard Deviations of Attitude Questions Among Men about Prostate Cancer Screening.

Statement	N	Mean	Std. Deviation
C.1 Do you agree that all men above 45 years old need to undergo prostate screening tests?	300	4.42	0.72
C.2 Do you agree that financial constraints are one of the reasons preventing undergoing PSA tests?	300	2.07	0.95
C.3 Do you agree there is a need for a test if there are no symptoms?	300	4.01	0.95
C.4 Do you think the embarrassment from the procedure prevents you from undergoing the screening tests?	300	2.10	1.07
C.5 Do you have a willingness to receive prostate cancer screening tests?	300	4.21	0.74
C.6 Are you afraid of the result that prevents you from undergoing screening tests?	300	2.16	1.03
C.7 Do you think the prostate screening test improves clinical outcomes?	300	4.34	0.62
C.8 Do you think the early consultation with a doctor for urinary symptoms is helpful and important?	300	4.41	0.67
C.9 Do you agree with the lack of awareness among men that prevents them from undergoing prostate cancer screening tests?	300	4.37	0.73

4.6 The Relationship Between Attitude and Socio-demographic Variables

The results of the Tukey HSD test for multiple comparisons on the attitude variable show significant differences between certain educational levels. Specifically, individuals with a "diploma" have a significantly lower attitude score compared to those with "elementary" education (mean difference = -0.28*). Additionally, individuals with "elementary" education show a significantly higher attitude score compared to those with "diploma" (mean difference = 0.28*). No significant differences were found between other education groups, including "university," "secondary," and "illiteracy.". (Tukey table in appendix F). The descriptive statistics for the attitude variable based on educational levels show that individuals with a "university" education have a mean attitude score of 2.29 with a standard deviation of 0.46. Those with a "diploma" have a mean score of 2.15 and a standard deviation of 0.36. Individuals with "secondary" education have a mean of 2.28 with a standard deviation of 0.45, while those with "elementary" education have the highest mean score of 2.4286 with a standard deviation of 0.50. The "illiteracy" group has a mean score of 2.17 with a standard deviation of 0.38. The overall mean score for all participants is 2.26, with a standard deviation of 0.44. These results suggest that individuals with elementary education tend to have the highest attitude scores on average, while those with a diploma have the lowest. The results show an association between attitudes among the participants and the level of education. (P-value=0.016<0.05). The results show no significant differences in the participants' attitudes regarding income (P-value=0.831>0.05). In addition, the results show no significant differences in the participants' attitudes regarding their place of residence. (P-value=0.082>0.05). However, the results show no significant differences in the attitude among the participants regarding family history (prostate and any kind of cancer). The

results show there are no significant differences in the attitude among the participants regarding age, as shown in Table 6.

Table 7: Differences in the attitude among the participants regarding demographic variables about prostate cancer (One-way ANOVA test and t-test).

Variable	Level of attitude					
	Number	Mean	St deviation	DF	F\T value	P-value
Level of education						
University	81	2.30	0.46	4	F 3.10	>0.016
Diploma	79	2.15	0.36			
Secondary	75	2.28	0.45			
Primary	35	2.43	0.50			
Illiterate	30	2.17	0.38			
Level of income						
Less than 2000	101	2.26	0.44	3	F 0.29	>0.831
2000-2999	101	2.22	0.42			
3000-3999	79	2.26	0.44			
4000 and more	19	2.31	0.47			
Place of Residence						
City	143	2.20	0.40	2	F 2.25	>0.082
Village	131	2.32	0.46			
Camp	26	2.19	0.40			
Family history						
Yes	36	2.39	0.49	298	T 1.73	>0.090
No	264	2.24	0.43			
Age						
45-54	152	2.24	0.43	3	F 0.30	>0.823
55-64	90	2.28	0.45			
65-74	48	2.22	0.42			
75 and more	10	2.30	0.48			

4.7: The Rate of Prostate Cancer Screening Uptake

The majority of the respondents (about 86%) have not participated in prostate cancer screening, while a small proportion (about 14%) have undergone the screening. The total number of respondents is 300, as shown in Table 7

Table 8: The rate of prostate cancer screening uptake at Beit-Jala Hospital

Prostate cancer screening uptake	Frequency	Percent%
Yes	43	14.3
No	257	85.7
Total	300	100

The most commonly initial procedures participants underwent are prostate-specific antigen (PSA) and prostate ultrasound, with 41% for each test, while digital rectal examination (DRE) was 32.6%. Many of the participants underwent two or more procedures. The results of prostate cancer screening tests among men above 45 years old at Beit-Jala Hospital, Positive cases were 19 out of the 43 respondents (representing 41.3%), while negative (12) individuals (or 26.1%). Don't know: Another 12 individuals (26.1%) were uncertain about their test results.

4.8 The relationship between screening uptake and sociodemographic variables

The results showed there is no statistical significance between the level of education and prostate cancer screening test uptake (P-value 0.161>0.05). in addition, the results showed there is no statistical significance between age and prostate cancer screening test uptake (P-value 0.123>0.05).

Hypothesis 4: There is a Positive relationship between elderly patients and prostate screening uptake. The hypothesis was rejected. There is no statistical significance between the level of income and prostate cancer screening test uptake. (p-value= 0.085>0.05).

Hypothesis 5: Higher socioeconomic status is associated with higher prostate screening test uptake; the hypothesis was rejected. There is a significant relationship between family history (prostate cancer and any cancer) and prostate cancer screening test uptake. (P-value 0.001<0.05). A family history of prostate cancer is the only variable that shows a significant association with prostate cancer screening uptake. On the other hand, the level of education, income, and age do not show a statistically significant relationship with screening behavior. This result suggests that individuals' family history is a critical determinant of screening behavior, while other demographic factors (education, income, and age) may not be strong predictors in this study, as shown in Table 8.

Table 9: Association between demographic variables and the prostate cancer screening uptake (Chi-square test).

Variable	Screening uptake			Significance
	Yes (%)	No (%)	Total (%)	P-value
Level of education	Chi= 6.56	DF=4		
University	15 (5%)	66 (22%)	81 (27%)	>0.161
Diploma	15 (5%)	64 (21.3%)	79 (26.3)	
Secondary	8 (2.7%)	67 (22.3%)	75 (25%)	
Primary	4 (1.3%)	29 (9.7%)	35 (11.7%)	
Illiterate	1 (0.3%)	29 (9.7%)	30 (10%)	
Level of income	Chi= 6.61	DF=3		
Less than 2000	9 (3%)	92 (30.7)	101 (33.7%)	>0.085
2000-2999	13 (4.3%)	88 (29.3)	101 (33.7%)	
3000-3999	17 (5.7%)	62 (20.7%)	79 (26.3)	
4000 and more	4 (1.3)	15 (5%)	19 (6.3%)	
Family history	Chi=36.03	DF=1		
Yes	17 (5.7%)	26(8.7%)	43 (14.3%0	>0.000
No	19 (6.3%)	238 (79.3%)	257 (85.7%)	
Age	Chi= 5.78	DF=3		
45-54	19 (6.3%)	133 (44.3%)	152 (50.7%)	>0.123
55-64	13 (4.3%)	77 (25.7%)	90 (30%)	
65-74	7 (2.3%)	41 (13.7%)	48 (16%)	
75 and more	4 (1.3%)	6 (2%)	10 (3.3%)	

4.9 To assess the relationship between knowledge, attitudes, and practice

The results show a significant positive Pearson correlation between knowledge and attitude toward prostate cancer screening. The correlation coefficient is 0.196, which indicates a weak positive relationship between the two variables. The p-value is 0.001, which is less than the typical significance level of 0.05, suggesting that the correlation is statistically significant. Therefore, as knowledge increases, attitudes toward prostate cancer screening tend to become more positive. While there is a significant negative Pearson correlation between knowledge and practice of the screening test. The correlation coefficient is -0.147, indicating a weak negative relationship between the two variables. The p-value is 0.011, which is less than the typical significance level of 0.05, suggesting that the correlation is statistically significant. This implies that as knowledge about the screening test increases, and the practice of the screening test decreases, although the relationship is weak, as shown in Table 9.

Hypothesis 6.1: A higher level of knowledge among men about prostate cancer is associated with higher men's attitudes was accepted

Hypothesis 6.2: A higher level of knowledge among men about prostate cancer screening is associated with increased male screening uptake was rejected.

Table 10: The relationship between the knowledge toward attitude and practice uptake.

Variables	N	Pearson correlation	p-value
Knowledge * attitude toward prostate cancer screening test	300	**0.196	0.001
Knowledge * practice screening test	300	*-0.147	0.011

4.10 The Relationship between attitude and practice uptake

The results show a very weak negative Pearson correlation between attitude and prostate screening uptake, with a correlation coefficient of -0.043. The p-value is 0.461, greater than the typical significance level of 0.05, indicating that the correlation is not statistically significant. Therefore, no meaningful relationship between attitude and prostate screening uptake in this sample, as shown in Table 10.

Hypothesis 6.3: A higher level of attitude between men about prostate cancer screening tests is associated with high male screening test uptakes was rejected

Table 11: The relationship between attitude and prostate screening test uptake

Variables	N	Pearson correlation	p-value
attitude * prostate screening uptake	300	-0.043	0.461

4.11 Conclusion

This chapter presents the study findings with data analyzed using SPSS version 25 and displayed in tables organized according to the study's objectives. The results indicated that 7% of men had a low level of knowledge about prostate cancer screening, while 73% had a moderate level and 20% showed a high level. Regarding attitudes, the majority of men, 74%, exhibited a moderate attitude toward prostate cancer screening, while 26% had a positive or high attitude. In terms of practice, only 14% of participants had undergone prostate cancer screening, leaving 86% who had not yet been screened.

Chapter Five

Discussion

5.1 Introduction

This chapter interprets the study's findings. The discussion is organized around the study's objectives, contextualizing them within a broader theoretical and public health framework.

5.2: Socio-demographic Information of Respondents

The socio-demographic characteristics of the study participants reflect key aspects of the Palestinian community, particularly in the Bethlehem region. A notable majority of participants are between the ages of 45-54, consistent with Palestine's younger demographic profile. most were Muslim participants (96.3%) is consistent with the demographic composition of the region (PCBS, 2017). However, the small percentage of Christian participants (3.7%) reflects the religious diversity within the Palestinian community (PCBS, 2017). Marital status data show that 83% of participants are married, reflecting the strong cultural emphasis on family structure within Palestinian society. Marriage and family remain central to social life; they can influence health behaviors and

access to care (PCBS, 2017). The participants also live in either urban (47.7%) or rural (43.7%) areas, with only 8.7% residing in refugee camps. The geographic Palestinian population is distributed across urban, rural, and camp. Urban residents typically have better access to healthcare services and infrastructure compared to those living in rural areas or refugee camps, where healthcare facilities may be more limited or difficult to reach. In rural areas, people often depend on primary healthcare centers or may need to travel to cities for more specialized care. Meanwhile, individuals residing in refugee camps may experience additional challenges due to overcrowding, poor infrastructure, and sometimes limited healthcare services provided by humanitarian organizations (Jabali *et al*,2025). The educational level of the participants is diverse; only 27% have university degrees, while a considerable proportion (10%) are illiterate. Lower education levels in parts of the population may limit awareness of prostate health and early detection methods, reinforcing the importance of community-based health education (Ojewola, R, et al., 2017). The income distribution shows that a significant proportion of participants (67.4%) earn less than 3000 ILS per month, reflecting the existing economic challenges many Palestinians face (Palestinian Center Bureau of Statistics [PCBS], 202**3**). Financial constraints may limit access to quality healthcare, particularly specialized services like cancer screening. Around 31% of participants are unemployed, and 69% are employed. This reflects the poverty among the population that increased through the war in the Gaza Strip and the West Bank. The statistics showed more than 35% unemployment in the West Bank and 80% in the Gaza Strip (Palestinian Center Bureau of Statistics [PCBS], 202**3**). This highlights the need for government-supported healthcare programs, especially for older adults and those with lower incomes. The data also reveals that 12% of participants have a family history of prostate cancer, which is a significant risk factor for the disease. Additionally, 46.3% report a family history of any

cancer, further emphasizing the potential genetic and environmental factors that contribute to cancer risk in the Palestinian population. These findings suggest that public health initiatives should prioritize cancer screening and prevention programs, particularly for high risk group

5.3 To assess the level of knowledge among men above 45 years of age regarding prostate screening tests at Beit-Jala Hospital.

The current study provides evidence that the majority of respondents had moderate knowledge (73%) about prostate cancer, while the minority had a low level (7%). A total of 86% of participants reported having heard about prostate cancer, with the two primary sources of information being doctors (32%) and family and friends (24%). Reflecting the importance of personal network and professional guidance. On the other hand, 14% of participants had not heard about it. Pointing to information gaps possibly related to limited outreach and education disparities. Similar findings were observed in a study conducted in schools in Naples, in southern Italy, where around 72% of participants had heard about prostate cancer. This could be attributed to the fact that the study was conducted in schools, and the participants had a higher level of education (Morlando et al., 2017). In contrast, another study conducted in Nigeria showed more than half of the participants (53%) had inadequate knowledge, and 47% of participants had adequate knowledge about prostate cancer due to a lack of access and the absence of campaigns regarding prostate cancer (Ojewola et al., 2017).

The level of awareness among male participants revealed that 76% were aware of what the prostate gland is. However, the majority (64%) incorrectly identified the nature of prostate cancer, believing it to be a condition affecting the urinary tract system rather

than the prostate gland itself. Approximately half of the participants correctly identified old age (51%) and family history (44%) as major risk factors for prostate cancer. In contrast, a majority of respondents did not consider smoking (64%) or a high-fat diet (86%) as significant risk factors. The results suggest that while participants were generally well-informed about the early signs of prostate cancer, there was a noticeable decline in awareness regarding late-stage symptoms. The high percentages of correct identification of early-stage symptoms, such as painful urination (96%) and frequent urination (48%), demonstrate a strong understanding of initial indicators. Similarly, the unrelated symptoms, such as a runny nose (96%) and headache (90%), further support the participants' overall knowledge. However, the awareness of late-stage symptoms was significantly lower, with only 14% recognizing loss of appetite and 20% identifying weight loss as late-stage indicators. Although there was a moderate level of awareness about symptoms like blood in the urine (60%) and pain during urination (40%), the lower percentages reflect a knowledge gap. Interestingly, 22% of participants associated frequent urination with late-stage cancer, which could indicate some confusion about symptom progression. The high exclusion rates of unrelated symptoms, such as fever (88%) and headaches (95%), suggest that participants could differentiate between cancer-related and non-cancer-related signs. So, there is still a need for improved awareness of advanced-stage symptoms. Further education and awareness campaigns could help bridge the knowledge gap regarding the later stages of prostate cancer, improving early detection and understanding of disease progression. A similar study conducted in Saudi Arabia, Egypt, and Jordan found that participants had a low level of knowledge regarding prostate cancer (Arafa et al., 2012). That might be one of the reasons why men are diagnosed with metastatic cancer, in addition, the majority of participants were in secondary school and a small proportion had university or diploma that may reflect their

level of knowledge, and this shows how necessary it is for strategies to be put into place to increase awareness among men and increase the early detection of cancer. The findings regarding knowledge of prostate cancer screening tests indicate that 40% to 42% of participants know that PSA (Prostate-Specific Antigen) and DRE (Digital Rectal Exam) are used for prostate cancer screening. The awareness is relatively moderate but suggests the need for improvement in education and outreach. Similarly, a study conducted in Southwest Nigeria reported that around 30% of the community was aware of prostate cancer screening tests (Ojewola et al., 2017). In the present study, 60% of participants believed that prostate cancer is treatable, while 40% thought there was no treatment available for the disease. These beliefs about treatment availability are likely related to misconceptions or a lack of information among participants about cancer stages and treatment. Additionally, the majority of participants (78%) agreed that early detection of prostate cancer can reduce disease complications, and about 74% stated that early detection decreases the mortality rate among men. These findings are consistent with a study conducted in Saudi Arabia, where 91.8% of participants were aware that early diagnosis aids in treatment, and 81.1% recognized that early detection leads to better treatment outcomes (Elmaghraby et al., 2023).

Less than half of the participants correctly answered that avoiding smoking and engaging in regular exercise could decrease the complications of prostate cancer. In contrast, more than half recognized that regular screening, reducing obesity, and lowering red meat consumption could help reduce the complications of the disease. This indicates a disparity in the understanding of lifestyle-related preventive measures, which is significant since modifiable risk factors play a crucial role in reducing the burden of many cancers, including prostate cancer Additionally, 60% of participants correctly identified the target age group for prostate cancer screenings as over 45 years old, while

40% believed it was for individuals younger than 45. Overall, the majority of participants demonstrated a moderate level of knowledge about prostate cancer and the importance of screening tests. This highlights the need to enhance public awareness and education. To improve knowledge levels, it is important to implement targeted programs, leverage social media, organize awareness campaigns, and develop policies that emphasize the significance of prostate cancer screenings at the Palestinian Ministry of Health.

5.4 Describe men's attitudes above 45 years toward prostate screening tests at Beit-Jala Hospital

The study revealed that the majority of respondents (74%) exhibited a moderate attitude toward prostate cancer screening, while approximately 26% displayed a highly positive attitude. These findings align with a study conducted in the Oshana region in Namibia, where 86% of respondents demonstrated a positive attitude toward prostate screening. It is important to note that the target group in the Oshana study consisted of individuals aged 18 and above, which may have influenced their attitudes, and because of the increasing mortality rate among men in Namibia, which focused more on the importance of prostate screening tests (Nakwafila, 2017). A key finding in this study was the overall awareness among participants, as evidenced by their strong agreement that all men over 45 should undergo a PSA prostate screening test, with a high mean score of 4.42 and a standard deviation of 0.72. This indicates that most respondents recognized the significance of regular screening for this target. Additionally, participants' willingness to undergo prostate cancer screening was reflected in a mean score of 4.21 (SD = 0.74), suggesting a strong inclination among participants to pursue the necessary tests. Furthermore, the participants believed the prostate cancer screening tests could improve clinical outcomes, with a mean score of 4.34 (SD = 0.62). Additionally, the majority of respondents scored highly on the importance of seeking early consultations for urinary

symptoms, with a mean score of 4.41 (SD = 0.67). Collectively, these findings underscore the participants' recognition of the value of early detection and their overall willingness to pursue screening measures. In contrast, a study conducted in South Africa showed that 87.4% expressed uncertainty about the effectiveness of PC treatments due to the absence of screening, cultural believes, embarrassment, and the patient visit physician in late stage of disease, so they didn't get benefit and decrease the trust in treatment (Maladze et al., 2023). Despite the overall positive attitude toward screening, several notable barriers prevent individuals from undergoing these tests. One of the questions was about the financial constraints that deter men from taking prostate-specific antigen (PSA) tests, which received a low mean score of 2.01 (SD = 0.95). This suggests that for most respondents' financial factors are one of the main causes that prevent them from undergoing screening tests may be due to bad economic conditions and the high percentage of poverty in Palestine, similar study results were in Rumuodor (Obalga) and Kula Kingdom (Akulga) in rivers state in Niger was Financial constraints further discourage them from seeking screening, and illiteracy is another factor that inhibits access to prostate cancer screening for many adult males (Amachree et al., 2023). However, other psychological and emotional barriers appear more influential. For instance, the participants were asked if embarrassment related to the procedure prevented them from undergoing screening, which yielded a mean score of 2.10, its mean agreed with a negative attitude question with (SD = 1.07). While this suggests embarrassment is not a major factor for many, it still represents a moderate concern for some. Related to society's culture, values, and habits, especially regarding the DRE procedure, Similarly, fear of test results emerged as a barrier, with questions afraid of the result that prevents you from undergoing screening tests having a mean score of 2.16 its mean agreed as a negative attitude question with (SD = 1.03). In another study was prostate cancer

screening was shown to be hampered to African American men by their humiliation, particularly when it came to using the DRE technique. Because most men find this screening method embarrassing, they don't participate in prostate cancer screening, fear of disease, and the anxiety (Catalonia, 2018). Another major finding is the recognition of a lack of awareness among men regarding prostate cancer screening. Revealed a mean score of 4.37 (SD = 0.73), indicating that many participants agree that insufficient knowledge of prostate cancer and its screening procedures remains a major barrier, similar results in a study conducted in Dar Salam showed Low use of screening services were linked to younger age, low perceived risk of prostate cancer, poor income, and little awareness of the illness (Bugoye et al.,2019). Finally, the need for screening without symptoms, which inquired whether participants agreed with the need for testing even in the absence of symptoms, had a mean score of 4.01 (SD = 0.95). This reflects that a significant portion of respondents believe that screening should not be symptom-dependent, indicating an understanding of the importance of early detection even when no apparent symptoms are present.

5.5 To measure the practice of men above 45 years toward prostate screening tests at Beit-Jala Hospital

In this study, the majority of respondents had heard about prostate cancer (86%). Moreover, the participants had a positive attitude toward willingness to undergo screening, with a high score of 4.43. But in the study, a minority of participants had undergone prostate cancer screening tests (14%) out of all participants (300). The findings from this study indicate a significant gap between awareness of prostate cancer and actual participation in screening tests; it results are similar to a study conducted in Saudi Arabia (Elmaghraby et al., 2023). This may relate to a lack of national screening guidelines or policies that mandate routine prostate cancer screenings for men over a

certain age. Without these policies in place, prostate cancer screening largely relies on individuals to seek out testing rather than being part of regular health check-ups. This could explain why despite high awareness levels, so few people are being screened. Similar studies were conducted in Saudi Arabia, and only 8.1% of participants reported being screened (Elmaghraby et al., 2023). And in Zambia, the number of participants who underwent screening was 13% (Gift et al., 2020). in contrast, the study conducted at schools in Naples, in the south of Italy showed around 30% of participants took the PSA test, which may refer to the participants at school being more educated and more knowledgeable about prostate cancer, in addition, the physicians in a developed country can refer a patient for screening, while many barriers are available to prevent men for undergo screening test are financial condition, embarrassment due to the culture, lack of knowledge about screening tests, and the main cause that reduced the percentage of screening uptake is the absence of screening program for prostate cancer at Palestinian ministry of health, in addition, the developing country still have lack of policies and strategies to refer and direct men over 45 years to take the test, So, we should enhance the knowledge and the awareness of the importance of prostate cancer screening test among men, and provide the accessibility, material, and human resources, to encourage men to undergoing for screening test.

5.6: Relationship between knowledge, attitude, and practice regarding prostate cancer screening test

The current study findings exposed that the level of education, income, and place of residence had influenced the level of knowledge positively among respondents, with an increased level of education, the individuals have higher access to scientific literature, online resources, and the benefits of screening test therefore they have high knowledge level, in addition, the higher income individuals tend to increase their health knowledge

about disease to enjoyable a good health. Also, a high monthly income will remove financial and accessibility barriers (Ogunsanya, 2014). While, family history and age did not influence their level of knowledge, on the other hand, the study revealed findings that level of education is only variable influenced on their level of attitude, this finding is supported by conducted study among Nigerian men which found a significant correlation between educational level and knowledge, and attitude toward prostate cancer (Ojewalo et al., 2017). Furthermore, the study found there is no significant difference between the level of income, place of residence, age, family history, with a level of attitude. The participants who had higher education and more income had more knowledge and a positive attitude toward prostate cancer screening tests. This fact may refer to the participants had more awareness about the importance of screening and their ability to undergo screening. However, all the participants had governmental health insurance that may help them to undergo to screening but the absence of Protocols and Policies regarding prostate cancer screening tests considered one of the main barriers that prevent them to undergo to it. In summary, results show a significant positive Pearson correlation between knowledge and attitude toward prostate cancer screening. The correlation coefficient is 0.196, which indicates a weak positive relationship between the two variables. The p-value is 0.001, which is less than the typical significance level of 0.05, suggesting that the correlation is statistically significant. Therefore, as knowledge increases, attitudes toward prostate cancer screening tend to become more positive.

There is a positive association between the level of education and practice, with no significant p-value >0.161. Respondents with higher education had undergone screening more than others. The only variable that influenced practice was family history regarding prostate cancer or any cancer with a significant p-value =0.000, and this result was

similar to another study conducted at Kitwe Teaching Hospital in Zambia the participants with a family history of cancer were more likely to screen for prostate cancer (Gift et al., 2020). This may be because the individual becomes more aware of the disease and becomes more fearful and anxious about developing cancer, so it drives them to seek early detection and preventive care.

5.7 Conclusion:

This study provides important insights into the knowledge, attitudes, and practices regarding prostate cancer screening among men aged 45 and above at Beit-Jala Hospital. The findings highlight a general awareness of prostate cancer, with a moderate to high level of knowledge, although there were notable gaps, particularly concerning advanced symptoms and risk factors. Most respondents were aware of the importance of early detection and expressed positive attitudes toward screening. However, despite high awareness and willingness, actual participation in screening was low, with only 14% having undergone prostate cancer tests, the main barriers were fear, embarrassment, and financial situation, which recommended implementing policies regarding prostate cancer screening and enhancing the level of knowledge through awareness campaigns.

Chapter Six

Recommendations and Limitations

6.1 Introduction

This chapter will discuss the strengths and limitations of the study, recommendations, and conclusion of the study.

6.2 Strengths and limitations

The study's strengths are that all the participants completed the questionnaires, and there were no incomplete responses, indicating a high level of engagement and cooperation. Also, the study's focus on male patients aged 45 and above allows for in-depth insights into a specific age group (risk group), enhancing the relevance of the findings for middle-aged and elderly men. There are limited previous studies in the Middle East regarding prostate cancer screening tests, so this research can serve as a baseline for future studies in Palestine, offering crucial feedback to decision-makers regarding men's knowledge and attitudes toward prostate cancer screening. However, the study also has several limitations. It employed a cross-sectional design convenience sample technique, meaning

it only captured the relationship between variables at a single time, limiting the ability to infer causality. Furthermore, the sampling frame was restricted to a single governmental institution, Beit-Jala Governmental Hospital. So, the findings may not be generalizable or representative of the broader male population in the Palestinian population in the West Bank and beyond.

6.3 Recommendations

The results of this study indicate that most participants had a moderate level of knowledge about prostate cancer and screening tests, with approximately a quarter demonstrating a high level. Furthermore, the majority of participants expressed a positive attitude towards prostate cancer screening and showed a willingness to undergo the screening tests. However, despite this positive attitude, only a small proportion (14%) of participants participated in the screening. Based on this finding, the study recommended the following.

1- The Palestinian Ministry of Health should develop and implement national policies and strategies regarding prostate cancer screening tests, integrating both governmental institutions and non-governmental healthcare providers**.**

2- Implement awareness campaigns and programs that propose to improve men's knowledge about prostate cancer and its risk factors, and the importance of early detection.

3- Healthcare providers in different sectors should be trained in prostate cancer screening tests and how to manage them, and clarify the importance of screening tests to patients and encourage them to undergo screening that may lead to a decrease in the incidence and mortality rate among men

4- Addressing barriers such as limited access and financial constraints by ensuring screening tests (e.g., PSA and DRE) are available, affordable, and accessible at primary health care centers and hospitals.

5- This study is considered a baseline for further studies in the West Bank and Gaza Strip to evaluate the knowledge, attitudes, and practices among a more diverse and representative population.

6.4 Conclusions

This study revealed more than half of the participants possessed a moderate level of knowledge about prostate cancer, with a smaller portion demonstrating a high level of understanding. Most respondents were aware of prostate cancer, its signs, symptoms, risk factors, and complications. Additionally, half of the participants recognized digital rectal examination (DRE) and prostate-specific antigen (PSA) as screening tests for prostate cancer. Moreover, approximately 20% were unaware of symptoms in the late stages of the disease. Despite generally positive attitudes toward screening, with moderate to high levels of willingness to undergo screening tests and a belief that early detection could improve treatment outcomes and reduce complications, barriers such as financial constraints, fear, and embarrassment were cited by over half of the participants as reasons for avoiding screening. As a result, actual screening practices remained low, with only 14% of respondents having undergone prostate cancer screening. Given these findings, this study recommends implementing and reinforcing policies to promote prostate cancer screening across all health organizations in Palestine. Additionally, efforts to raise awareness about the importance of early screening should be enhanced through public health programs and media campaigns. It is also essential to ensure the availability of equipment, resources, and accessible screening services for all men, removing potential barriers to participation.

References

Alajerami, Y. S. M., Abushab, K. M., Alagha, S. I., Beeram, A. M., & Najim, A. (2015). Prostate cancer diagnostic and evaluation in Gaza Strip, Palestine. *Health, 7*(11), 1552.

Aluh, D. O., Anyachebelu, O. C., Azubuike, E. A., & Abdulmuminu, I. (2018). Knowledge, attitudes, and perception of prostate cancer among male outpatients of a tertiary care hospital in south-east Nigeria. *Journal of Applied Pharmaceutical Science, 8*(11), 064-068.

Amachree, A. V. O., Ibulubo, R. I., Jaja, B. M., Ibulubo, G. T., Korubo, O. E., & Harry, F. S. (2023). Knowledge and attitude towards prostate cancer screening among male adults in selected communities in Rivers State. *Journal of Health Applied Science and Management, 6*(2).

American Cancer Society. (2021). What is prostate cancer? *About Prostate Cancer*. https://www.cancer.org/content/dam/CRC/PDF/Public/8793.00.pdf

American Cancer Society. (2023). Screening tests for prostate cancer. https://www.cancer.org/cancer/types/prostate-cancer/detection-diagnosis

Arafa, M. A., Rabah, D. M., & Wahdan, I. H. (2012). Awareness of the general public towards prostate cancer and screening practices in Arabic communities: A comparative multi-center study. *Asian Pacific Journal of Cancer Prevention, 13*(9), 4321-4326.

Babbie, C. (2016). The practice of social research (12th ed.). Belmont, CA: Wadsworth.

Bugoye, F. C., Leyna, G. H., Moen, K., & Mmbaga, E. J. (2019). Knowledge, perceived risk, and utilization of prostate cancer screening services among men in Dar Es Salaam, Tanzania. *Prostate Cancer*.

Cancer.Net. (2022). Prostate cancer: Screening. https://www.cancer.net/cancer-types/prostate-cancer/screening.

Cancer.Net. (2023). Prostate cancer: Statistics. https://www.cancer.net/cancer-types/prostate-cancer/statistics

Catalonia, M. J. (2018). Prostate cancer screening. *The Medical Clinics of North America, 102*(2), 199-214.

Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Elmaghraby, D. A., Alshalla, A. A., Alyahyan, A., Altaweel, M., Al Ben Hamad, A. M., Alhunfoosh, K. M., AlJuwaysim, M. F., Aljumah, D. J., & Albahrani, M. A. (2023). Public knowledge, practice, and attitude regarding cancer screening: A community-based study in Saudi Arabia. *International Journal of Environmental Research and Public Health, 20*(2), 1114. https://doi.org/10.3390/ijerph20021114

Elyas, A., Mahfouz, M. S., Ahmed Suwaydi, A. Z., Alotayf, O. A., Tayri, A. O., Daghriri, B. F., Daghreeri, A. A., Hattan, F. A., & Akkam, M. M. (2024). Prostate Cancer Knowledge and Attitude Toward Screening Practices Among Men 40 and Over in the Jazan Region, Saudi Arabia. *Journal of Cancer Epidemiology, 2024*(1), 2713372. https://doi.org/10.1155/2024/2713372.

Gift, S., Nancy, K., & Victor, M. (2020). Assessment of knowledge, practice, and attitude towards prostate cancer screening among male patients aged 40 years and above at Kitwe Teaching Hospital, Zambia. *African Journal of Urology, 26,* 70. https://doi.org/10.1186/s12301-020-00067-0

Jabali, O., Ayyoub, A.A., Jabali, S. *et al.* (2025) Examining the nexus between housing conditions and health outcomes in Palestinian society: a mixed-method investigation. *BMC Public Health* 25, 560. https://doi.org/10.1186/s12889-025-21830-4

Kanungo, S., Bhowmik, K., Mahapatra, T., Mahapatra, S., Bhadra, U. K., & Sarkar, K. (2015). Perceived morbidity, healthcare-seeking behavior, and their determinants in a poor-resource setting: Observation from India. *PLOS ONE, 10*(5), e0125865.

Maladze, N., Maphula, A., Maluleke, M., & Makhado, L. (2023). Knowledge and attitudes towards prostate cancer and screening among males in Limpopo Province, South Africa. *International Journal of Environmental Research and Public Health, 20*(6), 5220. https://doi.org/10.3390/ijerph20065220

Morlando, M., Pelullo, C. P., & Di Giuseppe, G. (2017). Prostate cancer screening: Knowledge, attitudes, and practices in a sample of men in Italy. A survey. *PLOS ONE, 12*(10), e018633.

Mostafa, A. A., Karim, H. F., & Danny, M. R. (2015). Knowledge and attitude of the population toward prostate cancer in Riyadh, Saudi Arabia. *Urology Annals, 7*(2), 154-158.

Nakwafila, O. (2017). Knowledge and attitudes towards prostate cancer screening amongst men in Oshana region, Namibia (Doctoral dissertation). University of Namibia.

National Cancer Institute. (2023). Prostate cancer prevention. https://www.cancer.gov/types/prostate/patient/prostate-prevention-pdq

Nnoko, M. M. (2017). Barriers and perceptions of black American men about prostate cancer in Georgia. *Walden Dissertation and Doctoral Studies*. Walden University.

Ogunsanya, M. E. (2014). Prostate cancer prevention and early detection decisions among black males less than 40 years old. Austin: University of Texas.

Ojewola, R. W., Oridota, E. S., Balogun, O. S., Ogundare, E. O., Alabi, T. O., Banjo, O. O., & Oluyombo, R. (2017). Knowledge, attitudes, and screening practices regarding prostatic diseases among men older than 40 years: A population-based study in Southwest Nigeria. *The Pan African Medical Journal, 27*, 66.

Onyeodi, I. A., Akintelure, S., Oladipo, A. T., & Fashola, T. O. (2022). *Knowledge, attitude and screening practices of prostate cancer among men in an urban community in Lagos, Nigeria*. Lagos University Teaching Hospital & College of Medicine, University of Lagos.

Oxford University Press. (2024). Knowledge. In *Oxford Learner's Dictionaries*. https://www.oxfordlearnersdictionaries.com/definition/english/knowledge?q=knowledge

Palestinian Central Bureau of Statistics, (2017) Minority rights group. https://minorityrights.org/country/palestine/

Palestinian Central Bureau of Statistics. (2023). *ارتفاع حاد بمستويات البطالة* https://www.pcbs.gov.ps/postar.aspx?lang=ar&ItemID=5903#:~:text=**فلسطين**%20**تعاني**%20**من**%20**مستويات**%20**مرتفعة**

Palestinian Ministry of Health. (2023). *Annual Health Report 2022*. Ramallah.

Robison, O.C. (2014), Sampling in interview-based qualitative research: A theoretical and practical guide. Qualitative Research in Psychology,11(1):25-41

Schwartz Model. (1976). *Knowledge-Attitude-Practice Model*. https://www.researchgate.net/figure/Knowledge-Attitude-Practice-Model-Schwart-1976_fig1_318494214

Schwartz, N. E. (1976). Nutrition knowledge, attitudes, and practices of Canadian public health nurses. *Journal of Nutrition Education, 8*(1), 28-31.

World Health Organization. (2017). Early cancer diagnosis and better-trained medics can save lives and money. *United Nations Organization*. https://www.un.org/sustainabledevelopment/blog/2017/02/who-early-cancer-diagnosis-better-trained-medics-can-save-lives-money/#:~:text=According%20to%20WHO%2C%20studies%20in,cancer%20at%20more%20advanced%20stages

World Health Organization. (2022). Cancer. https://www.who.int/news-room/fact-sheets/detail/cancer

Yao, M. (2023). Cross-sectional studies. In *Research Methods* (pp. 269-291). https://doi.org/10.1017/9781009010054

Appendices

(Appendix A): Study Questionnaire

Consent Form

الموافقة على المشاركة في دراسة بعنوان:

"قياس معرفة وتوجهات وسلوكيات الرجال فوق سن الخامسة والاربعين عاما تجاه فحوصات المسح المتعلقة بالكشف المبكر عن مرض سرطان البروستاتا في مستشفى بيت جالا الحكومي"

انا الباحث: أحمد حسن صلاحات - طالب في برنامج ماجستير- تخصص سياسات وإدارة صحية من جامعة القدس. أقوم بعمل بحث علمي، وهو جزء من برنامج دراستي في الجامعة. انت مدعو للمشاركة في هذا البحث كونك رجل فوق سن الخامسة والأربعين. إذا قررت الموافقة على المشاركة في البحث من المهم ان تعرف ان هذا البحث يهدف لدراسة معرفة وتوجهات وممارسات الرجال الذين تزيد أعمارهم عن 45 سنة نحو إجراء فحوصات المسح المتعلقة بالكشف المبكر عن مرض سرطان البروستات في مستشفى بيت جالا الحكومي. مع العلم ان نتائج البحث قد تساهم في تحسين الإجراءات المتبعة في الكشف المبكر عن سرطان البروستاتا. ولن يترتب على مشاركتك في هذا البحث أي ضرر لك أو أي تأثير سلبي على الخدمات التي يتم تقديمها لك. تتضمن المشاركة في البحث أن تجيب عن الأسئلة الموجودة في الاستبانة والمكونة من أربعة أجزاء: يحتوي الجزء الاول على أسئلة حول البيانات الاجتماعية للمشارك، والجزء الثاني على معلومات عامة عن سرطان البروستاتا، والجزء الثالث خاص بالسلوكيات تجاه الفحص المبكر لسرطان البروستاتا، والجزء الاخير متعلق حول إجراء الفحص. علما ان المشاركة في هذا البحث طوعية، ويحق لك الانسحاب من المشاركة إذا رغبت وقت ما تشاء، مع التأكيد التام على سرية المعلومات التي تزودنا بها وستستخدم لهدف البحث العلمي فقط. للحفاظ على خصوصيتك كمشارك وعلى سرية الإجابات التي تدلي بها لن يطلب منك كتابة الاسم الشخصي على الاستبانة، وستعتبر استجابتك للاستبانة بمثابة الموافقة على المشاركة في البحث. إذا كانت لديك اية مخاوف او استفسارات حول مشاركتك في البحث سوف يكون هنالك أخصائية نفسية في المستشفى وهي الدكتورة سلام القرنة وهي تستطيع تقديم الدعم والتدخل الذي قد تحتاجه خلال مشاركتك ويمكنك التواصل معها من خلال جوال 0598497980 اذا كانت لديك اي استفسارات حول حقوقك كمشارك في البحث بإمكانك التواصل مع لجنة اخلاقيات البحث العلمي في جامعة القدس من خلال جوال 0545636341 ولمزيد من التوضيح لاي بند تريده يمكنك التواصل معي عبر الإتصال المباشر في اي وقت تريده من خلال جوال رقم 0598228159 او عبر الإيميل الشخصي

Ahmad.salahat2@studnets.alquds.edu اقدر عاليا مشاركتك بهذا البحث

الجزء الاول: البيانات الاجتماعية

أرجو وضع إشارة (صح) داخل المربع المناسب لإجابتك

1- الفئة العمرية التي تنتمي اليها

☐ 54-45 ☐ 64-55 ☐ 74-65 ☐ 75 وما فوق

2- الديانة :

☐ الإسلام ☐ المسيحية

3- الحالة الاجتماعية:

☐ متزوج ☐ مطلق ☐ أرمل ☐ أعزب ☐ منفصل

4- الوظيفة الحالية لديك:

☐ موظف حكومي ☐ موظف خاص ☐ أعمال حرة ☐ لا اعمل

5- الدخل الشهري الحالي لديك بالشيكل:

☐ أقل من 2000 ☐ 2999-2000 ☐ 3999-3000 ☐ وما فوق 4000

6- المستوى التعليمي الحاصل عليه:

☐ جامعي ☐ دبلوم ☐ ثانوي ☐ إعدادي ☐ غير متعلم

7- الحالة الصحية لديك حاليا :

☐ سيئة ☐ متوسطة ☐ جيدة ☐ممتازة

8- هل لديك مشاكل صحية:

☐ نعم ☐ لا

نوع المشاكل الصحيه لديك: .....

9- مكان الإقامة:

☐ مدينة ☐ قرية ☐ مخيم

10- هل سبق لأحد من أقاربك الإصابة بسرطان البروستاتا؟

☐ نعم ☐ لا

11- هل سبق لأحد من أقاربك الإصابة بنوع أخر من امراض السرطان؟

☐ نعم ☐ لا

12- هل لديك مشاكل سابقه متعلقة في البروستاتا ؟

☐ نعم ☐ لا

الجزء الثاني : معلومات عامة عن سرطان البروستاتا والفحص المبكر لسرطان البروستاتا أرجو وضع إشارة (صح) داخل المربع المناسب لإجابتك

-1هل سمعت عن سرطان البروستاتا من قبل؟

☐ نعم ☐ لا

1-2 إذا كانت إجابتك نعم، من أين سمعت بها (تستطيع إختيار أكثر من إجابه)؟

☐ من الطاقم الطبي ☐ العائلة والأصدقاء ☐ وسائل التواصل الاجتماعي ☐ الإنترنت

2- ما هي غدة البروستاتا؟

☐ هي عبارة عن غدة تناسيلة لدى الرجال

☐ هي عبارة عن غدة في الجهاز الهضمي لدى الرجال

☐ هي عبارة عن عضو سمعي

☐ لا أعلم

3- ما هو سرطان البروستاتا؟

☐ هو عبارة عن سرطان في الجهاز التناسلي لدى الرجال

☐ هو عبارة عن سرطان في غدة البروستاتا

☐ هوعدم القدرة على التبول

☐ لا أعلم

4- ما هي العوامل المساعدة للإصابة بسرطان البروستاتا (تستطيع إختيار أكثر من إجابة)؟

☐ تناول الدهون الدسمة ☐ الخضروات ☐ التدخين ☐ تقدم السن ☐ العامل الوراثي

☐ الكحول

5- ما هي الفئة المعرضة للإصابة بمرض سرطان البروستاتا؟

☐ الرجال فقط ☐ النساء فقط ☐ الرجال والنساء ☐ لا أعلم

6- ما هي الأعراض المبكرة للإصابة بسرطان البروستاتا (تستطيع إختيار أكثر من إجابه)؟

☐ سيلان الانف ☐ صداع ☐ الم اثناء التبول ☐ التبول المتكرر ☐ تقطع البول او ضعفه

7- ما هي الأعراض المتاخرة لسرطان البروستاتا (تستطيع إختيار أكثر من إجابه)؟

التبول المتكرر ☐ صداع ☐ الم أثناء التبول ☐ دم في البول ☐ فقدان الشهية ☐ فقدان الوزن

☐ حرارة ☐

8.1- هل يتم اجراء الفحص الشرجي الداخلي لفحص البروستاتا ؟

☐ نعم ☐ لا ☐ لا أعلم

8.2- إذا كانت إجابتك نعم من اين حصلت على المعلومة؟

من ☐ الانترنت ☐ العائلة او الأصدقاء ☐ وسائل التواصل الاجتماعي ☐ غير ذلك

☐الطبيب

9- هل يتم فحص مستضد البروستاتا (فحص الدم الخاص بالبروستاتا) للكشف عن سرطان البروستاتا؟

☐ نعم ☐ لا☐ لا أعلم

10- هل يوجد علاج لسرطان البروستاتا؟

☐ نعم ☐ لا ☐ لا أعلم

11- هل يقلل الأكتشاف المبكر لسرطان البروستاتا من مضاعفات المرض ؟

☐ نعم ☐ لا ☐ لا أعلم

12- هل يقلل الأكتشاف المبكر لسرطان البروستاتا من نسبه الوفيات لدى الرجال المصابين؟

☐ نعم ☐ لا ☐ لا أعلم

13- أي من العوامل التاليه تقلل من مضاعفات الإصابة بمرض سرطان البروستاتا (تستطيع إختيار أكثر من جواب)؟

☐ فحوصات المسح المنتظمه للبروستاتا

☐ السمنه

☐ تمارين منتظمة

☐ تجنب التدخين

☐ أكل اللحوم الحمراء

14- ما هي الفئة العمرية التي يجب أن تقوم بعمل الفحص المبكر لسرطان البروستاتا بشكل منتظم؟

☐ أقل من 10 سنوات ☐ 11-20 سنة ☐ سنة 21-44 ☐ 45 سنة وما فوق.

الجزء الثالث : توجهات الرجال إتجاه الفحص المبكر لسرطان البروستاتا أرجو وضع إشارة (صح) داخل المربع المناسب لإجابتك:

السؤال	اوافـق بشدة	اوافق	محايد	أعارض	أعـــارض بشدة
1- جميع الرجال فوق عمر 45 سنة بحاجة لإجراء الفحص الخاص بالكشف المبكر عن سرطان البروستاتا؟					
2- الأسباب المالية هي أحد المعيقات لعدم إجراء الفحص المبكر للكشف عن سرطان البروستاتا؟					
3- هناك حاجة لإجراء الفحص المبكر لسرطان البروستاتا في حال عدم وجود أعراض للمرض.					
4- الشعور بالحرج من إجراء الفحص هو أحد الاسباب التي قد تمنعك من إجراء الفحص لمرض سرطان البروستاتا؟					
5- انا على استعداد لإجراء الفحص المبكر لإكتشاف سرطان البروستاتا.					
6- شعوري بالخوف من نتيجة الفحص تمنعني من إجراء الفحص الخاص بالكشف المبكر لسرطان البروستاتا.					
7- يحسن إجراء الفحص المبكر لسرطان البروستاتا من نتائج العلاج.					
8- إستشارة الطبيب ضرورية ومفيدة في حال ظهور أعراض في المسالك البولية .					
9- كلما زاد الوعي بضرورة الفحص المبكر لسرطان البروستاتا زاد الاقبال على اجراء الفحص.					

الجزء الرابع : متعلق بممارسات الرجال إتجاه إجراء الفحص للكشف المبكر عن سرطان البروستاتا

1- هل أجريت الفحص المبكر للكشف عن سرطان البروستاتا سابقا؟

☐ نعم ☐ لا

2- إذا كانت إجابتك نعم ما هو نوع الفحص الذي قمت به؟

فحص مستضد البروستاتا (فحص ☐ الفحص الشرجي الداخلي ☐ صورة تلفزيونية للبروستاتا

☐ دم)

3- ماذا كانت نتيجة الفحص ؟

☐ إيجابية ☐ سلبية ☐ لا أعلم

نهاية الاستبانة- شكرا لتعاونك

(Appendix B): Study Questionnaires in English version

Section A-Socio-demographic characteristic

(Put a tick inside the box where it is appropriate to indicate your response).

A.1 indicates the age group you fall under

45-54 ☐ 55-64 ☐ 65-74 ☐ 75 years and above ☐

A.2 Indicate your religion

Muslim ☐ Christian ☐

A.3 Marital status

Married ☐ Single ☐ Widowed ☐ Divorced ☐ Separated ☐

A.4 What is your current occupation status?

Governmental employed ☐ private employed ☐ self-employed☐ Unemployed ☐

A.5 What is your current monthly income?

Less than 2000 ☐ 2000-2999 ☐ 3000-3999 ☐ 4000 and more ☐

A.6 Indicate your level of education.

None☐ Primary☐ secondary ☐ diploma ☐ university ☐

A.7 How would you rate the general state of your health now?

Excellent ☐ good ☐ fair ☐ poor ☐

A.8 Do you have any health problems?

Yes ☐ No ☐

If your answer is yes what kind of problem do you have?.....

A.9 Place of Residence

City ☐ village☐ camp ☐

A.10 Do you have a family history of prostate cancer?

Yes ☐ No ☐

A.11 Do you have a family history of any cancer type?

Yes ☐ No ☐

A.12 Do you have any prostate problems previously?

Yes ☐ No☐

Section B. Knowledge regarding prostate cancer screening test. (Put a tick inside the box where it is appropriate to indicate your response)

B.1.1 Have you ever heard about prostate cancer?

Yes ☐ No ☐

B.1.2 If the above answer is yes, from whom?

Physician ☐ mass media ☐ Internet☐ family\friend ☐ others; specify ……..

B.2 What is a prostate gland?

☐ Reproductive organs among males

☐ digestive organs among male

☐ hearing organ

☐ I don't know

B.3 What is prostate cancer?

☐Cancer of the male reproductive organ

☐Cancer of the prostate

☐Inability to urinate

☐I don't know

B.4 What may be the risk factors for developing prostate cancer? (more than one answer is possible).

Family history ☐ older age ☐ smoking ☐ vegetarian food ☐ high-fat diet ☐ alcohol ☐

B.5 What gender is affected by prostate cancer?

Men only ☐ women only ☐ Both men and women ☐ I don't know ☐

B.6 What are the early signs and symptoms of prostate cancer? (more than one answer is possible)

☐The interrupted flow of urine or weak

☐ need to urinate frequently

☐ painful urinated

☐ headache

☐ runny nose

B.7 What are the late signs and symptoms of prostate cancer? (more than one answer is possible)

☐ Loss of weight

☐ loss of appetite

☐ Blood in urine

☐ Pain during urination

☐ headache

☐Frequent urination

☐ fever

B.8.1 Do you know the digital rectal exam is used to detect prostate cancer?

Yes ☐ No☐ I don't know☐

B.8.2 If your answer is yes from whom?

Physician ☐ mass media ☐ family or friend ☐ Internet☐ others ……

B.9 Do you know the prostate-specific- antigen is used to detect prostate cancer?

Yes ☐ No☐ I don't know ☐

B.10 Can prostate cancer be treated?

Yes ☐ No☐ I don't know ☐

B.11 Does early detection of prostate cancer decrease the complications of the disease?

Yes ☐ No☐ I don't know☐

B.12 Does early detection of prostate cancer decrease the mortality rate among men?

Yes ☐ No☐ I don't know ☐

B.13 Which of the following can decrease the complications of prostate cancer? (more than one answer is possible)

Regular screening☐ obesity ☐ regular exercise ☐ avoid smoking☐ increase red meat ☐

B.14 Do you know what age is typically recommended for men to start regular prostate cancer screenings?

Less than 10 years ☐ 11-20 years ☐ 21– 44 years ☐ 45 and more☐

Section C-Attitude regarding prostate cancer screening

Statement	*Strongly agree*	*agree*	*indifferent*	*disagree*	*Strongly disagree*
C.1 Do you agree that all men above 45 years old need to undergo prostate screening tests?					
C.2 Do you agree that financial constraints are one of the reasons preventing undergoing PSA tests?					
C.3 Do you agree there is a need for a test if there are no symptoms?					
C.4 Do you think the embarrassment from the procedure prevents you from undergoing the screening tests?					
C.5 Do you have a willingness to receive prostate cancer screening tests?					
C.6 Are you afraid of the result, that prevents you from undergoing screening tests?					
C.7 Do you think the prostate screening test improves clinical outcomes?					
C.8 Do you think the early consultation with a doctor for urinary symptoms is helpful and important?					
C.9 Do you agree with the lack of awareness among men, that prevented them from undergoing prostate cancer screening tests?					

Section D- Practice regarding prostate cancer screening

D.1 Have you undergone to prostate cancer screening test?

Yes ☐ No☐

D.2 What method was used

PSA☐ DRE ☐ transrectal ultrasound ☐ not tested ☐

D.3 What was the outcome of the test

Positive ☐ negative ☐ not tested ☐

The End, thank you for your participation

(Appendix C):

Names of Experts who reviewed the questionnaire for content validity

Experts Names	*Job description*	*Email address*
Dr. Maysaa Osta	*Maysa Al Usta, RN, MPH, PhD.* *Community/ Public Health Nursing* *Nursing Department* *College of Health Professions.* *Al Quds University*	*mosta@staff.alquds.edu*
Dr. Bilal Jawabreh	*Director of Capacity Building at the Palestinian National Institute of Public Health*	*bilaljawabreh@gmail.com*
Dr. Abed Alkareem Ashaira	*Chair of the department of education and psychology* *Palestine Polytechnic University*	*Abedasherah@ppu.edu*
Dr. Ahmad Zawahra	*Head of the Urology Department at Beit-Jala Hospital*	*drzawahra@yahoo.com*
Dr. Yousef Jaradat	*Prof- assistant of the Nursing Department* *Palestine Polytechnic University*	*jaradatu@ppu.edu*

(Appendices D): The Permission of Palestinian Ministry of Health

State of Palestine
Ministry of Health
Education in Health and Scientific Research Unit

دولة فلسطين
وزارة الصحة
وحدة التعليم الصحي والبحث العلمي

Ref.: ....
Date:.................

الرقم: ٢٠٢٤/٢٠٥٩/١٦٦٢
التاريخ: ٢٠٢٤/١١/٢٧

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،

تحية واحترام،،،

<u>الموضـــوع: تسهيل مهمة بحث</u>

يرجى تسهيل مهمة **الطالب: أحمد صلاحات– برنامج ماجستير السياسات والادارة الصحية/ جامعة القدس**، وباشراف د. ميساء الاسطا، في عمل بحث بعنوان:

معرفة توجهات وسلوكيات الرجال الذين تزيد اعمارهم عن 45 سنة نحو اجراء فحوصات المسح المتعلقة بالكشف المبكر عن سرطان البروستات

من خلال السماح للطالب بجمع المعلومات عن طريق تعبئة استبانة من قبل المرضى بعد اخذ موافقتهم، وذلك في العيادات الخارجية في:

- **مستشفى بيت جالا الحكومي**

على ان يتم الالتزام باساليب واخلاقيات البحث العلمي، والحفاظ على سرية المعلومات.
على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التعهد بعدم النشر لحين الحصول على موافقة الوزارة على نتائج البحث.

مع الاحترام،،،

د. عبد الله القواسمي
رئيس وحدة التعليم الصحي والبحث العلمي

State Of Palestine Ministry Of Health
Health Education and Scientific Research Unit

نسخة: عميد كلية الصحة العامة المحترم/ جامعة القدس

Telfax.:09-2333901 scientificresearch.dep@gmail.com تلفاكس: 09-2333901

(Appendix E): Al-Quds University Ethical approval

Al-Quds University
Jerusalem
School of Public Health

جـامـعـة الـقـدس
القدس
كلية الصحة العامة

التاريخ: 2024/9/4
الرقم: REF.24/24

عزيزي الطالب احمد صلاحات المحترم برنامج
ماجستير السياسات والادارة الصحية

الموضوع: موافقة لجنة اخلاقيات البحث العلمي

قامت اللجنة الفرعية لأخلاقيات البحث التابعة لكلية الصحة العامة بمراجعة مشروع الرسالة

بعنوان: ***"Men's Knowledge, Attitude, and Practices regarding Prostate Cancer Screening among those Above 45 years at Beit-Jala Hospital."***

المقدم من (مشرف البحث/د. ميساء الاسطا).

يعتبر مشروعك مستوفيًا لمتطلبات أخلاقيات البحث في جامعة القدس. نتمنى لكم كل التوفيق في تسيير المشروع.

ملاحظة: في حالة الحاجة الى موافقة من اللجنة المركزية في الجامعة، تستطيع التقدم باستخدام هذه الموافقة على الرابط https://research.alquds.edu/en/ethics/48-how-to-apply.html

رئيسة اللجنة الفرعية لاخلاقيات البحث كلية الصحة العامة
د. نهى الشريف

(Appendix F): Tukey Tables

Tukey test for the differences of knowledge among the participants regarding the level of education

Comparisons	University	Diploma	Secondary	Elementary	Illiterate
University		2.67*	3.11*	2.17	2.31
Diploma			0.439	-0.50	-0.35
Secondary				-0.94	-0.79
Elementary					0.15
Illiterate					

Tukey test for the differences of knowledge among the participants regarding income

Comparisons	less than 2000	2000-2999	3000-3999	4000 and more
less than 2000		-1.75*	-1.91*	-5.01-*
2000-2999			-0.16	-3.26*
3000-3999				-3.10*
4000 and more				

Tukey test for the differences of knowledge among the participants regarding place of residence

Comparisons	City	Village	Camp
City		-1.84*	-0.77
Village			1.07
Camp			

Tukey test for the differences in the attitudes among the participants regarding the level of education

Comparisons	University	Diploma	Secondary	Elementary	illiterate
University		0.14	0.02	-0.13	0.13
Diploma			-0.13	-0.28*	-0.01
Secondary				A-0.15	0.11
Elementary					0.26
illiterate					

العنوان: قياس معرفة وتوجهات وسلوكيات الرجال فوق سن الخامسة والاربعين عاما اتجاه فحوصات المسح المتعلقة بالكشف المبكر عن مرض سرطان البروستات في مستشفى بيت جالا الحكومي.

إعداد: احمد حسن صلاحات

إشراف : د. ميساء الاسطة

المخلص

الخلفية: فحص سرطان البروستاتا هو اختبار للكشف المبكر عن وجود السرطان قبل أن يسبب الأعراض. ومع ذلك، يبدو أن مشاركة الرجال في فحص سرطان البروستاتا ضئيلة. مما يؤدي ذلك إلى تشخيص معظم الرجال بسرطان البروستاتا المتقدم، حيث تهاجر الخلايا السرطانية إلى أجزاء أخرى من الجسم، مما يجعل سرطان البروستاتا ثاني سبب رئيسي للوفاة بين الرجال بسبب السرطان، ولا يزال المرض مصدر قلق عالمي للصحة العامة.

الهدف من الدراسة: تهدف هذه الدراسة إلى قياس معرفة وتوجهات وسلوكيات الرجال فوق سن الخامسة والاربعين عاما إتجاه فحوصات المسح المتعلقة بالكشف المبكر عن مرض سرطان البروستات في مستشفى بيت جالا الحكومي في فلسطين.

تصميم الدراسة: تم استخدام تصميم مسح وصفي مستعرض لتحقيق أهداف الدراسة. وتم استخدام استبيان منظم معد من قبل الباحث، حيث يحتوي الاستبيان على أسئلة تعتمد على الإجابات المغلقة لجمع البيانات الخاصة بالمعرفة والتوجه والسلوكيات تجاه فحص البروستاتا. بلغ عدد المشاركين 300 مشارك تزيد أعمارهم عن 45 عاما، حيث تم اختيارهم بطريقة غير عشوائية اعتمدت على إمكانية وصول المشاركين إلى العيادات الخارجية في مستشفى بيت جالا الحكومي.

التحليل: تم تحليل البيانات التي تم جمعها باستخدام برنامج الحزمة الإحصائية للعلوم الاجتماعية (**SPSS**) الإصدار 25، وتم التعبير عن النتائج كنسب مئوية وتكرارات لوصف المتغيرات الفئوية. كما تم استخدام تحليل التباين

الأحادي (**One-way ANOVA**)، اختبار كاي مربع (**Chi-square**)، واختبار (**t t-test**)، ومعامل ارتباط بيرسون (**Pearson correlation**) لاختبار الارتباط وحجم التأثير على التوالي عند مستوى دلالة 0.05.

النتائج: أظهرت النتائج أن معظم المشـــاركين 73٪ لديهم مســـتوى معتدل ومتوســـط من المعرفة، و 20٪ لديهم مستوى عال و7٪ لديهم مستوى منخفض من المعرفة . في حين أن غالبية المشاركين كان لديهم مستوى متوسط في الموقف والتوجه تجاه فحص ســرطان البروســتاتا حيث أن النســبة بلغت 74٪، بالإضــافة إلى ذلك فإن 26٪ لديهم مستوى عال من التوجهات الإيجابية تجاه فحص سرطان البروستاتا، ومع ذلك فإن 86٪ لم يخضـعوا للفحص أبدا، و 14٪ فقط من المشاركين خضعوا للفحص من قبل.

كشــف تحليل ارتباط بيرســون عن وجود علاقة إيجابية بين المعرفة والتوجهات تجاه فحص ســرطان البروســتاتا (**P=0.001, r**=0.196)، في حين كان هناك ارتباط ســـلبي بين المعرفة والســـلوك تجاه الفحص حيث بلغت (**P=0.01, r= 0.-14**) وارتباط سـلبي أيضـا بين التوجهات والممارسـة لفحص سـرطان البروسـتاتا حيث بلغت .(**P=0.046, r=-0.04**)

التوصـــيات: اظهرت نتائج هذه الدراســـة الحاجة الملحة إلى حملات الصـــحة العامة لزيادة الوعي بعوامل خطر الإصـابة بسـرطان البروسـتاتا والتركيز على أهمية الفحص المبكر. وبناء على ذلك، يوصـي الباحث وزارة الصـحة الفلسطينية بوضع وتنفيذ سياسات من أجل تعزيز فحوصات سرطان البروستاتا من خلال كافة المراكز والمؤسسات الصحية في فلسطين .