**COLLEGE OF HEALTH SCIENCES**

**SCHOOL OF NURSING AND MIDWIFERY**

**DEPARTMENT OF NURSING**

# AWARENESS OF PROSTATE CANCER AND ITS ASSOCIATED FACTORS AMONG MALE PATIENTS ATTENDING IN UROLOGY UNIT AT TIKUR ANBESSA SPECIALIZED HOSPITAL, ADDIS ABABA ETHIOPIA, 2021

**By: Tilaye Gebru (BSc)**

**A Thesis to Be Submitted to The Addis Ababa University School of Graduate Studies, College of Health Sciences, The School of Nursing and Midwifery, Department of Nursing for Partial Fulfilment of The Requirements for A Master of Sciences in Oncology Nursing.**

**June 2021**

**Addis Ababa, Ethiopia**


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**June 2021**

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# APROVAL SHEET

# APROVAL BY THE REVIEW BOARD

This thesis by **Tilaye Gebru** is accepted in its presence by the board of examiners to meet the thesis requirements for a master's degree in clinical oncology nursing.

**INTERNAL EXAMINER**

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# DEDICATION

To my advisor, Dr. Ayinalem Abreha. He was a well-known oncologist and director of the AAU Cancer Centre who devoted his life to the care of cancer patients at TASH, where he worked for several years. He will be recognized for his compassion, humility, and valued contribution to my life.

## STATEMENT OF DECLARATION

This study is our work, as shown by our signature below. In the planning, data collection, analysis, and completion of this thesis, I followed all ethical guidelines. The thesis acknowledges and cites all literature materials. I certify that all references used in this document have been cited and referenced. During the writing of this thesis, every attempt was made to prevent plagiarism.

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Last but not least, I' would like to thank my friends and my family who courageously endure during my time away, as pursued the end of this Master's degree program.

Above all, I want to thank the Almighty God for giving me strength and stamina.

## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| AAU | Addis Ababa University |
| ACS | American Cancer Society |
| BPH | Benign Prostate Hyperplasia |
| DRE | Digital Rectal Examination |
| ETB | Ethiopian Birr |
| FMOH | Federal Ministry of Health |
| IARC | International Agency of Research for Cancer |
| P CA | Prostate Cancer |
| PI | Principal Investigator |
| PSA | Prostate Specific Antigen |
| SSA | Sub Saharan Africa |
| TASH | Tikur Anbessa Specialized Hospital |

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## ABSTRACT

Prostate cancer is a common type of cancer in men Globally. It is the world's second most diagnosed disease and the fifth major cause of cancer-related deaths. In Ethiopia, it is the 3rd most common type of cancer. Having awareness of Prostate cancer is the key to early detection and prevention. The major risk factors for prostate cancer were controllable by increasing public awareness. The study aimed to assess the status of awareness about prostate cancer and its associated factors among male patients attending a Urology unit at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021. A facility-based cross-sectional study was done. Among 241 male patients using a pretest and interviewer-administered questionnaire. The study was done at the Tikur Anbessa Specialized Hospital from February to April 2021. Epidata version 4.6.0 and SPSS 26 version were used to enter and analyze the data. Descriptive statistics and linear regressions were used for the analysis. Simple and multiple linear regression analysis was used to identify factors associated with awareness of prostate cancer. The strength of the association between independent and dependant variables was described using unstandardized β with 95% CI. A total of 250 patients were approached with a response rate of 241(96.4%), with a mean score of prostate cancer awareness (12.6±10.4) and a proportion of 45%. Families average monthly income >8900ETB (β=2.6, 95%CI:1.1-4.1, P=0.001), heard about prostate cancer (β=5.6, 95%CI:1.5-9.6, P=0.011), having a regular source of care with every six months and above (β=4.3, 95%CI: 2.5-6.1, P<0.001), three times, admission history (β=5.4, 95%CI:1.3-9.5, P=0.009), and health care providers (β=10.7, 95%CI 6.6-14.8, P<0.001) as the major source of information followed by the media (β=9.6, 95%CI 5.4-13.8, P<0.001) were significantly associated with awareness of prostate cancer. Prostate cancer is one of the important health-related problems among men in the world. Therefore, a well-planned health education program should be implemented to address the observed knowledge gaps and raise awareness with a focus on the role of prevention and screening. Additional studies are also, required to investigate the awareness of prostate cancer among men and the Federal Ministry of Health may take preventive methods to increase the level of awareness of prostate cancer among the people.



***Keywords*:** Awareness Prostate cancer Urology unit Ethiopia

# 1. INTRODUCTION

## 1.1. Background

Cancer is a group of diseases in which cells in the body grow out of control (1), and it describes several diseases that can affect various organs and parts of the body. Normally, cells multiply and die in an orderly fashion, helping us grow, replace worn tissue, and heal wounds (2). If this process is skewed and the cells get out of control, it creates a mass called a tumor. In benign tumors, cells are kept in one zone and can't extend to different parts of the body, while malignant tumors comprise cancer cells that can spread through the circulation or lymphatic system (3).

Prostate cancer is a disease of the prostate gland. It is the recognized tumor of men and common worldwide (4). The clinical manifestations of prostate cancer may develop gradually, decreased urine flow, urinary incontinence, nocturia, frequency, and difficult urination, blood in the urine, painful ejaculation, and difficulty of erection. If cancer can progress to other organs, bone pain in the pelvis or ribs may occur (5). The uncontrolled risk of developing the disease, such as age, race, and family history, is associated with prostate cancer, however, having awareness on Prostate cancer is identified as the key aspects for quality of prostate cancer care that improved the early detection and prevention of the disease (6).

Prostate cancer is common cancer that occurs in men worldwide (7). It is estimated to be the second most under-diagnosed cancer in men, and it is ranked $5^{th}$ among the causes of cancer in men worldwide (7). In 2015, Prostate Cancer was estimated to be 220,800 of the new cases in the USA, which is 26% of the malignancy among men, while an estimated 27,540 will result in death (8). Europe in Italy in 2017, while 398,708 were associated with prostate cancer, with huge numbers attributable to aging and population growth, while 307,500 deaths occurred in Europe in the same year. Approximately (29.6%) of men used the PSA-test in Italy, which means that the level of screening for prostate cancer was very low and related awareness was needed, such as the risk of prostate cancer and the benefit of prevention (9).

Low awareness of prostate cancer has been recorded after a study in sub-Saharan Africa in Nigeria, with men over 40 years of age less than half-aware of prostate cancer (10). Black men in South Africa have limited access to medical facilities for prostate cancer and consult very late. Of the 100,000 population, only 14 black men were histologically diagnosed with prostate cancer compared to 40.1/100,000 white males in South Africa (11). Overall, the prevalence of prostate cancer is decreased by 10%-30%, raising the understanding of lifestyle changes (12).

According to the FMoH Ethiopia report, non-communicable diseases, including cancers, are developing quickly in Ethiopia similar to other low-income countries. There is a limitation of the structured prostate cancer education or screening program in Ethiopia, the lack of such programs related to a decreased awareness of prostate cancer in increasing the impact of the disease. Individuals will be given broad information about prostate cancer in advance as part of the awareness campaign. It is essential, to evaluate the status of awareness of prostate cancer among inpatients. Therefore, this study tended to assess the understanding of TASH patients about prostate cancer and its related factors in Ethiopia.

## 1.2. Statement of problem

Cancer is a significant public health concern globally, according to the World Health Organization survey, the 2018 report describes cancer as the world's second leading cause of death and is estimated to increase to 18.1 million new cases, with 9.6 million people dying, and every individual in the world suffers from cancer, which is responsible for one out of six deaths worldwide (13).

According to the Global Burden of Cancer, P CA is the 2$^{nd}$ most commonly diagnosed cancer in men worldwide, with 1,276,106 new cases and 358,989 deaths in 2018 (14). Globally, the incidence and mortality of prostatic adenocarcinoma are correlated with rising age (15). The prevalence rate of African-American males was more than that of white males, and their mortality rate was around double that of white males. It is expected that the major causes of this variation are attributable to variations in social, environmental, lifestyle, and genetic variables (16). Since the International Organization for Cancer Research has identified an estimated 2,293,818 cases before 2040, a minor variance in mortality is expected (an increase of 1.05%) (14).

Research on the incidence of prostate cancer in Africa was conducted and the results show that the incidence rate of prostate cancer was 22-23/100,000 of the population in sixteen African countries, while around 19.5/100,000 is recorded as the median incidence rate, the disease continues to increase, even as urbanization rises and positive life expectancy shifts in Africa (17). Furthermore, problems such as insufficient screening, diagnostic procedures, minimum care choices, inadequate testing and training, and limited population-based cancer registration are prevalent, rendering the burden of prostate cancer underestimated in developing countries (18-20).

According to 2018, Addis Ababa Cancer Registry and Global Burden of Cancer Study report, cancer accounts for around 5.8% of total national mortality in Ethiopia. The country's annual cancer incidence is about 60,960 cases, and the mortality rate is over 44,000 (21,22). In Ethiopia, prostate cancer, followed by leukemia and colon cancer, is the third most common cancer among men (11% (23).

According to some studies done in Ethiopia, prostate cancer has recently become more common among Ethiopian men, and the disease is quietly spreading across the country (24, 25). In Ethiopia, the health organization primarily emphasizes the prevention of communicable diseases and there are inadequate screening centers, care facilities, and an unwell-organized referral system. In the event of more incidence and mortality of skilled employees and elderly caregivers, prostate cancer could affect the country's socio-economic, healthcare, and education status (14).

Generally, increasing people's understanding of lifestyle changes, recognizing the risk factors, prevention and regular screening of a person reduces morbidity and mortality of prostate cancer and also improves patient survival. In Ethiopia, the FMOH should concern about the difficulty of non-communicable diseases with special emphasis on cancer, to reduce the incidence and mortality (24). As a result, the use of this research was to decide the status of awareness of prostate cancer and its related variables among men going to the Urology unit at TASH in Addis Ababa, Ethiopia, in 2021.

# 2. LITERATURE REVIEW

## 2.1. Introduction

### 2.1.1. Prostate cancer

The prostate is both the male reproductive organ accessory gland and a mechanical switch that is regulated by muscles between urination and ejaculation. It is located underneath the urinary bladder and the anterior rectum and produces a fluid that nourishes and protects the sperm cells in the semen, the function, and growth of the prostate are regulated through a hormone known as androgen (testosterone) (26). Normally, cells multiply and die in an orderly manner, helping us to grow, replacing worn-out tissue, and healing injuries, when body cells in the prostate are grown in an uncontrolled manner it is the beginning of prostate cancer (2). Prostate cancer is a disorder of the prostate gland that offers either an asymptomatic disease (27) or a systemic solid type tumor (28). It is marked by a disruption of the prostate architecture, causing abnormal structures of the prostate and an increase in Prostate-Specific Antigen (PSA) serum in the blood (29). A high incidence of prostate cancer is seen in patients who undergo the surgery for benign prostate hyperplasia (BPH) especially in those with advanced age and those with elevated PSA levels of more than 10 mg/ml (30).

### 2.1.2. Epidemiology of prostate cancer

Prostate cancer is the most common form of cancer in men, the second most common type of cancer diagnosed in men, and the fifth leading cancer mortality rate in men worldwide (7). It is the second common type of cancer in males worldwide, accounting for 1,276,106 new cases and causing 358,989 deaths (3.8% of all deaths due to most male cancers) in 2018, according to the Global Burden of Cancer 2018 report (31). Although 2,293,818 new cases were published by the International Agency for Cancer Research (IARC) until 2040, a small variant of the mortality rate will be observed (a 1.05% increase) (31).

### 2.1.3. Symptom of prostate cancer

There are no commonly seen symptoms during the early onset of prostate cancer, however, as the prostate cancer progresses, patients may begin to experience symptoms such as decreased urine flow, urinary incontinence, nocturia, frequent and difficulty in urination, blood in the urine, painful urination and difficulty of erection or painful ejaculation. If cancer can affect other organs, and cause bone pain in the pelvis (32). Patients often perceive these symptoms as harmless, non-specific, or similar to symptoms associated with other less serious conditions, therefore, it is necessary to engage in prostate cancer screening behavior early, as P CA is much more curable in the early onset and early detection (30).

### 2.1.4. Common risk factors of prostate cancer

According to the American Cancer Society (ACS 2018), the risk factors are the same things that give the body to develop any disease, but having a risk factor doesn't mean the development of the disease (33). The real cause of prostate cancer is elusive but, it has risk factors like advanced age, sex, physical inactivity, smoking, alcohol consumption, poor lifestyle, fatty diet, overweight (obesity), race, and family history of Prostate cancer with age being highlighted as significantly common, almost two out of every three P CA cases are found in men $\geq$ 65 years of age, while prostate cancer is uncommon below 40 years of age (4,34,35).

Globally, Jamaican men of African descent, as well as African-American men, are known to have the highest incidence of P CA (19). Compared to Caucasian men, the risk of developing prostate cancer in black men based purely on ethnicity is estimated to be high (36). Positive family history has also been found to be a significant risk factor for prostate cancer (37). Family history is a common cause of P CA in comparison with the general population (38).

Inherited susceptibility appears to play an additional independent role in the development of prostate cancer, men diagnosed with prostate cancer are almost twice as likely to have a male blood relative (brother or father especially) who has been diagnosed with prostate cancer (39). Besides, prostate cancer risk increases with an increasing number of family members, such that men with two or three first-degree relatives affected have a five- and 11-fold increased risk of developing prostate cancer, respectively (40). Cumulative exposure to cadmium (41) androgens and high-fat diets is also related to prostate cancer risk (42, 43). Sexual behavior and associated exposure to infectious agents like gonorrhea, and humanpappilomavirus increase the risk of P CA (44).

### 2.1.5. Treatments of prostate cancer

The treatment choices available are determined by the stage of presentation, age, and the presence of other diseases. Treatment for P CA can be invasive and can cause long-term complications such as incontinence or impotence (45). Surgery, such as radical prostatectomy (removal of the prostate gland), and radiation are the most common forms of treatment at the early stage of the disease (46). Hormone therapy and chemotherapy are commonly used in combination with metastatic or advanced stages of the disease. However, chemotherapy and hormone therapy can be used to treat the early stages of the disease (47).

### 2.1.6. Survival status of prostate cancer

Prostate cancer has a relatively higher survival rate when detected in its early phases, for those diagnosed early with prostate cancer, the five-year survival rate is nearly 100 % (47). The overall five-year survival rate for P CA among blacks is 96% compared to nearly 100% among whites, thus showing the importance of early detection of survival. Compared to 93% of whites, 91% of all P CA among black men are diagnosed at a local or regional stage (48). However, in the advanced stages, the overall five-year survival rate is decreased, and the risk of prostate cancer is higher in black men than in any other racial group, and cancer is often more aggressive at the time of presentation, which is often late, and several studies have found that ethnicity is an important factor in predicting the recurrence of prostate cancer in men (49).

The survival status of prostate cancer patients in Ethiopia is very low, with a maximum survival time of 28 months with a general 2-, 3-and 5-year survival of 57 %, 38.9% %, and 22 % respectively. Increasing people's awareness of lifestyle changes, recognizing individual risk factors and continuous screening decreases morbidity and mortality in prostate cancer and enhances the survival status of patients (50).

### 2.1.7. Screening and prevention of prostate cancer

Prostate cancer is a common type of cancer that occurs in men worldwide. Early screening for prostate cancer is associated with longer survival rates and a reduction in mortality rates (51). The main aim of early detection is to reduce the possibility of developing the disease at an asymptomatic stage (52). The screening tests used to investigate this disease include prostate-specific antigen (PSA) and digital rectal examination (DRE) (53). PSA is a male blood protein, that is, tested using a blood sample (54). A high PSA protein level in the blood may be caused by prostate cancer or other prostate issues such as increased prostate gland size or gland inflammation (54). A biopsy may follow if elevated levels of PSA are detected in the blood (55). Prostate cancer is a preventable disease. Many risk factors, such as age, ethnicity, and family history, are uncontrollable or non-modifiable. However, according to ACS and Hopkin's Medical University, several measures can be taken to minimize the incidence of P CA. The measures included stopping smoking and overdrinking, engaging in regular physical exercise, early detection, fighting obesity, eating adequate fruits and vegetables, and talking with health professionals.

## 2.2. Awareness of prostate cancer

Awareness is defined as a state of knowing or surely understanding something's condition or being aware that the depend exists (56). Awareness creation about prostate cancer could also be done via social media, health care providers, community-based organizations, and any stakeholders, the delivering information is regarding the risk factors, symptoms prevention, screening modalities, and the advantages of early detection of P CA (9, 57). The awareness of prostate cancer in men of African descent in the USA, Caribbean, and Sub-Saharan Africa (SSA) has low levels of information in contrast to American Hispanic men, consequently the high incidence and mortality rates within those populations (58, 59).

A study was done in, Italy about the awareness and associated factors of prostate cancer, validated that overall, 82.1% of the respondents were heard about the existence of P CA, although 72.7% of the PSA test was heard by respondents and 51.1 % of them had heard about it from their physicians (9). In the cross-sectional study done in Turkey, 47.16% of respondents were reported that health care providers were the main source of information (60). In a study, conducted among Saudi Arab communities 52.1% indicated who had information of prostate cancer, and health care providers 62.4% were the main source of prostate cancer awareness (61).

A cross-sectional study was conducted in Nigeria Anambra state, 74.1% of participants were heard of the presence of prostate cancer, and 76.1% were aware of one or more symptoms of the disease. Difficult urination was the most common presenting symptom in 45.3% of the respondents, at the same time as 87% had been able to identify risk factors for P CA. However, 56.7% of the respondents were aware of prostate-specific antigen screening. With regards to Prostate cancer and the PSA test, the most frequent source of information was media 42.8%, followed by physicians 36.8% (62). In a cross-sectional study done in South Africa among men attending a urology unit, 45.4% of the participants were aware of prostate cancer. Only 38 (11.0%) of patients were aware of the three major symptoms related to prostate cancer. Education and race have been significantly associated with awareness of prostate cancer (11).

According to a study done in Uganda, 54.1% had heard of prostate cancer media as the most common source of information followed by the health care provider, 50.2% could not aware of any risk factor for P CA and but only 9% were known about the PSA test (63). Also, in a study conducted in Sokoto, Nigeria among 300 participants, only 15 (5%) were aware of prostate cancer (64). Similar research was conducted in southwest Nigeria by one hundred and forty-five (47.5 %) respondents who were heard of prostate cancer, while a quarter (25.1%) were aware of PSA, media were essential sources of awareness, with only educational and occupational status having major associations with participants' level of awareness (10).

A cross-sectional study on prostate cancer awareness and its related causes conducted in Rwanda, suggests that among 257 respondents 80% were aware of the presence of prostate cancer and reported the health care provider as the main source of information, 164 (64%) did not recognize the causative factors of prostate cancer, while 68 % of participants were aware of prostate cancer prevention measures, 164 (64%) were aware of prostate cancer tests through PSA testing (65).

## 2.3. Associated factors with Awareness of prostate cancer

### 2.3.1. Socio-demographic characteristic

Among the most important factors associated with prostate cancer awareness were age, place of residency area, occupation status, educational level, and income which are common (35, 57). In developed countries, the factors contributing to cancer awareness and its associated factors are not very far from those from low-income countries (14). The study conducted in, Italy showed that older age and a higher level of education were significantly associated with awareness of prostate cancer (9).

A study conducted in Denmark demonstrated that cancer awareness was found to have strong socioeconomic distribution, as a result, individuals with low levels of education and low incomes were more likely to have unaware of potential cancer symptoms, factors that can influence the likelihood of developing cancer. High income and levels of education were significantly associated with awareness of prostate cancer (66). In Namibia, the study done has reported that urban residency and the richest men are more informed about prostate cancer awareness and they have significantly associated awareness of prostate cancer (67). Also, in a study conducted in southwest Nigeria, 47.5 % of respondents who were aware of prostate cancer media were essential sources of awareness, with only educational and occupational status having major associations with participants' level of awareness (10). In a study done in South Africa among men attending a urology unit, 45.4% of the participants were aware of prostate cancer. Education and race have been significantly associated with awareness of prostate cancer (11).

### 2.3.2. Information related factors

In a study done in Italy [n=705], 82.1% of the respondents have been heard of the existence of prostate cancer, the most sources of information on prostate cancer were media 60.6% followed by the physician 31.8 %, and friends 31.4%. While 72.7% of respondents had heard about the PSA-test, the most common source of information was a physician 54.4% followed by media 35.8 % and friends 23.4%. 57.9% is indicated that the proportion of awareness of prostate cancer (9).

In the cross-sectional study done in Turkey [n= 159] with 71.06% of the proportion of awareness of prostate cancer and management. 47.16% of respondents were reported that health care providers were the main source of information (60). In a study, conducted in Saudi Arabia among [n= 400] communities, 52.1% indicated participants who had heard of prostate cancer, and the respondents identified physicians 62.4% as the main sources of this information (61).

A cross-sectional study was conducted in Nigeria Anambra state, with 652 participants. Overall, 74.1% of participants were heard of the presence of P CA, and 76.1% were aware of one or more symptoms of the disease. Difficult urination was the most common presenting symptom through 45.3% of the respondents, at the same time as 87% had been able to identify risk factors for P CA. However, 56.7% were aware of Prostate-specific antigen screening and with regards to Prostate cancer and the PSA test, the most frequent source of information was media 279 (42.8%), followed by physicians 240 (36.8%) (62).

According to a study done in Uganda, 54.1% had heard of prostate cancer media as the most common source of information followed by the health care provider, 50.2% could not aware of any risk factor for P CA and but only 9% were known about the PSA test (63). A cross-sectional study on prostate cancer awareness and its related causes conducted in Rwanda, suggests that among 257 respondents with the proportion of 75%, 251 (80%) were aware of the presence of prostate cancer and reported the health provider as the main supplier of information, 164 (64%) did not recognize the causative factors of prostate cancer, while 68 % of participants were aware of prostate cancer prevention measures, 164 (64%) were aware of prostate cancer tests through PSA testing (65).

A cross-sectional study was conducted in Benin [n=402] with 34% of the proportion of awareness of prostate cancer. 71.6% of respondents had been aware of prostate cancer, 29.9% regarded that lower urinary tract symptoms are associated with P CA, and 22% of participants were aware of prostate-specific antigen. Those with tertiary education had associated with awareness of prostate cancer and PSA screening (68).

### 2.3.3. Patient-related factors

Positive family history has also been found to be a significant risk factor for prostate cancer (37). Family history is a common cause of prostate cancer in comparison with the general population and is associated with the understanding of prostate cancer (38). Men diagnosed with prostate cancer are twice as likely to have a male blood relative (especially, brother, and father) who has been diagnosed with the P CA (39). Also, the risk of prostate cancer rises the number of affected family members, with men with two or three first-degree relatives having a fivefold and eleven-fold increased risk of developing prostate cancer, respectively. The aim of any type of cancer with a family history should have been to provide enough information to capacitate awareness about the disease (40).

In the cross-sectional study done at the University of Texas [n=267], among young and black men of the university 155 (58.08%) of respondents had a regular source of care or regular check-up (69). The regular source of care /check-ups is periodic health assessments or examinations. It helps to the awareness of the health status of patients in risk factors, symptoms, early diagnosis, prevention, and treatments of many diseases (70).

According to a study done in South Africa, frequent admission of the patients encourages the awareness of the patients concerning their health and health-related situations. The number of participants who thought about different factors of health care service ranged from 18.9% to 84.1%. Almost half of the respondents were aware of their admission reasons and management plans. The relationship between health care providers and patient experience should include encouraging awareness of patients' health and health-related issues (71).

The study that assessed the awareness of prostate cancer and its related variables in Ethiopia is not known. Recently, in Ethiopia, the incidence rate of prostate cancer has silently risen, reaching 11% (23), and also, the survival status of the patients is very low (50). Therefore, to overcome this challenge, further research is aimed at not only the TASH communities that this study considered but also the different population groups with focus flaws to be part of the prevention of prostate cancer in Ethiopia. This study was aimed to assess the status of awareness of prostate cancer and its associated factors among male patients attending the urology unit at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021.

### 2.4. Conceptual Framework

The conceptual framework placed below shows the effect of independent variables on the dependent variable which is adapted from different kinds of literature (32, 33, 34, 57, 69, 71).

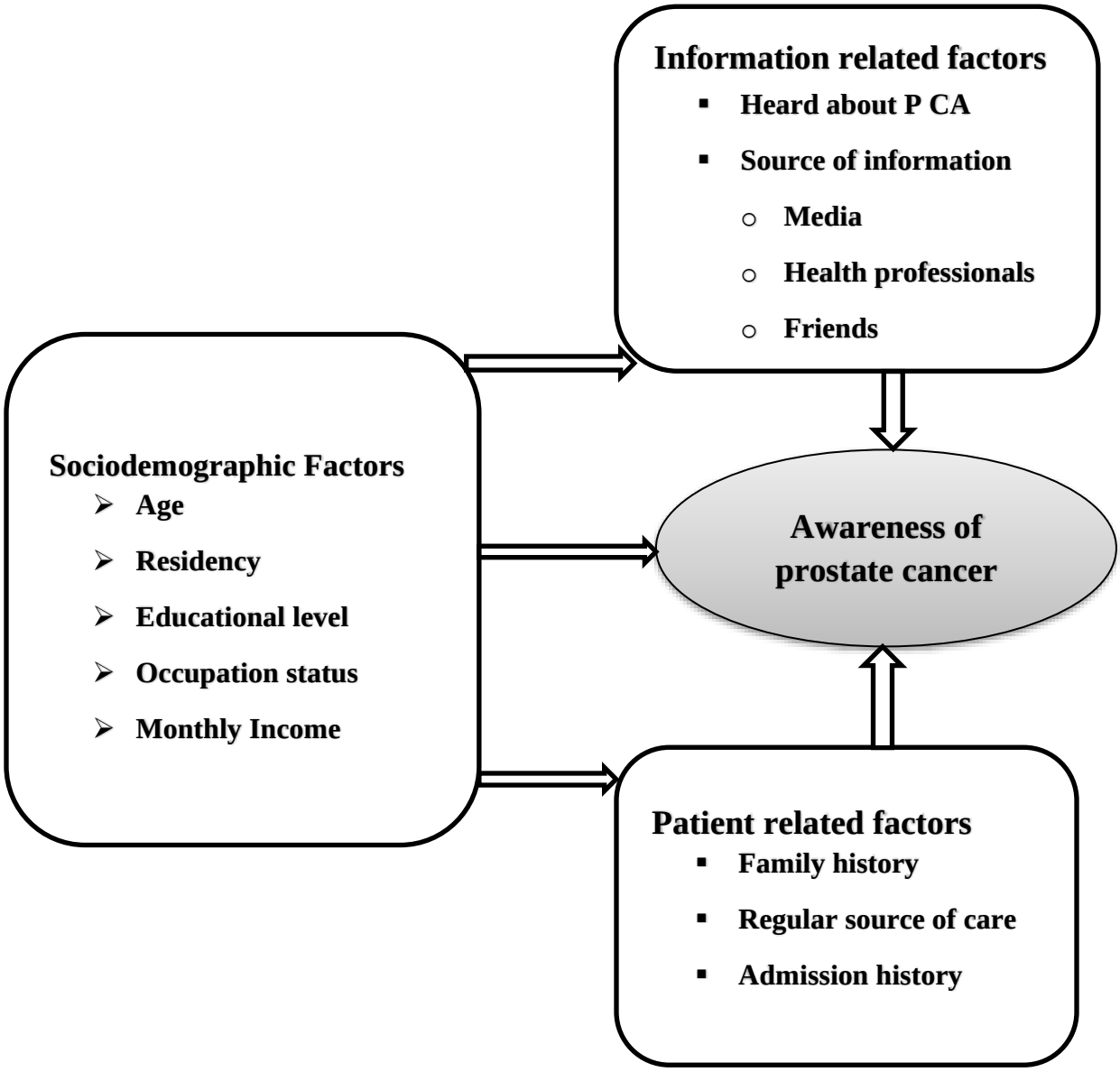


**Figure 1:**The conceptual framework of awareness status of prostate cancer and associated factors among patients attending in Urology at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021

## JUSTIFICATION OF THE STUDY

Prostate cancer in Ethiopia is the third most common cancer in men and is the cause of morbidity and mortality (23). Ethiopia is one of the parts of the developing country, and because of economic obstacles, it is a major challenge for the nation to control and manage cases effectively. Several epidemiological studies performed in different populations show that there is a substantial gap between the countries in the incidence and mortality of prostate cancer. Even though primary prevention is a successful approach to reducing the cost-effective burden of the disease, no previous studies have been performed to determine the status of awareness of prostate cancer in Ethiopia. Besides, the goal of this study will provide different researchers who prefer to study related subjects with an addition to the baseline information.

## SIGNIFICANCE OF THE STUDY

The reason behind this research is to determine the understanding of P CA and its related factors in TASH. The finding of the study will improve a better understand of risk factors, symptoms, screening, and prevention of P CA, in Ethiopia. The study's results also developed basic information that will support the improvement of the country's effective prevention programs. Disease prevention is a national priority for improving patient care. The results of this study will be subsequently used as a fundamental tool for stakeholders to establish strategies, initiatives, and preventive campaign programs to raise awareness among people on prostate cancer.

This scarcity of awareness about such a study in the field of cancer can be utilized as a source of information for future researchers interested in carrying out further studies, and the findings can be useful for researchers, educators, clinicians, and experts interested in evaluating the understanding of prostate cancer and its related factors among male prostate cancer patients in the study.

# 3. OBJECTIVES OF THE STUDY

## 3.1. General Objectives

- To assess the status of awareness of prostate cancer and its associated factors among male patients attending in Urology unit at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021

## 3.2. Specific Objective

- To assess the status of awareness of prostate cancer among male patients participating in the Urology unit at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021.
- To determine factors associated with prostate cancer awareness among male patients attending the Urology unit at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021.

# 4. MATERIALS AND METHODS

## 4.1. Study area and study period

The study was performed from February 8, 2021, to March 8, 2021, at the Tikur Anbessa Specialized Hospital, located in the Ethiopian capital city of Addis Ababa. It is the largest and most well-known public hospital in Ethiopia, established in the early 1960s. TASH is a center of teaching and referral hospital with approximately 800 hundred inpatient beds. It is the only cancer referral hospital in Ethiopia. This study was conducted at the outpatient department of the Urology unit at the TASH. The most common urology cases seen in the urology unit were BPH, Urolithiasis, STI, and UTI. In the TASH Urology unit, Urologists, Residents, Surgeons, and Nurses are working together to complete their daily tasks (72, 73).

## 4.2. Study Design

A descriptive facility-based cross-sectional study design was used.

## 4.3. Population

### 4.3.1. Source Population

All male patients who were attending at TASH from February 8 to March 8, 2021

### 4.3.2. Study Population

All male patients who attended the Urologic unit of TASH during the data collection period fulfill inclusion criteria.

## 4.4. Inclusion and exclusion criteria

### 4.4.1. Inclusion criteria

All ages >18 years old male patients who attended in outpatient at the Urology unit of TASH during the data collection period were included.

### 4.4.2. Exclusion criteria

- Men patients with mental disorder and critically sick
- Patients who are unable to give verbal consent and sign on the written consent.

### 4.5. Sample Size Determination

The sample size was calculated using a method for estimating a single proportion and a correction formula. The sample size for this cross-sectional study was calculated according to Cochran and William guidelines, 5% marginal error, 95% confidence level, alp=0.05, and a 10% non-response rate, assuming a population percentage of 50% because the proportion of awareness of prostate cancer is not determined in Ethiopia yet. Based on this assumption, the actual sample size for the research was applied as follows (74).

$$n = \frac{(Z\ \alpha/2)^2\ p\ (1-p)}{d^2}$$

**Where: -**

**n**= Desired sample size

**Z**=Value of corresponding to a 95% level of significance=1.96

**P** = Proportion (50%) **q=1-p**

**d**= Margin of error 5% (0.05)

Therefore, using the above single population proportion formula the sample size can be calculated,

$$n = \frac{(1.96)^2 x 0.5(1-0.5)}{(0.05)^2} = 384$$

Where the study population is below 10,000 reduction formula was applied (74).

$$nf = \frac{n}{1 + n/N}$$

Where **nf**=desired sample size **n**= the calculated sample size **N**= total population (Patients found in Urology units of the TASH)

$$\frac{384}{1 + (384/535)}$$ **Nf =225** (desired sample size)

Therefore, the study was done on a total sample size of **250** males, including a non-response rate of 25 (**10%)**.

### 4.6. Sampling procedure

A systematic sampling technique was used to collect desired samples from the TASH Urology unit, by using the patient's appointment logbook as a sampling frame. The average population of last year (2020) of male patients on a monthly in the Urology Unit of TASH was [N = 535] from these, 27 patients were seen daily. In all cases, [n = 250] from these, each day, an average of 13 patients were sampled to maximize the representative sample. K = N/n, 2, and K is between 1 and 2. First comer patients who were registered in the Health Management and Information System (HMIS) registry book took as a first sample and then every two intervals until the samples were obtained with a day at the Urology unit. Hence, the Urology unit is providing health care services to patients who have prostate and prostate-related health problems.

### 4.7. Study Variables

**Dependent variable (DV)**

- Awareness of Prostate cancer

**Independent Variables (IV)**

- **Socio-demographic variables** include
  - ✓ Age
  - ✓ Place of residency,
  - ✓ Marital status
  - ✓ Higher level of education level
  - ✓ Income, and
  - ✓ Occupation.
- **Information related factors**:
  - ✓ Heard about prostate cancer
    - Health professionals
    - Media (TV, Radio, social media)
    - Peer groups/friends
- **Patient-related factors**
  - ✓ Family history
  - ✓ Regular source of care or regular checkup
  - ✓ Admission history of the health institution.

### 4.8. Operational Definition

- **Level of Awareness of prostate cancer:**

  The Respondents, prostate cancer awareness score was assessed by the 28 yes or no items of the awareness questionnaire. The total score was calculated or computed out of 100, which has a range from 0 to 100. Awareness was scored by the proportion (percentage) of correctly answered.

- **Urology unit**:

  Is a surgical specialty commonly that treats diseases of the male urinary tract and male reproductive organs. Worldwide About 20%-62% of prostate and prostate-related problems are seen in it (75).

### 4.9. Data collection tool and Data collection procedure

Data were collected from the participants through an interviewer-administered questionnaire that was adapted with modification from different published research and Cancer awareness measurements (CAM) toolkit version 2.1 from the University of London (9,65,76). The contents of the questionnaire included socio-demographic characteristics, information-related factors, patient-related factors, and awareness of prostate cancer items. Items of the questionnaire include yes/no questions. The interview was taking place in the outpatient departments at the TASH's Urology Units. The English version of the questionnaire was developed. A bilingual translator translated it into Amharic and then back into English, and it was reviewed by a senior oncologist and senior researchers in the field of study. Based on previous data collection experience and fluency in the local language, two qualified nurses (BSc) were recruited for the data collection. Before one week of the actual data collection, a pretest was done on 5% (13) of the sample size by the primary researcher which was, held in the oncology unit. Challenges with clarification, pattern, relevance, accuracy, and time permitted in the instrument were addressed during the pretest. After this, the internal consistency (Cronbach's-α) of this study was 0.88 which, is considered adequate. In addition to ensuring data accuracy, two days of role-play training were given to data collectors on how to check the completeness, handling, ethical concerns of the data, and safeguard confidentiality and privacy. Also, encourage data collectors to adhere to the COVID-19 pandemic prevention guideline.

### 4.10. Data Quality Management

To manage the quality of data the following measures were taken, the questionnaire was adapted with modification from the Cancer awareness measurement (CAM) and published research. The pre-test was done and the required corrections were made. The primary investigator provided training for the data collectors. There was supervision, daily, and checking on the data collection questionnaire. Moreover, the collected information was coded, cleaned, and explored via the primary investigator earlier than analysis. The entire data collection period was monitored by the primary investigator.

### 4.11. Data processing and Analysis

The study was computed using descriptive statistics and linear regression analysis using epi data version of 4.6.0 software to prevent data entry error and exported to SPSS version 26 for further statistical analysis. Recoding, categorizing, computing, and other statistical analyses were made. Descriptive analysis (Mean, standard deviations, frequency, and percentage) was used to analyze the independent variables. Tables and graphs were used to show the findings. The awareness of prostate cancer score was recorded as a continuous scale in the SPSS and scored by the proportion of correctly answered.

First, performed simple linear regression to select the candidate variables for multiple linear regression. All variables having a p-value $\leq 0.25$ during simple linear regression were selected for the multiple linear regression. After the multiple linear regression analysis, variables having a p-value less than 0.05 were having statistical significance with awareness of prostate cancer. The strength of the association between independent and dependent variables was described using unstandardized β with 95% CI.

After developing a dummy variable table to describe the variables associated with the response (outcome variables). However, before fitting the linear regression model, the assumptions of linearity were tested and fulfilled using a scatter plot, normality was checked using a histogram and p-p plots, homoscedasticity was satisfied by plotting two scatter plots of standardized residuals against the standardized expected values, and the data were distributed normally.

Finally, multicollinearity was checked by examining both the tolerance and Variability inflation factor (VIF). Multicollinearity is calculated, indicating just how much of the variability of the listed independent variables was not determined by the other predictor variables in the given model. All of the tolerance scores in the model were >0.10 and the Variability inflation factor (VIF) values were below 10, implying that multicollinearity could not exist. R square statistic in the model also described 0.8 of the variances which determine the good appropriateness of the model used.

### 4.12. Ethical Consideration

The study was conducted following the declaration of Helsinki. An ethical clearance letter was obtained from the ethics Institutional Review Board Addis Ababa University, College of Health Sciences, school of nursing and midwifery (protocol N0 36/21SNM). Further permission was received from the urology unit at TASH. An information sheet was prepared and read to all eligible participants, their participation was voluntary and written consent was obtained. Confidentiality was maintained throughout the process. Detailed information was given to study subjects if the need arises. The interview was conducted in well lighted, ventilated, clean, and quiet place attached to the unit to respect their dignity. Immediately following data collection, leaflets on prostate cancer were distributed to respondents to raise their awareness. The content of the leaflet was focused on the symptoms, risk factors, early detection (early screening), and prevention of prostate cancer, as prepared from the given literature.

### 4.13. Dissemination Study Results

The results of the study will be submitted to the AAU, College of Health Sciences, School of Nursing, and Midwifery. The paper will be presented at workshops, seminars. Finally, the paper will be published in local and international reputable journals for possible publication.

# 5. RESULTS

A total of 250 patients approached and 241 participated in this study making a response rate of 96.4%.

## 5.1. Socio-demographic characteristics of the respondents

Nearly three-fourths of the respondents 180 (74.7%) were from urban. The mean age of the respondents was 52.3 (SD ± 13.6) years with a minimum and maximum age of 28 to 97 years respectively. Regarding marital status, above half 157 (65.1%) of the respondents were married. In terms of the educational level of study participants, 106 (44%) had college and above. About 103 (42.7%) of respondents were employed. Almost half of the respondents' 114 (47.3%) monthly income was Between 2251-8900 ETB. The majority of participants 141 (58.5%) had heard about prostate cancer, and health care providers were the major source of information 69 (48.9%) followed by the media 56 (39.7%) [***Table 1***].

**Table 1 Socio-demographic characteristics of respondents in TASH, Addis Ababa, Ethiopia, 2021 [n=241]**

| Variable | Frequency (N) | Percentage (%) |
|---|---|---|
| **Age continuous** | **Mean = 52.3** | **SD = (± 13.5)** |
| **Age category** | | |
| ≤40yrs | 59 | 24.4 |
| >40 yrs. | 182 | 75.6 |
| **Place Residency** | | |
| Urban | 180 | 74.7 |
| Rural | 61 | 25.3 |
| **Marital status** | | |
| Single | 36 | 14.9 |
| Married | 157 | 65.1 |
| Others [a] | 48 | 19.9 |
| **Occupation status** | | |
| Employee | 103 | 42.7 |
| Merchant | 60 | 24.9 |
| Others [b] | 78 | 32.4 |
| **A higher level of education** | | |
| College and above | 106 | 44.0 |
| Secondary Education (9-12) | 69 | 28.6 |
| Primary school (1-8) | 51 | 21.2 |
| Others [c] | 15 | 6.2 |
| **Monthly Income In ETB** | | |
| Low income (≤ 2250) | 73 | 30.3 |
| Middle income (2251-8900) | 114 | 47.3 |
| High income (>8900 | 54 | 22.4 |
| **Heard about P CA** | | |
| YES | 141 | 58.5 |
| NO | 100 | 41.5 |
| **Source of information** | | |
| Health care providers | 69 | 48.9 |
| Friends | 16 | 11.3 |
| Media [d] | 56 | 39.7 |

**Note**: **Other** [a] widowed and divorced. **Others** [b] Retired, Farmer, and Student. **Others** [c] unable to write and read, able to write and read, Media [d] TV, Radio and social media

### 5.2. The patient-related factors of the respondents

About 54 (22.4%) respondents had a family history of prostate cancer while 105 (43.6%) of respondents had a regular source of care for their health, and from those participants, almost half, 116 (48.1%) of had an admission history in the health institution [**Table *2*].**

**Table 2: The patient-related factors of the Respondents in TASH, Addis Ababa, Ethiopia, 2021 [n=241]**

| Variables | Frequency (N) | Percentage (%) |
|---|---|---|
| **Family history n=241** | | |
| YES | 54 | 22.4 |
| NO | 187 | 77.6 |
| **Family member n=54** | | |
| Father | 39 | 72.2 |
| Others[a] | 15 | 19.7 |
| **Regular source for care n=241** | | |
| YES | 105 | 43.6 |
| Not have | 136 | 56.4 |
| **Duration of regular care n=105** | | |
| < 6 months | 65 | 61.9 |
| ≥ 6 months | 40 | 38.1 |
| **Admission history n=241** | | |
| YES | 116 | 48.1 |
| NO | 125 | 51.9 |
| **Duration of admission n=116** | | |
| 1 time | 23 | 19.8 |
| 2 times | 61 | 52.5 |
| 3 times | 17 | 14.6 |
| ≥ 4times | 15 | 12.9 |

**Note: Others[a]** Father and mother family

### 5.3. Awareness of prostate cancer and its components score

The minimum and maximum scores for the awareness of prostate cancer were 0 and 100 respectively out of 28 questionnaires. The mean score was 12.6 (SD±10.4) from 28. The percentage of the prostate cancer awareness score of the respondents was 45% of the total expected score, seen in [***Table 3***].

#### 5.3.1. Awareness of risk factors and symptoms score

The mean risk factors and symptoms score of the respondents was 4.1 (SD±3.6) and (2.6 (SD±2.5) with the proportion of 41.2% and 43.8%, respectively. Many of the study participants, 119 (49.4%) and 72 (29.9%) were reported that aging and family history are both major non-controllable risk factors for prostate cancer respectively. Almost half of the study participants were reported that the following modifiable risk factors respectively, Smoking cigarettes 120(49.8%), lack of fruits and vegetables 114 (47.3%) being overweight (obesity) 112 (46.5%), and drinking alcohol 107(44.4%). Also, the most common symptoms reported by respondents were difficulty urinating 133 (55.2%), frequent urination 128 (53.1%), and hematuria 115 (47.7%), seen in [***Table 3***].

#### 5.3.2. Awareness on screening and prevention score

The mean screening and prevention score of the respondents was 1.3 (SD ±1.2) and 4.5(SD±3.9) with the proportion of 44.7% and 49.5% respectively. According to this study, overall prostate cancer screening included two tests, a PSA and a DRE test, and study participants were reported that a rectal examination of 110 (45.6 %) and a PSA test of 81 (33.6 %), respectively. Among the respondents, 120 (49.8%) were reported that prostate cancer is being a disease that can be managed to avoid. For prevention, the majority of respondents 155 (64.3%), to the onset of prostate cancer talked to health professionals as the first intervention to avoid prostate cancer followed by use adequate fruits and vegetables 132(54.8%) seen in [**Table 3**].

**Table 3 Distribution of study participants on the awareness of prostate cancer in TASH, Addis Ababa, Ethiopia, 2021 [n=241].**

| variable | Questionnaire (Do you think that… | Yes N (%) | No N (%) |
|---|---|---|---|
| | Aging can cause P.CA? | 119 (49.4) | 122 (50.6) |
| | Family history can cause P.CA? | 72 (29.9) | 169 (70.1) |
| **Risk factors** | Drinking alcohol can cause P.CA? | 107 (44.4) | 134 (56.4) |
| **[n=10]** | Smoking cigarettes can cause P.CA? | 120 (49.8) | 121 (50.2) |
| | Lack of adequate fruit and vegetables can cause P.CA? | 114 (47.3) | 127 (52.7) |
| | Poor physical activity can cause P.CA? | 101 (41.9) | 140 (58.1) |
| | Having multiple sexual partners can cause P.CA? | 105 (43.6) | 136 (56.4) |
| | Obesity /overweight can cause P.CA? | 112 (46.5) | 129 (53.5) |
| | Genetics can cause P.CA? | 72 (29.9) | 169 (70.1) |
| | Prior prostate disease (Prostatitis) can cause P.CA? | 71 (29.5) | 170 (70.5) |
| | Frequent urination is prostate cancer-related symptoms? | 128 (53.1) | 113 (46.9) |
| | Difficult urination is prostate cancer-related symptoms? | 133 (55.2) | 108 (44.8) |
| **Symptoms** | Back pain is prostate cancer-related symptoms? | 85 (35.3) | 156 (64.7) |
| **[n=6]** | Pelvic bone pain is prostate cancer-related symptoms? | 84 (34.9) | 157 (65.1) |
| | Hematuria is prostate cancer-related symptoms? | 115 (47.7) | 126 (52.3) |
| | Painful ejaculation is prostate cancer-related symptoms? | 89 (36.9) | 152 (63.1) |
| | Early screening can increase the survival of patients? | 134 (55.6) | 107 (44.4) |
| **Screening** | Have you ever known about DRE? | 109 (45.2) | 131 (54.4) |
| **[n=3]** | Have you ever known about PSA? | 80 (33.2) | 160 (66.4) |
| | Do you think that P.CA is a preventable disease? | 120 (49.8) | 121 (50.2) |
| | Can prevent P CA by stopping smoking? | 117 (48.5) | 124 (51.5) |
| | Can prevent P CA by stopping drinking alcohol? | 119 (49.4) | 122 (50.6) |
| **Prevention** | Can prevent P CA by Early screening? | 113 (46.9) | 128 (53.1) |
| **[n=9]** | Can prevent P CA by Doing Regular physical exercise? | 110 (45.6) | 131 (54.4) |
| | Can prevent P CA by Combat (fight) obesity? | 99 (41.1) | 142 (58.1) |
| | Can prevent by Reduce having multiple sexual partners? | 110 (45.6) | 131 (54.4) |
| | Can prevent P CA by talking with health professionals? | 155 (64.3) | 86 (35.7) |
| | Can prevent P CA by using adequate Fruits and vegetables | 132 (54.8) | 109 (45.2 |

### 5.3.3. Distribution of the proportion score of awareness on prostate cancer

The proportion of prostate cancer awareness score of the respondents was 45% from the total expected score, whereas, the percentage score of the components were 41.2% with a mean score of 4.1 (SD=±3.6) for risk factors, 43.8% with a mean score of 2.6 (SD±2.5) for symptoms, 44.7% with a mean score of 1.3 (SD ±1.2) for screening, and 49.5% with a mean score of 4.5(SD±3.9) for prevention of, awareness of prostate cancer, respectively, as seen in [**Figure 2**].

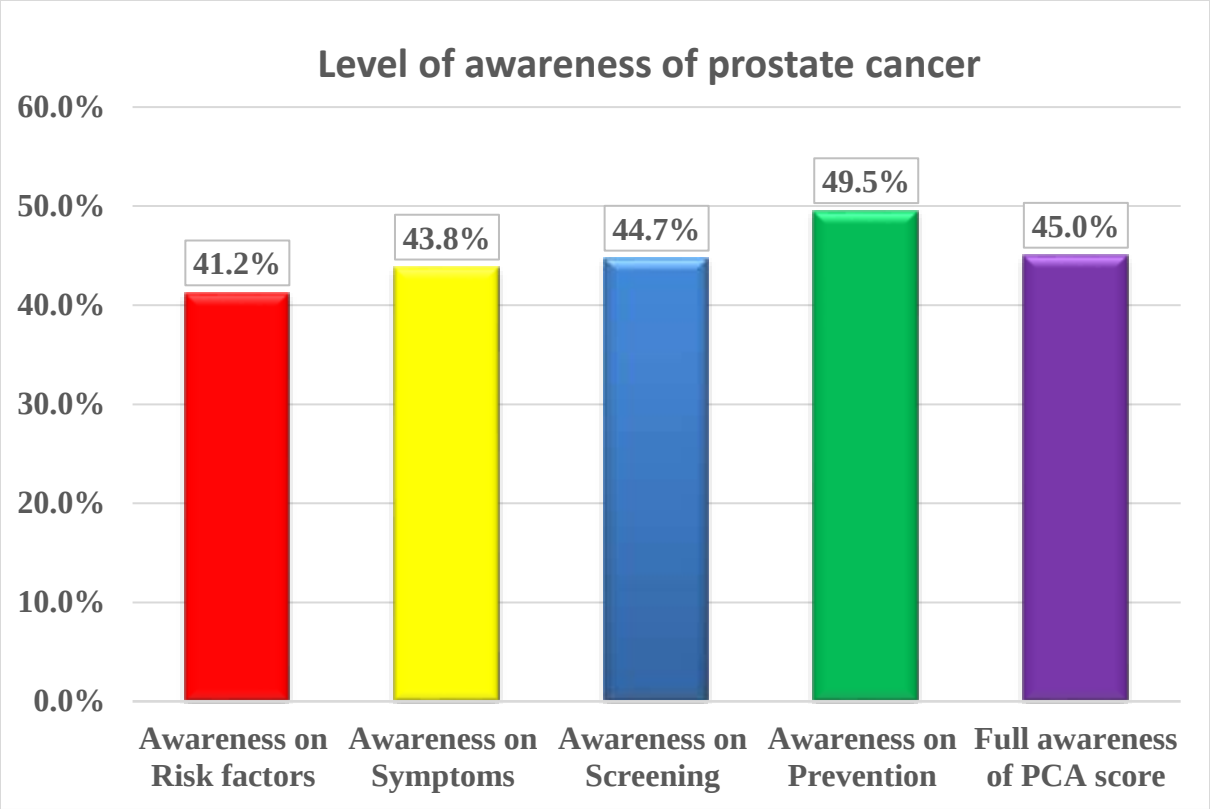


**Figure 2:Distribution of the proportion score of prostate cancer awareness and its' components from the total expected score among male patients in the Urology unit at TASH, Addis Ababa, Ethiopia, in 2021.**

**Table 4:Predictors of awareness of prostate cancer based on the simple linear regression analysis model, in TASH, Addis Ababa, Ethiopia, 2021 [n=241].**

| Variable | Mean | SD (±) | Crude Unstandardized Coefficients(95%CI) | p-value |
|---|---|---|---|---|
| **Place of residency** | | | | |
| Rural | 7.98 | 9.59 | 1 | 1 |
| Urban | 14.10 | 10.19 | 6.1 (3.1-9) | <0.001 |
| **Marital status** | | | | |
| Married | 11.22 | 10.41 | 1 | 1 |
| Single | 13.61 | 9.80 | -2.3 (-6.1-1.3) | 0.2 |
| Widowed | 11.75 | 10.42 | -1.8 (-6.6-2.9) | 0.4 |
| Divorced | 8.89 | 10.29 | -4.7 (-8.8-0.5) | 0.02 |
| **Occupation** | | | | |
| Employee | 15.51 | 11.15 | 1 | 1 |
| Student | 15.25 | 11.18 | -0.2 (-10 - 9.5) | 0.958 |
| Merchant | 11.18 | 9.59 | -4.2 (-0.7- 0.1) | 0.007 |
| Retired | 13.83 | 10.87 | -1.6 (-5.4-2) | 0.376 |
| Farmer | 5.18 | 8.32 | -10.3 (-13.6- 6.6) | < 0.001 |
| **Monthly income in ETB** | | | | |
| 2251-8900 | 12.30 | 10.24 | 1 | 1 |
| <2250 | 10.36 | 10.22 | -1.6 (-4.6-1.3) | 0.274 |
| >8900 | 16.63 | 9.88 | 4.6 (1.3- 7.9) | 0.007 |
| **Heard about PCA** | | | | |
| No | 2.40 | 5.91 | 1 | 1 |
| Yes | 19.75 | 5.82 | 17.3 (15.8-18.8) | <0.001 |
| **Source of information** | | | | |
| No | 2.40 | 5.91 | 1 | 1 |
| Friends | 18.75 | 5.42 | 16.5 (13.5-19.5) | <0.001 |
| Health care providers | 20.62 | 5.42 | 18.3 (16.6-20.3) | <0.001 |
| Media | 19.25 | 6.26 | 17 (15-18.8) | <0.001 |

| | | | | |
|---|---|---|---|---|
| **Family history** | | | | |
| No | 10.05 | 10.14 | 1 | 1 |
| Yes | 21.20 | 5.31 | 11.5 (8.3-13.9) | <0.001 |
| **Family member** | | | | |
| Mother family | 20.57 | 9.11 | 1 | 1 |
| Father | 20.90 | 4.66 | 10.4 (7.1-13.7) | <0.001 |
| Brother | 23.50 | 4.30 | 12.8 (6-19.5) | <0.001 |
| **Regular source of care** | | | | |
| No | 8.84 | 9.63 | 1 | 1 |
| Yes | 17.36 | 9.31 | 8.5 (6.1-10.9) | <0.001 |
| **Duration of regular care** | | | | |
| No | 8.84 | 9.63 | 1 | 1 |
| < 6months | 16.65 | 9.90 | 7.8 (4.9-10.6) | <0.001 |
| ≥ 6 months | 18.52 | 8.24 | 9.6 (6.3-13) | <0.001 |
| **Admission history** | | | | |
| No | 11.18 | 10.56 | 1 | 1 |
| Yes | 14.03 | 10.01 | 2.8 (0.2-5.4) | <0.03 |
| **Duration of admission** | | | | |
| ≥ 4 times | 12.11 | 11.55 | 1 | 1 |
| 1 time | 16.41 | 10.28 | 5.1 (1.01-9.3) | 0.01 |
| 2 times | 13.21 | 10.12 | 1.9 (-1.2-5) | 0.2 |
| 3 times | 13.88 | 10.18 | 2.6 (-2.5-7.8) | 0.3 |

**Note**: **Media**: -Television, Radio, social media, **ETB: -**Ethiopian birrs, **SD: -**Standard deviation

Since the age and level of education variables do not fit the simple linear regression analysis model, they were excluded because their p-value is greater than 0.25. Multiple linear regression models were used with variables that fitted with a p-value of ≤ 0.25, as seen in [**Table 4**].

### 5.4. Associated factors with the awareness of prostate cancer

In simple linear regression analysis, residency of the respondents, marital status, occupational status, families average monthly income, heard about prostate cancer, source of information, family history, regular source of care with a duration of a regular checkup, and admission history for the specific prostate problem with duration of admission was fitted with the awareness of prostate cancer. Also, in multiple linear regression analysis, family average monthly income > 8900 ETB, heard about prostate cancer, health care provider, friends, and media from the source of information, family history ≥ 6 months and above a duration of regular source of care, and three (3) times of admission history were significantly associated with prostate cancer awareness.

By holding the effect of all other variables in the model, the study participants had an average family monthly income > 8900 ETB, had increased the score of awareness on prostate cancer by factors of 2.9 times as compared to respondents who had less than 8900 ETB monthly income (β=2.9, 95%CI: 1.2-4.6, P=0.001). Study participants who heard about prostate cancer increased the awareness of prostate cancer score by a factor of 5.3 times as compared to respondents who didn't hear (β=5.3, 95%CI: 1.2-9.4, P=0.011). Study participants who have a family history of prostate cancer increased the awareness of P CA score by a factor of 6.9 times as compared to respondents who had no family history (β=6.9, 95%CI: 3.1-10.7, P< 0.001).

Respondents who have source information through health care provider, friends, and media (TV, radio, social media) had raised the awareness of prostate cancer score by a factor of 10.8 times, 10.4 times, 9.5 times as compared to those who have not of information (β=10.8, 95%CI 6.7-15, P<0.001, β=10.4, 95%CI:5.8-14.9, P<0.001, β=9.5, 95%CI:5.3-13.7, P<0.001) respectively. The Respondents who have a regular source of care with every six months and above had increased the awareness of prostate cancer score by a factor of 4.3 times as compared to those who have less than six-month routine checkup for their health (β=4.3, 95%CI: 2.5-6.1, P<0.001). The study participants who have 3 times, admission history had raised the awareness of P CA score by a factor of 5.4 times as compared to those who have less and more frequent admission history with the specific prostate problem (β=5.4, 95%CI:1.3-9.5, P=0.009< 0.001), seen in [**Table *5***].

**Table 5:Predictors of awareness of prostate cancer based on the multiple linear regression analysis models, in TASH, Addis Ababa, Ethiopia, 2021 [n=241].**

| Variables | Adjusted Unstandardized β coefficient (95% CI) | P-value | Collinearity | |
|---|---|---|---|---|
| | | | Tolerance | VIF |
| **Monthly income** | | | | |
| 2251-8900 | 1 | 1 | 1 | 1 |
| <2250 | 1.5 (-0.3-3.3) | 0.10 | 0.52 | 1.89 |
| > 8900 ETB | 2.9 (1.2-4.6) | 0.001 | 0.75 | 1.32 |
| **Hear about PCA** | | | | |
| NO | 1 | 1 | 1 | 1 |
| YES | 5.3 (1.2-9.4) | 0.011 | 0.92 | 1.88 |
| **Information source** | | | | |
| Haven't information | 1 | 1 | 1 | 1 |
| Health care providers | 10.8(6.7-15) | < 0.001 | 0.11 | 8.4 |
| Friends | 10.4 (5.8-14.9) | < 0.001 | 0.10 | 9.46 |
| Media | 9.5 (5.3-13.7) | < 0.001 | 0.29 | 3.39 |
| **Family history** | | | | |
| NO | 1 | 1 | 1 | 1 |
| YES | 6.9 (3.1-10.7) | < 0.001 | 0.14 | 6.71 |
| **Regular source of care** | | | | |
| Haven't regular care | 1 | 1 | 1 | 1 |
| < 6 months | 1.8 (0.32-3.5) | 0.025 | 0.73 | 1.36 |
| ≥ 6 months | 4.3 (2.5-6.1) | < 0.001 | 0.80 | 1.23 |
| **Duration of admission** | | | | |
| ≥4 times | 1 | 1 | 1 | 1 |
| 1 time | 1.4 (-1.0-3.1) | 0.32 | 0.83 | 1.20 |
| 2 times | 0.14 (-1.3-1.6) | 0.85 | 0.84 | 1.18 |
| 3 times | 5.4 (1.3-9.5) | 0.009 | 0.34 | 2.90 |

**Note: -Media (**TV, radio, social media**), ETB: -**Ethiopian birrs**, VIF: -**Variance inflation factor**, (95% CI): -** 95% confidence interval.

## 6. DISCUSSION

Having awareness of Prostate cancer is identified as the key aspect for the quality of prostate cancer care that improved the early detection and prevention of the disease (6). This study investigated that the proportion of prostate cancer awareness and associated factors among male patients attend in the urology at TASH, Addis Ababa, Ethiopia

Our study showed that the proportion of prostate cancer awareness was 45%. This study's findings of awareness score also lower than the results of a study done in Rwanda 75% (65). The major discrepancy among the previous studies and in our study might be due to Study in Rwanda was conducted directly on patients who have an appointment for prostate cancer, this is make difference in the individual awareness toward prostate cancer.

In contrast, this finding is also contrary to a study conducted in Benin (68), which indicated that a small score was reported than our study about prostate cancer awareness, which is only (34%). This difference may be related to the difference in the study population, the study was conducted on the general population but our study was conducted on patients who came to the urology department. This indicates patients with specific health problems had more awareness than the general population (75).

This study demonstrated that families with a high monthly income had a significant impact on participants' awareness (77). This is supported by a study conducted in Denmark and Namibia, which explored a strong socioeconomic distribution in cancer awareness, with individuals with low family income having a poor awareness of symptoms, risk factors, prevention, and screening (66, 67). People with more incomes were more concerned about their health than those with lower incomes. Furthermore, economic development in one country is increasing school enrollment and educational attainment, which improves people's educational levels and health status. Furthermore, people with a high income were encouraged to learn more about their health and health-related status.

Regarding the sources of information about prostate cancer, 141 (58.5%) of the respondents were heard about the existing prostate cancer from a different source. the respondents were heard about the existing prostate cancer from different sources. Health care providers, media, and friends were significantly associated with awareness of prostate cancer. Health care providers as the most common source of information, followed by the media (TV, radio, and social media). This is supported by the other study done in the following countries which indicated the main source of information was health care providers and the media. Research conducted in Saudi, and Rwanda, found out the main source of information was being health care providers (61,65).

Also, studies were done in Italy, Nigeria, and Uganda noticed that the main source of information was being media (9, 62,63). This may be due to that the Ethiopian media did not provide adequate information and awareness to prostate cancer or health care providers were gave more information than the media.

Nearly one-fourth of the respondents 22.4 % had a family history of prostate cancer. Positive family history is a significant risk factor for prostate cancer and is significantly associated with the awareness of prostate cancer (37). Men diagnosed with prostate cancer are twice as likely to have a male blood relative (especially, brother, and father) who has been diagnosed with the P CA (39). Also, the risk of prostate cancer rises the number of affected family members, with men with two or three first-degree relatives having a fivefold and eleven-fold increased risk of developing prostate cancer, respectively. The aim of any type of cancer with a family history should have been to provide enough information to capacitate awareness about the disease's risk factors, symptoms, early detection, and prevention. It also allows for the implementation of an initial management plan and follow-up action for the possibility of a family member's susceptibility (40).

Furthermore, in this study, 43.5% of respondents who have a routine source of care had associated with prostate cancer awareness. Of respondents who have a regular source of care every six months and more had significantly associated with Awareness of prostate cancer. This study is in line with a study done at Texas university (69).

The regular source of care is periodic health assessments or examinations. It is relevant to health professionals or health institutions where the person usually goes to his/her health and health-related conditions if he/she is ill or needs advice. When patients received regular and routine care services from health care providers, their awareness was improved accordingly (69).

Nearly half of the participants 48.1% had a history of admission to a health facility for prostate and prostate-related problems, from those, who have 3 times, admission history is significantly associated with awareness of prostate cancer as compared to those who have less frequent admission history. This is supported by studies done in South Africa (71). According to the European Charter of Patients' Rights (78), a patient's right to be aware of their health condition during their admission is a basic human right and an important part of modern health care practice.

Frequent admission of the patients also encourages the awareness of the patients concerning their health and health-related situations. Globally, during admission, the number of participants who have awareness of different factors of health care service ranged between 18.9% and 84.1% (71). As a result, patients who have had previous admissions are more aware of their wellbeing and health-related problems than those who have not. Since the relationship between health care providers and patients should include empowering patients to be more aware of their health and health-related issues.

## 7. STRENGTH AND LIMITATION OF THE STUDY

The study instrument was comprehensive, pretested, and modified before the actual data collection. The data were double entered and validated using the Epidata Version 4.6.0 entry before analysis. However, since the findings are restricted to a sample of Tikur Anbessa specialized hospital patients, thus limiting their generalizability to the whole country. Our study sample size was small, which limits our generalizability of the findings on awareness of prostate cancer and its associated factors. So, it needs a large sample size to incorporate other aspects of respondents' awareness of prostate cancer. The research may also be limited by the fact that these were based on the participants 'self-report, which can increase social desirability bias.

# 8. CONCLUSION AND RECOMMENDATIONS

## 8.1. Conclusion

In conclusion, the proportion of awareness score among respondents of male patients attending Tikur Anbess specialized hospital was low relative to previous studies. More than half of the study participants were having an awareness score below the mean value. While health care providers were the main source of information followed by the media. Families' average monthly income, heard about prostate cancer, having a regular source of care every six months and more, a three-times, admission history, and source of information were all significantly associated with Prostate cancer awareness. This strong association between prostate cancer awareness and associated factors will be essential in understanding and controlling the disease.

## 8.2. Recommendations

Based on the study's findings, the following important recommendations are forwarded to the relevant bodies on prostate cancer awareness, prevention, early detection, and treatment program facilitators, policymakers, and researchers who are involved in this area.

### To the Federal ministry of health

Better if implemented prostate cancer early screening and detection program to improve early treatment results and survival outcomes. It is essential to raise awareness about prostate cancer prevention, screening, diagnosis, and early treatment through collaboration with government and private media. Better if given special attention to the quietly rising prostate cancer in the country.

### To Tikur Anbessa Specialized Hospital and health care providers

Health care providers could enhance awareness about prostate cancer accordingly. Health professionals could emphasize health information dissemination (HID) on the risk factors, symptoms, early screening, and prevention, Health-care facilities should pay special attention to health education for patients who visit them to raise awareness about prostate cancer.

### For future researchers

Future studies with larger sample sizes will be recommended to better understand the local risk factors, symptoms, screening, and prevention for prostate cancer in our country. In the future, the researchers should have to study and investigate furtherly with additional variables, emphasis on community and facility-based level.

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**COLLEGE OF HEALTH SCIENCE**

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## 10. APPENDIX

### APPENDIX- A: INFORMATION SHEET

**Dear respondents**, my name is _____ I am here to collect information for a study called, "Awareness of prostate cancer and associated factors among male patients attending a Urology unit, at Tikur Anbessa Specialized Hospital " The research is being conducted by Tilaye Gebru. You have been selected as a participant in this study, and the questionnaire normally takes 30 minutes to complete.

**Name of the Organization**: AAU, CHS, School of Nursing and Midwifery Department of Oncology Nursing.

**Name of the Sponsor:** AAU

**Objective:** This study aims to determine the status of awareness among male patients attending a Urology unit at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2021, of prostate cancer and its related factors.

**Risk and discomfort:** There are no physical or psychological risk during data collection

**Benefits:** For those patients who would be included in this study, the study had no direct benefit. The indirect advantage of the study for the participant and other clients in the program is obvious.

**Confidentiality:** The information was collected without the names of the clients. The data obtained from this study project will be kept confidential and stored in a file. Besides, except for the prosecutor, it will not be disclosed to anybody and it will be stored in a computer password in a key and locked device.

**Person to contact**: If you would like to hear more about the research and its undertakings, you can contact the committee at the address below.

Cell phone: +251927109676,

E-mail: **tilaye.gebru@haramaya.edu.et**

## APPENDIX- B: CONSENT FORM

I understand the purpose of the research, the benefits, my right to voluntary participation, confidently, and without any victimization, withdrawal from the study. I had the chance to ask questions and I answered them to my satisfaction.

I freely consent to participate in this study.

Agreed _____

Don't agree _____

Date_____ Sign_____

**Thank you for your cooperation.**

**APPENDIX - C: QUESTIONNAIRE (ENGLISH VERSION)**

**Table 6. 1 PART I: The question has to do with background information.**

If you are willing to answer the question Please put (√) the answer option and write the appropriate response to the given space.

| **N0** | **Items** | **Participant response** |
|---|---|---|
| 101 | How old are you? | _____ |
| 102 | Where is your residency place? | 1.Urban 2. Rural |
| 103 | What is your marital status? | 1. Single 3. Widowed<br>2. Married 4. Divorced |
| 104 | What is your occupation? | 1.Employee 4. Farmer<br>2.Marchent 5. Student<br>3. Retired 6. Other specify |
| 105 | What is your higher level of education? | 1. Unable to write and read<br>2. Able Read and write<br>3. Primary Education (1-8)<br>4. Secondary Education (9-12)<br>5. College and above<br>6. Other specify |
| 106 | How much monthly income do you get in Birr? | _____ |
| **Information related Questionnaire** | | |
| 107 | Have you heard of prostate cancer before? | 1.YES 2.NO |
| 108 | If your response is Yes, where can you get the information?<br>If your response is No, skip to the next question. | 1. TV<br>2. Radio<br>3. Social Media<br>4. Health care providers<br>5. Friends<br>6. Other, Specify |

| Patients' history-related Questionnaires | | |
|---|---|---|
| 109 | Do you have a history of prostate cancer in your family? | 1. YES 2. NO |
| 110 | If your answer is yes, who has a prostate problem?<br>If your response is No, skip to the next question. | 1. Father<br>2. Brother<br>3. In mother family<br>4. Other, specify---------- |
| 111 | Do you have a regular source of care/checkups? | 1. YES 2. NO |
| 112 | If your response is yes, how long have you been seeing your physician? | 1. < 6 months<br>2. 6 months to < 1 year<br>3. 1 to 5 years<br>4. 5 years and above<br>5. Other specify ---------- |
| 113 | Do you have a hospital admission with a prostate problem? | 1. YES 2. NO |
| 114 | If your response is yes, how many times admit to the hospital? | 1. 1 time 3. 3times<br>2. 2 times 4. More ≥4 times |

**Table 6. 2 PART II: The questionnaire assesses the participants' awareness status of prostate cancer.** If you are willing to answer the question, please put (√) the answer option and write the appropriate response to the given space.

| S. N0 | QUESTIONNAIRES ABOUT RISK FACTORS | RESPONSE |
|---|---|---|
| 201 | Do you think one of the risk factors for prostate cancer is aging? | 1.YES 2.NO |
| 202 | Do you think family history is one of the risk factors for prostate cancer? | 1.YES 2.NO |
| 203 | Do you think alcohol consumption is one of the risk factors for prostate cancer? | 1.YES 2.NO |
| 204 | Do you think a smoking cigarette is one of the risk factors for prostate cancer? | 1.YES 2.NO |
| 205 | Do you think that lack of vegetables and fruits within the diet is one of the risk factors for prostate cancer? | 1.YES 2.NO |
| 206 | Having poor physical activity is may cause cancer of the prostate? | 1. YES 2. NO |

| | | |
|---|---|---|
| 207 | Having multiple sexual partners causes cancer of the prostate. | 1.YES 2. NO |
| 208 | One of the risk factors for cancer of the prostate is obesity/overweight? | 1.YES 2. NO |
| 209 | Prostate cancer may be caused by genetics? | 1.YES 2. NO |
| 210 | Prior prostate disease (Prostatitis) may cause cancer of the prostate? | 1.YES 2. NO |
| **QUESTIONNAIRES ABOUT SYMPTOMS OF PROSTATE CANCER** | | |
| 211 | Do you think that frequent urination is one of the symptoms related to prostate cancer? | 1.YES 2.NO |
| 212 | Do you think difficult urination is one of the symptoms of cancer of the prostate? | 1.YES 2.NO |
| 213 | Do you think back pain is one of the prostate cancer-related symptoms? | 1.YES 2.NO |
| 214 | Do you think pelvic bone pain is one of the symptoms of prostate cancer? | 1.YES 2.NO |
| 215 | Do you think hematuria is one of the prostate cancer-related symptoms? | 1.YES 2.NO |
| 216 | Do you think that painful ejaculation is one of the prostate cancer-related symptoms? | 1.YES 2.NO |
| **QUESTIONNAIRES ABOUT SCREENING OF PROSTATE CANCER** | | |
| 217 | Do you think that early screening increases the survival of patients with prostate cancer? | 1.YES 2.NO |
| 218 | Have you ever known about DRE for patients with prostate problems? | 1.YES 2.NO |
| 219 | For **218** If your response is Yes, where can you get the information? | 1. TV<br>2. Radio<br>3. Social Media<br>4. Health care providers<br>5. Friends<br>6. Other, Specify---------- |

| | | |
|---|---|---|
| 220 | Have you ever known about PSA tests for patients with prostate problems? | 1.YES 2.NO |
| 221 | For **220** If your response is Yes, where can you get the information? | 1. TV<br>2. Radio<br>3. Social Media<br>4. Health care providers<br>5. Peer groups/ Friends<br>6. Other, Specify---------- |

**Awareness of the Preventive measures of prostate cancer**

Identify any prostate cancer preventive method you know; multiple answers are allowed

| **N⁰** | **Questionnaire** | **Responses** | |
|---|---|---|---|
| | | **YES** | **NO** |
| 222 | Prostate cancer is a preventable disease? | | |
| 223 | Can prevent cancer of the prostate by quitting smoking? | | |
| 224 | Can prevent cancer of the prostate by quitting drinking? | | |
| 225 | Can prevent cancer of the prostate by Regular screening? | | |
| 226 | Can prevent cancer of the prostate by doing Regular physical exercise (walking, running)? | | |
| 227 | Can prevent cancer of the prostate by Combat (fight) obesity? | | |
| 228 | Can prevent cancer of the prostate by Reduce having multiple sexual partners? | | |
| 229 | Can prevent P CA by talking to health professionals? | | |
| 230 | Can prevent P CA by using **f**ruits and vegetables in the diet? | | |

**የመረጃ ቅጽ: -I**

**ውድ ተጠያቂ ፡**ስሜ ----------ይባላል እኔ የጥናቱን ባለቤት **ጥላዬ ገብሩን** ወክዬ ስገኝ ይህ መጠይቅ የአዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የነርስ እና የአዋላጂ ነርስ ትምህርት በጥቁር አንበሳ ስፔሻላይዝድ ሆስፒታል ከሚገኙ ህመምተኞች መካከል የሽንት ፊኛ ጫፍ እጢ ግንዛቤ እና ተጓዳኝ ጉዳዮችን ለማጥናት ተዘጋጅቷል እርሶም በጥናቱ ላይ ተሳታፊ እንዲሆኑ ተመርጠዋል። በመሆኑም በጥናቱ ላይ ተሳታፊ ለመሆን ፈቃደኛ ከሆኑ ከ30 ደቂቃ በላይ የማይወስድ ጥያቄ እጠይቅዎታለሁ ።

**የድርጅቱ ስም**: የአዲስ አበባ ዩኒቨርሲቲ, ጤና ሳይንስ ኮሌጅ, የነርስ እና የአዋላጂ ነርስ ትምህርት ቤት የአዋቂዎች ነርስ ትምህርት ክፍል

**የድጋፍ አድራጊ ስም፡** አዲስ አበባ ዩኒቨርስቲ

**የጥናቱ ዓላማ**-በጥቁር አንበሳ ስፔሻላይዝድ ሆስፒታል የተመላላሽ ሕክምና ክፍል በሚከታተሉ የወንዶች ህመምተኞች መካከል የፕሮስቴት ካንሰር ግንዛቤ እና ተያያዥ ተጓዳኝ ሁኔታዎችን ለመገምገም ::

**ስጋት፤** በዚህ ጥናት በመሳተፍዎ ምንም የአካልም ሆነ የስነ -ልቦና ጉዳት አይደርስብዎትም።

**ጥቅማ ጥቅሞች** : ጥናቱ ውስጥ ለተካተቱት ታካሚዎች ቀጥተኛ የሆነ ጥቅም የለዉም።ይሁን እንጂ በፕሮግራሙ ውስጥ ለተሳተፉ እና ለሌሎች ደንበኞች ምርምር ማድረግ ቀጥተኛ ያልሆነ ጥቅሙ ግልጽ ነው።

**ምስጢራዊነት**፡ሚስጢራዊነት ለማረጋገጥ በምርጫው ላይ ያለው መረጃ ደንበኞቹን ስም ሳይገልጽ ይሰበሰባል፣ ከዚህ የምርምር ፕሮጀክት የተሰበሰበው መረጃ በምስጢር የሚጠበቅ በተጨማሪ, ከአጥኚው በቀር ለማንም አይገለጽም እና በቁልፍ ከተዘጋ በኋላ በተቆለፈ ስርአት አማካኝነት በኮምፕዩተር ማቆሚያ ክፍል ውስጥ እንዲቀመጥ ይደረጋል።

**መገኘት ያለበት ግለሰብ፡** ማናቸውም ጥያቄ ካልዎት ከሚከተለው ግለሰብ ጋር መገናኘት ይችላሉ (መርማሪና) እና በፈለጉት ጊዜ መጠየቅ ይችላሉ።

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**የስምምነት ቅጽ: II**

የጥናቱን ሁኔታ ጥቅም በፈቃደኝነት የመሳተፍ መብት ምስጢር የተጠበቀ እንደሆነና ከጥናቱ በፈለኩት ግዜ መውጣት እንደምችል ተረድቻለው።

**ስለሆነም በጥናቱ ላይ ለመሳተፍ**

**1**.እስማማለው

2. አልስማም

**የተሳታፊው ፊርማ**_____ **ቀን:** _____

**ለትብብርዎ በቅድሚያ እናመሰግናለን።**

## APPENDIX -D: QUESTIONNAIRE AMHARIC VERSION

**መመሪያ 1 ይህ ጥያቄ ዳራ መረጃ (background information) ጋር የተያያዘ ነው ። ጥያቄውን ለመመስ ፍቃደኛ ከሆኑ እባክዎን የመልስ አማራጩን (√) ያስቀምጡ እና ለተሰጠው ቦታ ተገቢውን ምላሽ ይፃፉ:**

| ተ. ቁ | I. ስነ-ህዝብ መረጃ ጥያቄ | ምላሽ |
|---|---|---|
| 101 | ዕድሜዎት ስንት ነው? | _____ |
| 102 | ነዋሪነትዎ የት ነዉ? | 1. በከተማ 2. በገጠር |
| 103 | የጋብቻ ሁኔታዎ እንዴት ነዉ? | 1.ያላገባ 3. ሚስቱ የሞተችበት<br>2. ያገባ 4. ትዳሩን የፈታ |
| 104 | ስራዎት ምንድነው? | 1. ሰራተኛ/ተቀጣሪ 4. ግብርና<br>2. ነጋዴ 5. ተማሪ<br>3. ጡረተኛ 6. ሌላ ካለ (ይጥቀሱ) |
| 105 | ከፍተኛ የትምህርት ደረጃዎት ምንድነው ነዉ? | 1. ማንበብና መፃፍ የማይችል<br>2. ማንበብና መጻፍ የሚችል<br>3. የመጀመሪያ ደረጃ (1- 8)<br>4. ሁለተኛ ደረጃ (9-12)<br>5. ኮሌጅ እና ከዚያ በላይ<br>6. ሌላ ካለ (ይጥቀሱ)---------- |
| 106 | ወርሐዊ ገቢዎት በብር ስንት ይሆናል? | _____ |
| 107 | ስለ የሽንት ፊኛ ጫፍ እጢ ሰምተው ያውቃሉ? | 1. አዎ 2. አላውቅም |
| 108 | ለ **107** ኛው ጥያቄ መልስዎት አዎ ከሆነ እሔን መረጃ ከየት ሊሰሙት ቻሉ?<br>ለ**107**ኛው ጥያቄ መልስዎት አላውቅም ከሆነ ወደሚቀጥለው ጥያቄ ይሻገሩ | 1. ከቴሌቭዥን<br>2. ከራዲዮ<br>3. ከማህበራዊ ሚዲያ (internet)<br>4. ከህክምና ባለሞያ<br>5. ከጓደኛ 6. ሌላ ካለ (ይጥቀሱ)- |
| 109 | ከቤተስብዎ መካካል በሽንት ፊኛ ጫፍ እጢ የታመመ ሰው አለ? | 1. አዎ 2. የለም |

| | | |
|---|---|---|
| 110 | መልስዎ አዎ ከሆነ ከቤተሰብ መካከል ማነው? መልስዎት የለም ከሆነ ወደሚቀጥለው ጥያቄ ይሻገሩ | 1. አባት 3. የእናት ቤተሰብ<br>2. ወንድም 4. ሌላ ካለ -------- |
| 111 | መደበኛ የጤና እንክብካቤ ከህክምና ባለሞያ ጋር ያደርጋሉ? | 1. አዎ 2. አላደርግም |
| 112 | መልስዎ አዎ ከሆነ በሐኪምዎ በምን ያህል ጊዜ ውስጥ ይታያሉ? | 1. ከ 6ወራት በታች<br>2. ከ 6 ወራት - 1 ዓመት<br>3. ከ 2 -5 ዓመታት<br>4. ከ >5 ዓመታት<br>5. ሌላ ካለ (ይጥቀሱ)---------- |
| 113 | ከሽንት ፊኛ ጋር በተያያዘ ችግር ምክንያት ሆስፒታል ተኝተው ታክመው ያውቃል? | 1. አዎ 2. አለውቅም |
| 114 | መልስዎ አዎ ከሆነ ለምን ያህል ግዜ? | 1. 1 ግዜ 3. 3 ግዜ<br>2. 2 ግዜ 4. ከ ≥4 ግዜ በላይ |

**ክፍል 2: - ይህ ጥያቄ የተሳታፊዎችን ስለ ሽንት ፊኛ ጫፍ እጢ ያላቸዉን ግንዛቤ መገምገሚያ ስለሆነ ። ጥያቄውን ለመመስ ፍቃደኛ ከሆኑ እባክዎን ምላሽዎን የሚወክልውን አማራጭ ያክበቡ ወይም (√) ይጠቀሙ ።**

| ተ. ቁ | II. ለሽንት ፊኛ ጫፍ እጢ የሚያጋልጡ የግንዛቤ ጥያቄዎች | ምላሽ |
|---|---|---|
| 201 | የእድሜ መጨመር ለሽንት ፊኛ ጫፍ እጢ አጋላጭ ከሆኑ ምክንያቶች አንዱ ነው ብለው ያስባሉ? | 1. አዎ 2. አላስብም |
| 202 | ለሽንት ፊኛ ጫፍ እጢ አጋላጭ ከሆኑት ምክንያቶች መካከል አንዱ በቤተሰብ መካከል የተከሰተ (የሚከሰት) የሽንት ፊኛ ጫፍ እጢ ነው ብለው ያስባሉ? | 1. አዎ 2. አላስብም |
| 203 | አልኮል መጠጣት ለሽንት ፊኛ ጫፍ እጢ አጋላጭ ከሆኑ ምክንያቶች አንዱ ነው ብለው ያስባሉ? | 1. አዎ 2. አላስብም |
| 204 | ሲጋራ ማጨስ ለሽንት ፊኛ ጫፍ እጢ አጋላጭ ከሆኑ ምክንያቶች አንዱ ነው ብለው ያስባሉ? | 1. አዎ 2. አላስብም |

| | | | |
|---|---|---|---|
| 205 | ባአመጋገባችን ላይ አነስተኛ አትክልትእና ፍራፍሬ መኖር ለየሽንት ፊኛ ጫፍ እጢ ከሚያጋልጡ ምክንያቶች አንዱ ነው ብለው ያስባሉ? | 1. አዎ | 2. አላስብም |
| 206 | መደበኛ የአካል ብቃት እንቅስቃሴ አለማከናወን የሽንት ፊኛ ጫፍ እጢ ተጋላጭነትን ሊጨምር ይችላል ። | 1. አዎ | 2. አላስብም |
| 207 | ከብዙ ሰዎች ጋር የግብረ ሥጋ ግኑኝነት መፈጸም የሽንት ፊኛ ጫፍ እጢ ተጋላጭነትን ያስከትላል ። | 1. አዎ | 2. አላስብም |
| 208 | የሽንት ፊኛ ጫፍ እጢ ከሚያስከትሉት አጋላጮች አንዱ ምክንያት ከመጠን በላይ ውፍረት / ከመጠን በላይ የሆነ ክብደት ነው ። | 1. አዎ | 2. አላስብም |
| 209 | የሽንት ፊኛ ጫፍ እጢ በዘር ሊከሰት ይችላል ። | 1. አዎ | 2. አላስብም |
| 210 | የተደጋገመ / ቀድሞ የነበረ/ የሽንት ፊኛ ጫፍ ህመም የሽንት ፊኛ ጫፍ እጢን ሊያስከትል ይችላል። | 1. አዎ | 2. አላስብም |
| **III. የሽንት ፊኛ ጫፍ እጢ ምልክቶች የግንዛቤ ጥያቄዎች** | | | |
| 211 | ቶሎ ቶሎ(በማጣደፍ) ሽንት መሽናት ከሽንት ፊኛ ጫፍ እጢ ጋር ከተያያዙ ምልክቶች አንዱ ነው ብለው ያስባሉ? | 1. አዎ | 2. አላስብም |
| 212 | ሽንት ለመሽናት መቸገር የሽንት ፊኛ ጫፍ እጢ ምልክቶች አንዱ ነው ብለው ያስባሉ? | 1. አዎ | 2. አላስብም |
| 213 | የሽንት ፊኛ ጫፍ እጢ ጋር ተያያዥነት ካላቸው ምልክቶች የወገብ ህመም አንዱ ነው ብለው ያስባሉ? | 1. አዎ | 2. አላስብም |
| 214 | የዳሌ አጥንት ህመም ከሽንት ፊኛ ጫፍ እጢ ምልክቶች አንዱ ነው ብለው ያስባሉ? | 1. አዎ | 2. አላስብም |
| 215 | በሽንት ውስጥ ደም መታየት ከሽንት ፊኛ ጫፍ እጢ ጋር ተያያዥነት ካላቸው ምልክቶች አንዱ ነው ብለው ያስባሉ? | 1. አዎ | 2. አላስብም |

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|---|---|---|---|
| 216 | በግብረ ስጋ ግኑኝነት ግዜ ከብልት ውስጥ የዘር ፈሳሽ ሲፈስ የሚሰማ ህመም ከሽንት ፊኛ ጫፍ እጢ ጋር ግኑኝነት ያለው ምልክት ነው ብለው ያስባሉ? | 1. አዎ | 2. አላስብም |
| **IV. ስለ ሽንት ፊኛ ጫፍ እጢ ምርመራ የግንዛቤ ጥያቄዎች** | | | |
| 217 | ለሽንት ፊኛ ጫፍ እጢ ቅድመ ምርመራ በማድረግ የህሙማንን መትረፍ እድል ይጨምራል ብለው ያስባሉ | 1. አዎ | 2. አላስብም |
| 218 | የሽንት ፊኛ ጫፍ ችግር ላለባቸው ታካሚዎች በፊንጢጣ በኩል ስለሚደረግ ምርመራ አይነት ያውቃሉ? | 1. አዎ | 2. አላውቅም |
| 219 | ለ **218** ኛው ጥያቄ መልስዎት አዎ ከሆነ እሔን መረጃ ከየት ሊሰሙት ቻሉ? | 1. ከቴሌቭዥን<br>2. ከራዲዮ<br>3. ከመገናኛ ብዙሃን<br>4. ከህክምና ባለሞያ<br>5. ከጓደኛ<br>6. ሌላ ካለ (ይጥቀሱ)---------- | |
| 220 | የሽንት ፊኛ ጫፍ ችግር ላለባቸው ታካሚዎች የደም ውስጥ የፕሮቲን የ(PSA) መጠን ምርመራ እንደሚደረግላቸው ያውቃሉ? | 1. አዎ | 2. አላውቅም |
| 221 | ለ **220** ኛው ጥያቄ መልስዎት አዎ ከሆነ እሔን መረጃ ከየት ሊሰሙት ቻሉ? | 1. ከቴሌቭዥን<br>2. ከራዲዮ<br>3. ከመገናኛ ብዙኃን<br>4. ከህክምና ባለሞያ<br>5. ከጓደኛ<br>6. ሌላ ካለ (ይጥቀሱ) ---------- | |

**V. የሽንት ፊኛ ጫፍ እጢን የመከላከያ እርምጃዎችን የተመለከተ የግንዛቤ ጥያቄዎች**

የምታውቀውን ማንኛውንም **የ**ሽንት ፊኛ ጫፍ እጢን መከላከያ ዘዴ መለየት; ብዙ መልሶች ይፈቀዳሉ

| **Nº** | **መጠይቅ** | **1. አዎ** | **2. አላውቅም** |
|---|---|---|---|
| 222 | **የ**ሽንት ፊኛ ጫፍ እጢ ሊከላከሉት የሚችል በሽታ ነው? | | |

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|---|---|---|---|
| 223 | ሲጋራ ማጨስን በማቆም **የ**ሽንት ፊኛ ጫፍ እጢን መከላከል ይችላል? | | |
| 224 | የአልኮሆል መጠጣትን በማቆም **የ**ሽንት ፊኛ ጫፍ እጢን መከላከል ይችላል? | | |
| 225 | ቅድመ ምርመራ በጤና ተቋማት ማድረግ **የ**ሽንት ፊኛ ጫፍ እጢን መከላከል ይችላል? | | |
| 226 | መደበኛ የአካል ብቃት እንቅስቃሴ ማከናወን (የእግር ጉዞ, ሩጫ) **የ**ሽንት ፊኛ ጫፍ እጢን መከላከል ይችላል? | | |
| 227 | ስብ(ቅባት) የበዘበትን ምግብ መቀነስ **የ**ሽንት ፊኛ ጫፍ እጢን መከላከል ይችላል? | | |
| 228 | ከብዙ ሰዎች ጋር የግብረ ስጋ ገኑኝነት አለማድረግ **የ**ሽንት ፊኛ ጫፍ እጢን መከላከል ይችላል? | | |
| 229 | ከጤና ባለሙያዎች ጋር ስለ ጤናዎ መነጋገር **የ**ሽንት ፊኛ ጫፍ እጢን መከላከል ይችላል? | | |
| 230 | በቂ ፍራፍሬዎችን እና አትክልቶችን መመገብ / መጠቀም **የ**ሽንት ፊኛ ጫፍ እጢን መከላከል ይችላል? | | |

## APPENDIX -E: LEAFLET OF AWARENESS

### የሽንት ፊኛ ጫፍ እጢ

የሽንት ፊኛ ጫፍ ከሽንት ፊኛ መግቢያ አፍ ላይ የሚገኝ ቱቦ ሲሆን፤ እርሱም ወንዶች ብቻ ላይ የሚገኝ የሰውነት ክፍል ነው። በወንዱ የዘር ፍሬ ውስጥ የሚገኙትን የወንዱ የዘር ሀዋሰትን የሚመግብ እና የሚከላከል ( ፈሳሽ ያመነጫል ፣እንዲሁም የፕሮስቴት ተግባር እና እድገቱ ቁጥጥር የሚደረገው androgen (testosterone) በመባል ይጠቀው ሆርሞን ነው ::የሽንት ፊኛ ጫፍ እጢ የሽንት ፊኛ ጫፍ መታወክ በሽታ ነው ፣ ወይም የበሽታ ምልክት ነው ። የሽንት ፊኛ ጫፍ እጢ በወንዶች ላይ በጣም የተለመደ የካንሰር ዓይነት ነው ፣በዓለም ዙሪያ በወንዶች ላይ እምስቶኛውን የካንሰር ሞት መጠን ከፍ ያደረገም ነው። በሀገራችንም ከቅርብ ግዜ ወዲህ የተማረውንና አምራች ኃይል የሆኑትን እያጠቃ የሚገኝ የካንሰር አይነት ሲሆን ይህ በራሪ ጽሑፍም የተዘጋጀውም ግንዛቤን ለመፍጠር ነው።

### ለሽንት ፊኛ ጫፍ እጢ የሚያጋልጡ ምክንያቶች

የእድሜ መጨመር ፤በዘር፤ በቤተሰብ መካከል ተጋላጭነት መኖር፤ ሲጋራ ማጨስ ፤አልኮል መጠጣት ፤መደበኛ የአካል ብቃት እንቅስቃሴ አለማድረግ፤ከመጠን ያለፈ ክብደትንና እታክልትና ፍራፍሬ በበቂ ሁኔታ አለመመገብ፤ የተደጋገመ / ቀድሞ የነበረ/ የሽንት ፊኛ ጫፍ ህመም ና ልቅ የሆነ ግብረ ስጋ ግኑኝነትን ማከናወን።

### የሽንት ፊኛ ጫፍ እጢ ምልክቶች

ቶሎ ቶሎ(በሚጣደፍ) ሽንት መሽናት፤ሽንት ለመሸናት መቸገር፤ የወገብና የዳሌ አጥንት ህመም፤ ስንፈቀ ወሲብና በግብረ ስጋ ግንኙነት ግዜ ከብልቀ ውስጥ የዘር ፈሳሽ ሲፈስ የሚሰማ ህመም።

### የሽንት ፊኛ ጫፍ እጢን የመከላከያ እርምጃዎችን

የሽንት ፊኛ ጫፍ እጢ ሊከላከሉት የሚችል በሽታ ነው።መከላከል የሚቻለልበት መንገድም፡- ሲጋራ አለማጨስ፤አልኮል አለመጠት፤ቅድመ ምርመራ በጤና ተቋማት ማድረግ፤መደበኛ የአካል ብቃቅ እንቅስቃሴ ማከናወን (የእግር ጉዞ, ሩጫ) ፤ስብ(ቅባት) የበዘበትን ምግብ መቀነስ፤ከብዙ ሰዎች ጋር የግብረ ስጋ ግኙነት አለማድረግ፤ከጤና ባለሙያዎች ጋር ስለ ጤናዎ መነጋገር፤ በቂ ፍራፍሬዎችን እና አትክልቶችን መመገብ/ መጠቀም።

ልብ ይበሉ፡- ከላይ የተዘረዘሩ ት አጋልጭ ምክንያቶች ካሉና በጤናዎ ላይ የተጠቀሱትን ምልክቶች ከተመለከቱ አቅረቢያዎ ወደሚገኝ ጤና ተቋም በመቅረብ በጤና ባለሞያ ሊታዩ አገባል።በጋራ ካንሰርን በመዋጋት ጤና ለሁሉም ሁሉም ለጤና እንተባበር።!

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