



Title of Thesis:

Male University students' knowledge, beliefs and attitude towards screening for prostate cancer in Benin City, Nigeria

BY

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ABSTRACT

TITLE: "Male university students' knowledge, beliefs and attitudes towards screening for Prostate cancer in Benin-City, Nigeria"

BACKGROUND: Beliefs and awareness towards prostate cancer screening among men is very crucial for early detection and management of the condition. From various literatures reviewed, prostate cancer is the second leading cause of death amongst men. In Nigeria, it is the most common male cancer and may be as high as that seen in African Americans in the United State. In most developing countries e.g Benin Republic, Gambia, Senegal, Ghana, and Nigeria, access to health care and prostate cancer screening methods for early detection is limited. **AIM:** The aim of the study is to assess the knowledge, belief and attitude of male students in the Benson Idahosa University, Benin City, Nigeria towards prostate cancer screening in order to curb the high incidence and death rate resulting from this disease. **POPULATION:** The study populations will be Faculty of Social and management Science students of range 18-35 years at Benson Idahosa University, Benin-City, Nigeria. **SAMPLE:** All students will be selected from the number of male students that are registered in the Faculty of Social Science. **METHODOLOGY:** This design selected for this study is qualitative cross-sectional. **METHOD OF DATA COLLECTION:** Interviews and questionnaires will be used as tool for data collection. **KEY FINDINGS:** The students had never received information from their health care provider about prostate cancer. Very few were able to identify the possible symptoms of prostate cancer. There is low level of knowledge about prostate cancer screening and they do not know what abnormal prostate specific antigen (PSA) is. Majority of the participants gained informed knowledge about prostate cancer screening for the first time from this study. The students have a pronounced negative attitude towards prostate cancer screening. Lack of awareness about cancer screening programs is also identified as a major barrier why many Nigerian men do not go for screening. The level of education has a positive influence to prostate cancer and screening. Prostate cancer screening is not a taboo to Bini culture. **CONCLUSIONS:** The findings of this study revealed that there is low level of knowledge about prostate cancer among male university students in Benin-City, Nigeria. **RECOMMENDATIONS:** Initiation of cancer teachings in schools, churches, and traditional gatherings. Demonstrations with the use posters in public places about prostate cancer menace and screening should be

encouraged. There should be implementation of policy that every male student from age 30 be involved in health education and promotion programs for prostate cancer.

KEYWORDS: male, University students, knowledge of prostate cancer, beliefs and attitude towards screening for prostate cancer, Prostate cancer screening

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DEDICATION

This thesis is dedicated to God, my Redeem family, RCCG Victory Tabernacle Parish, Parow, Cape Town, South Africa; your teachings led me to Christ with divine encounter that supersedes all challenges

To my late father Engr Mike Egbera, I believe you are resting with the lord; your legacy and discipline kept me to this great level in life. May your gentle soul rest in peace, Amen

To my wonderful son, Daniel, I. Egbera, you are a blessing

ABBREVIATIONS

CANSA	Cancer Association of South Africa
DRE	Digital Rectal Examination
EBRT	External beam radiation therapy
HBV	Hepatitis b virus
HBM	Health belief model
HCV	Hepatitis c virus
HIFU	High focused intensity ultrasound
LRP	Laparoscopic radical prostatectomy
MRI	Magnetic Resonance Imaging
NCI	National Cancer Institute
PCA3	Prostate cancer gene 3
PSA	Postate Specific Antigen
PSAD	Prostate specific antigen density
PSAV	Prostate specific antigen velocity
PIN	Prostatic Intraepithelia Neoplasia
RNS	Ribonucleic Scan
TRUS	Trans Urethra Scan
TURP	Transurethral resection of prostate
WHO	World Health Organisation

DEFINITION OF TERMS

Words/terms	Definitions as applied in this study
ATTITUDE	The way that one thinks or feel about something or somebody.
CANCER	A malignant tumour that arises from abnormal, purposeless and uncontrolled division of cells that invade and destroy the surrounding tissues.
FATALISM	The belief of accepting that you cannot prevent something from happening.
KNOWLEDGE	The information and the skills you gain through education or experience.
BELIEF	A strong feeling that something exists. An opinion that something is true
SCREENING	The testing or examining of large number of people or things for disease, faults etc.
PROSTRATE GLAND	A male accessory organ that opens into the urethral just below the bladder and the vas deferens.
LYMPHADENECTOMY	Surgical removal of lymph nodes.
PROSTATE CANCER	Malignant mass or tumour occuring in the the prostate
PROSTATE CANCER SCREENING	The principal screening tests that are used to detect prostate cancer such as DRE and PSA
PATRIACH	A system, country or society that is ruled or controlled by men

TABLE OF CONTENTS

Page

Contents

DECLARATION FORM	2
ABSTRACT.....	3
ACKNOWLEDGEMENTS	3
DEDICATION	6
ABBREVIATIONS.....	7
DEFINITION OF TERMS	7
LIST OF FIGURES	14
LIST OF TABLES.....	14
LIST OF CHARTS.....	13
CHAPTER ONE: INTRODUCTION.....	16
1:2: Background of the study	16
1.3: Purpose and justification of the study.....	19
1.3.1. Purpose of the study	19
1.3.2. Justification of the study	19
1.4. Aims and objectives.....	19
1.4.1. Aims	19
1.4.2. Objectives	19
1.5. Statement of research problem.....	19
1.6. Conceptual model	20
1.7. Theoretical framework (using health belief model)	20
1.7.1. Health belief model.....	21
1.7.1.1. <i>Perceived susceptibility or personal risk</i>	21
1.7.1.2. <i>Perceived seriousness or severity of illness</i>	22
1.7.1.3. <i>Perceived benefit</i>	22
1.7.1.4. <i>Perceived barrier</i>	23
1.7.1.5. <i>Prompts to action</i>	23
1.8: Layout of thesis.....	24
CHAPTER TWO: LITERATURE REVIEW.....	25
2.1. Introduction	25

2.2. Culture of Benin-City	25
2.3. Health care services in Nigeria	26
2.4. Incidences of Cancer	27
2.4.1. Incidences of Cancer in Developing Countries	27
2.4.2. Incidences of Cancer in Nigeria.....	30
2.5. Knowledge about cancer.....	31
2.5.1. Knowledge about cancer in Nigeria	32
2.6. Attitude to cancer in Nigeria	33
2.7. Practices relating to cancer	33
2.8. Beliefs about cancer in Nigeria	35
2.9. Health education about cancer in Nigeria	35
2.10. Screening of cancer in men	35
2.11. Screening of cancer in men in Nigeria	36
2.12. Prostate cancer	36
2.12.1. Prostate cancer in Nigeria.....	37
2.13. Causes and risk factors of prostate cancer	40
2.14. Signs and symptoms of prostate cancer.....	41
2.15. Screening and detection of prostate cancer.....	41
2.16. Treatment of prostate cancer	46
2.16.1. Palliative treatment.....	50
2.16.2 Complementary and alternative medicine (CAM) for prostate cancer	50
2.17. Treatment of prostate cancer in Nigeria.....	51
2.18. Nursing management of prostate cancer	53
2.19. Prostate Cancer rehabilitation	54
2.20. Summary of chapter two.....	57
CHAPTER THREE: METHODOLOGY	58
3.1. Introduction to chapter	58
3.2. Mixed method approach.....	58
3.2.1. What is mixed method.....	Error! Bookmark not defined.
3.2.2. Quantitative approach	60
3.2.3. Qualitative approach.....	61
3.2.4. Philosophy of quantitative research	62

3.2.5. Philosophy of qualitative research.....	63
3.3. Research design	63
3.3.1. Descriptive cross-sectional design.....	63
3.4. Population and sample	64
3.4.1. Population	64
3.4.2. Sample group	64
3.5. Inclusion and exclusion criteria	65
3.5.1. Inclusion criteria	65
3.5.2. Exclusion criteria	65
3.6. Recruitment of participant.....	65
3.7. Methods of data collection.....	65
3.7.1. Questionnaires	66
3.7.2: Interviews.....	66
3.8. Process of data collection	67
3.9. Data management and storage	67
3.9.1. Strategies for data analysis	68
3.9.2. Questionnaire response.....	68
Figure 1.4: Relationships between objectives, questionnaires and information needed from respondents.....	69
3.9.4. Interview response.....	69
Figure 1.5: Relationships between objectives, interviews and information needed from respondents	69
3.9.6. Presentations of results.....	70
3.10: Validity and reliability of instrument	70
3.10.1. Questionnaire Validity	70
3.10.2. Reliability	70
3.10.3. Dependability	71
3.10.4. Confirmability.....	71
3.11. Ethical considerations	71
3.11.1. Ethics.....	71
3.11.2. Autonomy	72
3.11.3. Beneficence	72

3.11.4. Non-maleficence.....	72
3.11.5. Confidentiality.....	72
3.11.6. Justice & right to withdraw.....	73
3.11.7. Risk and benefits of the study	73
3.11.8. Informed consent	73
3.11.9. Referral	73
3.12. Constraints and limitations of the study.....	74
3.13. Summary of chapter three.....	74
CHAPTER 4: RESULTS	75
4.1. Introduction	75
4.2. Demographics.....	75
4.3. Knowledge of prostate cancer.....	77
4.4. Knowledge about prostate cancer screening.....	83
4.5. Knowledge of prostate cancer treatment.....	84
4.6. Beliefs about prostate cancer	85
4.7. Beliefs about prostate cancer screening	87
4.8. Attitude towards prostate cancer	91
4.9. Attitude towards prostate cancer screening.....	92
4.10. Knowledge about prostate cancer treatment.....	94
4.11. Summary of chapter four	95
CHAPTER 5: DISCUSSION	96
5:1. Introduction to the chapter.....	96
5:2. Demographics.....	96
5.3. Knowledge of prostate cancer.....	97
5.4. Knowledge of prostate cancer screening	99
5.5. Knowledge about prognosis of prostate cancer treatment.....	100
5.6. Belief about prostate cancer	101
5.7. Belief about prostate cancer screening.....	101
5.8. Attitude towards prostate cancer	103
5.9. Attitude towards prostate cancer screening.....	104
5.10. Knowledge about prostate cancer treatment.....	105
5.11. Summary of the chapter.....	105

CHAPTER 6: CONCLUSIONS AND SUMMARY	106
6.1. Introduction to chapter	106
6.2. Objective One	106
6.2.1. Conclusion.....	106
6.2.2. Confirmation of conceptual model.....	107
6.2.3. Recommendation.....	107
6.3. Objective Two	108
6.3.1. Conclusion.....	108
6.3.2. Confirmation of conceptual model.....	108
6.3.3. Recommendation.....	109
6.4. Objective Three	109
6.4.1. Conclusion.....	109
6.4.2. Confirmation of conceptual model.....	110
Conclusion	Error! Bookmark not defined.
6.4.3. Recommendation.....	110
6.5. Implications of study findings for oncology nursing	110
6.6. Implications of study findings for nursing practice	111
6.7. Recommendations to policy makers	111
6.8. Areas for further research	111
6.9: LIST OF APPENDIX	113
APPENDIX A: Questionnaire	113
APPENDIX B: Interview questions	116
APPENDIX C: Letter of approval from ethics committee, Cape Peninsula University of Technology.....	118
APPENDIX D: Letter of support from the Dean, Faculty of Social and Management Science, Benson Idahosa University, Benin-city, Nigeria.....	119
APPENDIX E: Letter of approval from the Vice Chancellor, Benson Idahosa University, Benin-city, Nigeria	120
APPENDIX F: Letter of approval from the Registrar, Benson Idahosa University, Benin-city, Nigeria.....	121
APPENDIX G: Research information sheet signed by Head of Hepartments	122
APPENDIX H: Letter of approval to use questionnaire	123

APPENDIX I: Letter to Vice Chancellor, Benson Idahosa University, Benin-city, Nigeria.....	124
APPENDIX J: Research information sheet.....	125
Study title	125
Investigator.....	125
Supervisor:	125
Co-Supervisor	125
APPENDIX K: Informed consent form for research participant	126
Principal investigator	126
APPENDIX L: Letter of consent to record interview	128
Principal investigator	128
APPENDIX M: Letter of counseling for potential risk participant	130
Clinic stamp.....	132
APPENDIX N: Referral Letter to University Hospital.....	132
LIST OF REFERENCES.....	133

LIST OF FIGURES

Number	Title	Page
1.1	Conceptual model	19
1.2	Health belief model	20

LIST OF TABLES

Number	Title	Page
1.1	Relationship between objectives, questionnaires and information needed from respondents	69
1.2	Relationship between objectives, interviews and information needed from respondents	69

LIST OF CHARTS

Number	Title	Page
4.2a	Age range of participants	75
4.2b	Marital status of participants	75
4.2c	Religious beliefs of the participants	76
4.3a	Heard about prostate cancer	77
4.3b	Participants that knows anyone with prostate cancer	77
4.3c	Genders prostate cancer affect	78
4.3d	Participants response on risk factors	78
4.3e	Participants who has received information about prostate cancer	79
4.3f	No of participants who listed information received about prostate cancer	80
4.3g	Participants who have prostate neoplasm	80
4.3h	Participant knowledge about types of neoplasm	81
4.3i	Participants that knows symptoms of prostate cancer	81
4.3j	Participants that knows symptoms associated with prostate cancer	82
4.4a	Participants that was aware of prostate cancer screening	83
4.4b	Participant that knows the significance of PSA	83
4.5.a	Prostate cancer treatment affects men sexual ability	84
4.5b	Prostate cancer treatment affects urine control	85
4.6a	Doctors predicts men that may be harmed and can die from prostate cancer	85
4.6b	Prostate cancer is a white man disease	86
4.6.c	Prostate cancer affects only the aged	86
4.7a	Prostate cancer screening cannot give one a cure	87
4.7b	The stress of prostate cancer screening is higher than the benefits	88
4.7c	Prostate cancer screening will identify more health problems	88
4.7d	Prostate cancer screening is forbidden in my culture	89
4.7e	Screening for prostate cancer is a taboo in my culture	90
4.7f	Royal families cannot go for prostate cancer screening in the hospital	90
4.8a	Can't have prostate cancer if not aware	91
4.9a	Prostate cancer screening may be uncomfortable	92
4.9b	will screen because family requested it	92
4.9c	Screening for prostate cancer is good	93
4.9d	Prostate cancer screening makes sense	94
4.10a	Treated for prostate cancer ensures a healthy living	94

CHAPTER ONE: INTRODUCTION

1:1. Introduction to the chapter

This chapter will describe the background of study, purpose and justification of study, aims and objectives, conceptual model, theoretical framework used, statement of research problem and layout of thesis.

1:2: Background of the study

The researcher of this study is a Professional nurse with a degree in oncology nursing. During the course of study for a degree in oncology nursing, the writer discovered high incidences of prostate cancer in Sub Sahara Africa. The writer also found that some men in the Nigerian community where she practiced had poor knowledge with regards to screening for prostate cancer. Some still hold onto the belief that it is a disease of white men. Some cultural beliefs in Benin City, Nigeria do not allow men to go for screening. Some men still live in denial that prostate cancer exists. Lack of knowledge, negative attitudes, past negative experience, lack of adequate health insurance, traditional attitude's about male gender roles, fear of prognosis that screening will identify more health problems, cultural and religious beliefs influenced uptake of prostate cancer screening (Woods, Montgomery, Belliard, Johny & Colwick, 2004). Cancer regardless of the type is been identified to be major disease all over the world (Ilic, O' Connor & Wilt, 2006).

Prostate cancer is the most common type of cancer in men worldwide and is still very difficult to understand its exact cause. Prostate cancer has been a major public health issue worldwide (Abdulwahab et.al, 2010: 1). It is the most commonly diagnosed cancer among men and second leading cause of cancer death in men (Brawley, 2012). In general, all men are at risk for prostate cancer. Prostate cancer is very rare in men younger than 40, but chances of having prostate cancer rises rapidly after age 50 years (American Cancer Society, 2012). The lifetime risk of being diagnosed with prostate cancer peaked as high as 1 in 5 in 1992- 1994. In 2000, it was estimated that prostate cancer made up 29% of newly diagnosed cancers in men and 119 of all cancer deaths, with 31,900 men expected to die of the disease (Rubin & Williams, 2001). For other malignancy there is less agreement among experts on whether men should be screened or how they should be treated. The impact of screening on survival is one of the most

difficult issues to resolve (Rubin & Williams, 2001). In general, all men are at risk for prostate cancer. Prostate cancer is very rare in men younger than 40, but chances of having prostate cancer rises rapidly after age 50 years (American Cancer Society, 2012).

Prostate cancer is most common in black Caribbean, black African men than white and Asian men (Cancer Research UK, 2012). The lifetime risk of being diagnosed with prostate cancer peaked as high as 1 in 5 in 1992- 1994. In 2000, it was estimated that prostate cancer made up 29% of newly diagnosed cancers in men and 119 of all cancer deaths, with 31,900 men expected to die of the disease (Rubin & Williams, 2001). African American men have the highest incidence rate of prostate cancer worldwide (Kenerson, 2010: 10). This is influenced by lack of participation in screening due to various cultural factors, lack knowledge, health beliefs, barriers, and relationships with primary health care givers (Woods, Montgomery, Belliard, Johny & Colwick, 2004).

Prostate cancer is the most common cancer diagnosed among men in the United States. The incidence rate still remains higher among Black men in America worldwide (Woods et.al, 2004). From various literatures reviewed, prostate cancer is the second leading cause of death amongst men. Prostate cancer is the most common in Southern Africa, Sub-Sahara, Western Africa and Africa at large and also the leading cause of deaths in Sub-Sahara, Western and Africa in general in 2008 (Globocan, 2008); as cited in American cancer society, (2011). The incidence rate in Southern Africa is twice high as the second highest regional rate in West Africa and almost seven times higher than the lowest regional rate in Northern Africa. In Nigeria, it is the most common male cancer and may be as high as that seen in African Americans in the United State (Globocan, 2008); as cited in American cancer society, 2011). In most developing countries e.g. Benin Republic, Gambia, Senegal, Ghana, and Nigeria, access to health care and prostate cancer screening methods for early detection is limited (Odedina, 2009). High rate of mortality has been revealed to be due to late detection (Woods et.al, 2004). Screening is the common method for early detection of all cancers in populations that are asymptomatic. The major problem with early detection in prostate cancer prevention is lack of knowledge about screening and poor detection guidelines among medical professional group (Woods et.al, 2004).

Beliefs and awareness towards prostate cancer screening among men is very crucial for early detection and management of the condition. In black men, lack of discussion about decision to screening and lack of cultural communication with health care providers has created fear,

distrust. It has also increased the likelihood of men not participating in prostate cancer screening (Woods et.al, 2004). Screening is the most common method use for detection of cancer at early and asymptomatic stage (Woods et.al, 2004). The main aim of screening is to reduce or curb the possibility of developing the disease at asymptomatic stage there by reducing the mortality and mobility rate of prostate cancer. It has been discovered that patients in Sub-Sahara region of Africa present with locally advanced or metastatic disease due to limited screening program, inadequate diagnostic facilities, lack of health education, limited skilled oncology personal, and ignorance (Ajape, Babata & Abiola, (2010). According to Woods et.al, (2004), past negative experience, lack of adequate health insurance, lack of knowledge, traditional attitudes about male gender roles, fear of prognosis, distrust in medical community, physicians attitude, cultural and religious beliefs and attitudes also contribute to non-participation in prostate cancer screening (Woods et.al, 2004).

It was discovered by researchers that sexual dysfunction is a sensitive issue for black men, therefore discourages them from participation in prostate cancer screening and early detection strategies (Woods et.al, 2004). The debate for and against screening for prostate cancer is still on. It is stated that if screening will be of great benefit in quality of life improvement, men should commence screening if at family risk of prostate cancer and also should be based on decision in men within the age range 55-64years (American Urology Association, 2013). A goal of healthy people 2020 is to eliminate racial health disparities and reduce prostate cancer death rate to 21.2 per 100,000 males. To achieve this goals, innovative measures must be applied to overcome the perceived barriers that hinders early screening practices for prostate cancer, create mechanisms to partake, support and rein-enforce men to make healthy choices (Healthy people, 2010). For screening to be effective in Africa, especially in Nigerian, it is necessary to have an idea of health knowledge, beliefs and attitudes towards screening of this disease among men of age 18-35 years (Ajape, Babata & Abiola, 2010). Theory of health belief model was used as a framework to examine the variables of focus for this study and the variables are beliefs, knowledge, and attitude, perception of susceptibility, benefits of screening and treatment. The above mentioned-situations are the main reasons for choosing to research this topic.

1.3: Purpose and justification of the study

1.3.1. Purpose of the study

The purpose for this study was to assess the knowledge, beliefs and attitudes of male university students towards prostate cancer screening among men in Benin City, Nigeria.

1.3.2. Justification of the study

The justification for this study was based on the identification low level of awareness, cultural beliefs and negative attitudes towards prostate cancer screening, denial of prostate cancer existence and cultural beliefs influence

1.4. Aims and objectives

1.4.1. Aims

The aim of the study was to assess the knowledge, beliefs and attitudes of male university students in Benson Idahosa University (BIU), Benin City, Nigeria in order to contribute to strategies laid down to curb the high incidence and death rate resulting from prostate cancer.

1.4.2. Objectives

The primary objective of this research study is

- To determine basic knowledge of male university students about screening for prostate cancer
- To examine factors that prevent or motivate male university students for seeking prostate cancer screening
- To identify attitudes and beliefs of male university students towards screening for prostate cancer
- To plan health education programs that could increase awareness among male university students about self-examination and early detection of prostate cancer

1.5. Statement of research problem

The research problem is the increased rate of prostate cancer due to poor knowledge and negative attitudes of men towards prostate cancer screening in Nigeria.

1.6. Conceptual model

Based on the research topic, the figure below will be used to illustrate the conceptual model for this study and the theory of the health belief model will be implored.

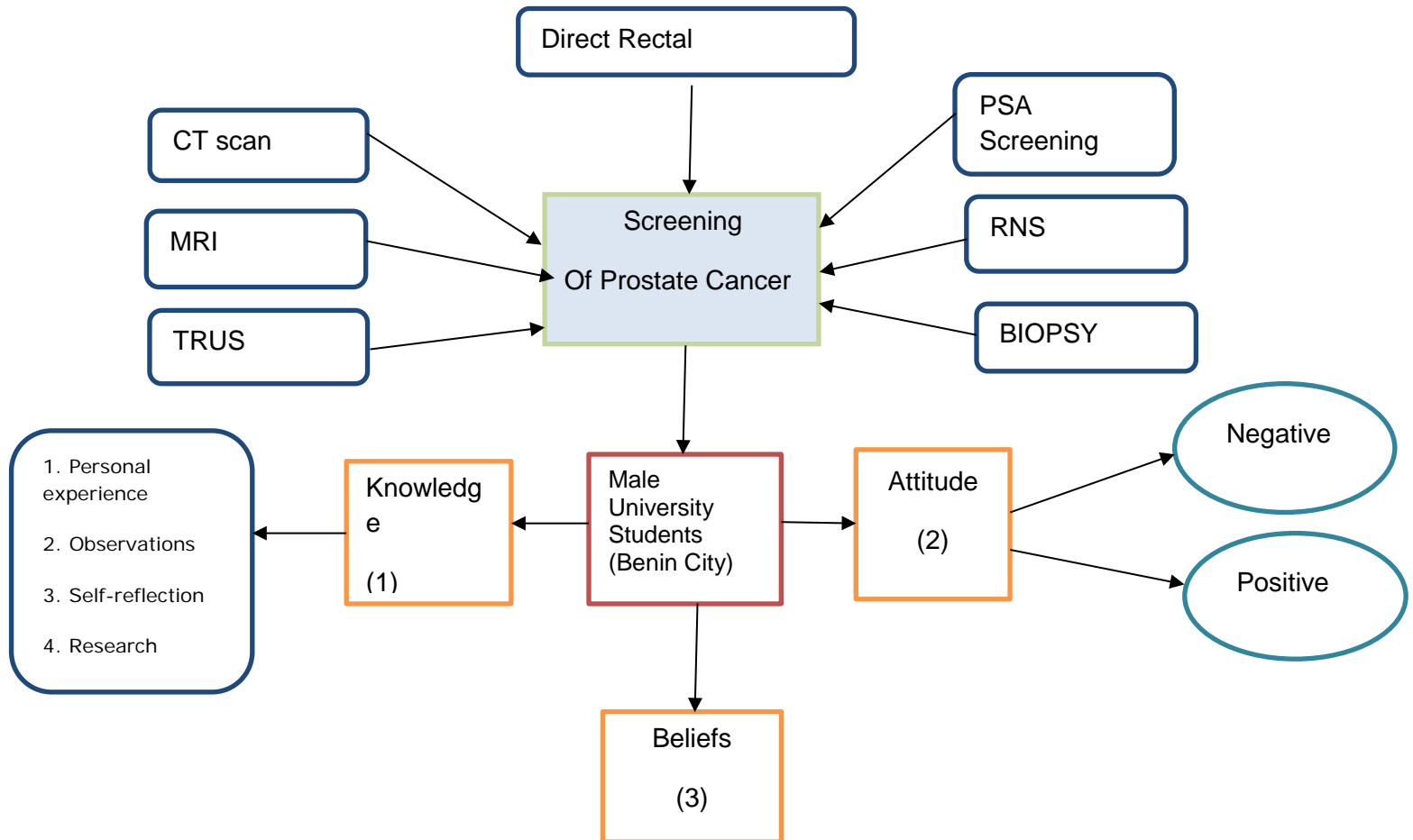


Figure 1.1: Conceptual model (Developed by writer)

1.7. Theoretical framework (using health belief model)

Based on the topic “knowledge, beliefs and attitude of men towards prostate cancer screening” and the increasing rate of prostate cancer, the aim of this study is to assess the knowledge, beliefs and attitudes of male students in the University of Benin. Therefore the theory of the health belief model was applied in this study and is illustrated below. According Robert, Muriel & Vagasl, (2003), the health belief model is a framework for understanding motivations, global attitudes, and belief determining a person’s health-related behaviors. Various studies that has addressed psychosocial concerns such as attitudes, beliefs, social support, coping, and

psychological distress for African American prostate cancer patients has helped to overcome the weakness of the original HBM (Meyer, Wolf, Mckee, McGrory, Burgh, & Nelson, 1996). The health belief model is a tool used by scientist to predict health behaviors. According to Potter & Perry, (2001), the theory of the health belief model addresses the relationship between a person’s belief and behaviors and it states that a person’s willingness to change their health behaviors depends on perception. The following five dimensions of HBM below help explain what motivates men with prostate cancer to engage in health-related behaviors and examine the perceived barriers that influence the practice of prostate cancer screening:

1.7.1. Health belief model

INDIVIDUAL PERCEPTION MODIFYING FACTOR LIKELIHOOD OF ACTION

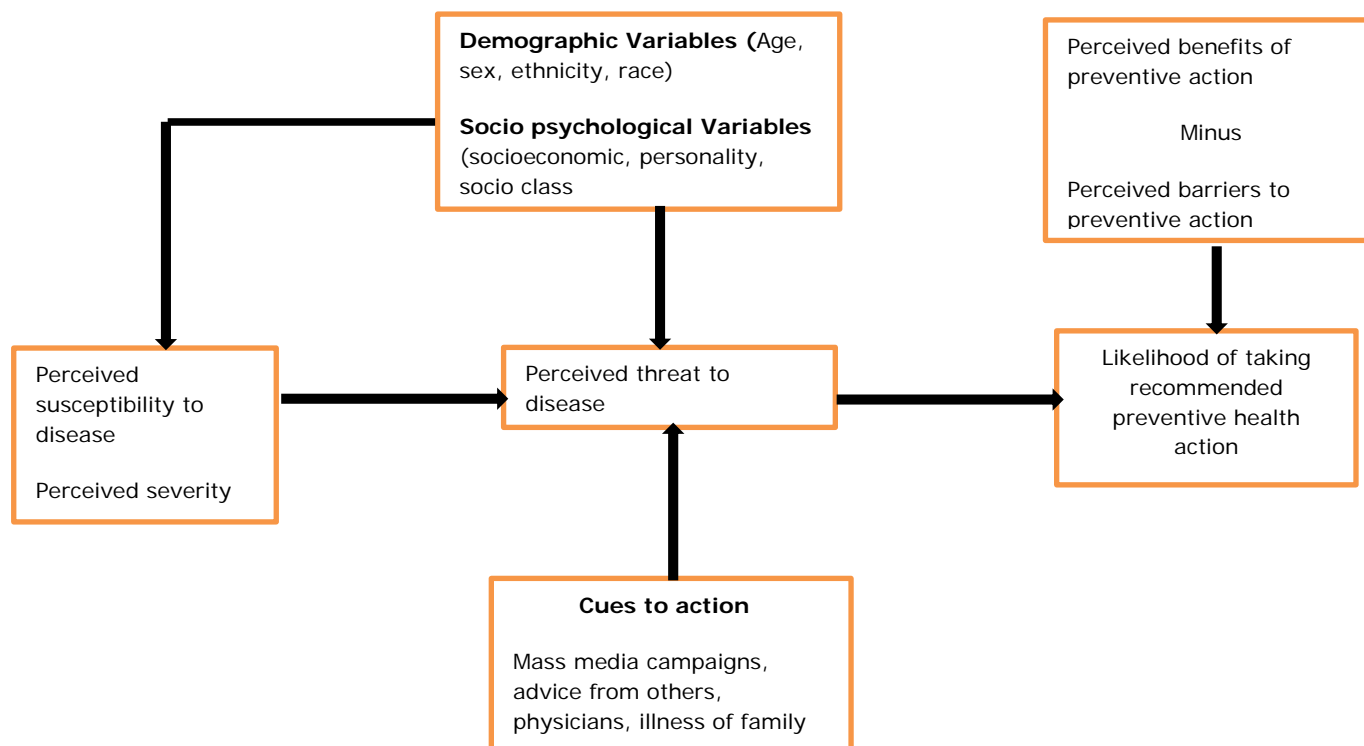


Figure 1.2: HBM Model adapted from Stretcher, Rosen stock, & Becker, 1998

1.7.1.1. Perceived susceptibility or personal risk

This is one of the most powerful perceptions in promoting people to adopt healthier behavior. The greater the perceive risk, the greater the likelihood of engaging in positive health behavior

(Potter & Perry, 2001). Perceived susceptibility is an individual's view on the likelihood of experiencing a potential harmful health condition such as prostate cancer. With regards to prostate cancer, theories state that men with family history perceive themselves to be more at risk and would be more likely to have a recent screening (Bloom, Stewart, Banks & Changs, (2006). But Weinrich, (2006) states that African men with positive family histories of prostate cancer reports with low rates of prostate cancer screening. With regard to psychosocial concerns in African American prostate cancer patients, background and lifestyle factors such as age, race, ethnicity, family history and diet are known risk factors. According to Vegas et al, (2003), being an African man with family history of prostate cancer and eating food high in fat, is a high risk of having prostate cancer. Early detection and prompt treatment are necessary to control prostate cancer and it suggest that increasing knowledge and awareness about prostate cancer detection is essential to reduce prostate cancer risk in African American men (Robert et al, 2003).

1.7.1.2. Perceived seriousness or severity of illness

This perception is influenced or modified by demographic and socio-psychological variables, perceived threats to illness and cues to action e.g. mass media campaign, advice from family and health care professionals (Potter & Perry, 2001). The probability that a person might change their behavior to avoid a consequence depends on how severe the person considers the consequence to be (Potter & Perry, 2001). Perceived threat of an illness and accompanied by fear of illness outcome is the major key that pushes an individual to seek and accept health interventions. In literature by Smith, (1997), 57% of African American men will only participate in digital rectal examination if they experience pain while urinating.

1.7.1.3. Perceived benefit

Perceived benefits are the person's belief that performing a specific behavior will reduce the threat of that condition. Obtaining a prostate cancer screening will increase the chances of identifying prostate cancer at a very early state, thus reducing mortality and morbidity rate. The likelihood that a person will take preventive measures results from the person's perception of the benefits and barriers of taking action such as change of lifestyles, increase search/strict adherence to medical care, therapies and advice. It is difficult to convince people to change their behavior if there is no proof for it. It is the patient's belief that a given treatment will cure the illness or help to prevent it (Potter, & Perry, 2001). According Robert et.al, (2003), perceived

efficacy of early detection examination and support from the physician significantly predicted African American men's intention to undergo early screening.

1.7.1.4. Perceived barrier

Perceived barriers are factors that hinders one from engaging health-seeking behaviors and these barriers operates from within and outside the individual (Robert et al, 2003). These barriers within the individual are seen through the perceptions they hold about illness and diseases. Barriers are a major key concept in HBM, which suggest that the likelihood of going for prostate cancer screening is determined by each individual's perceived benefits. It is very difficult to convince people to change their belief if there is nothing in it for them. In order for a new behavior to be adopted, a person needs to believe the benefits of the new behavior outweigh the consequences of continuing the old behavior and it also states that many men value their sexuality, masculinity and independence (Potter & Perry, 2003). They hold on the negative perceptions about pain, embarrassment associated with screening, wearing of diapers and as well as possible incontinence and impotence resulting from prostate cancer screening and treatment. With these factors listed above African American men will less likely participate in prostate screening (Robert et al, 2003).

1.7.1.5. Prompts to action

It is the internal and external factors or triggers to stimulate an individual to change his or her behavior for more positive outcomes (Robert et al, 2003). An assumption of the HBM in emphasizing readiness to take action is that a person must be prompted to act. Internal acts such as symptoms and external prompts such as knowledge and information about illness and diseases may motivate a person to seek care (Robert et.al, 2003). These factors/variables of HBM listed above are modified by their education level, personality variables, socio-demographic factors, culture, past experience, skills, and motivation. This theory is relevant to this study because it focuses on patient compliance and preventive measures on health care practices.

The health belief model will help to understand the factors influencing the research subject's perceptions, belief, behavior, knowledge and attitudes towards this study. According to Kenerson, (2012), the health belief model has been known to be useful in understanding and predicting health care practices especially in area of prostate cancer and screening. There are

lots of critics about the health belief model because of it does not address psychosocial aspects about attitudes and beliefs towards illness, economic, cultural factors, and the social network role on illness and diseases (Kenerson, 2010). The health belief model states that understanding the individual's motivation to participate in certain health-related behavior will help ascertain the individuals method of preventive health practices, why they accept to adhere or do not adhere to preventive health measures (Kenerson, 2010). The health belief model will be used in this study in which the modifying factors variables "knowledge and attitudes towards screening will be implored in the study design.

1.8: Layout of thesis

Chapter two: Provides the literature review of the study. Chapter three: Presents the research approaches and methodology used, their philosophy and advantages. It further describes the research methods, sampling, and methods of data collection, method of data analysis and finally ethical considerations of the study. Chapter four: This chapter presents the results of the study with chart representation. Chapter five: Presents the findings on knowledge, attitude and beliefs of male University student towards prostate cancer screening. It further provides the discussion of findings. Chapter Six: Concludes the study, presents recommendations and areas of further research.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This chapter presents a review of literature for this study which comprises of demography, history and demography of Nigeria, culture of Benin-City and health services in Nigeria. The chapter will also present incidences of cancers in developed countries, developing countries and Nigeria. Knowledge, attitudes, religious beliefs and health education about cancer in the world and Nigeria will also be presented in this chapter. Screening of cancer in men, screening of cancer in Nigerian men, prostate cancer and prostate cancer in Nigeria, causes and risk factors of prostate cancer, signs and symptoms, screening and detection of prostate cancer will be presented as well in this chapter. And finally, the chapter also presents treatment of prostate cancer, palliative treatment, complementary and alternative medicine for prostate cancer, treatment of prostate cancer in Nigeria, nursing management, and rehabilitation of prostate cancer.

2.2. Culture of Benin-City

Benin City is the capital of Edo state. Geographically it is located in the southern-most part of the country with a humid climate condition (Idehen, 2007). Benin City is capital city of Edo state and has only two Tertiary hospitals with sub-divisions of at various community health centers with one state hospital. There are also two private tertiary hospitals and various health centers. Edo state is made up of 3 ethnic groups: Bini's, Esan, Afemai (NGEX Nigeria, 2013; Edo community, 2013). The major religion is Animism however; there are few Christians and Muslims (Idehen, 2007). In Benin City, Nigeria, traditional health services are preferred to orthodox clinic and health centers. According to Ling, (1972), & Lambo, (1980), it was discovered that large population of Benin's believe more in traditional healers because they have a unique way of preserving the lives of the sick (Lambo, 1980 & Columbia Encyclopedia, (2007).

2.3. Health care services in Nigeria

Health care service in Nigeria is the concurrent responsibility of three tiers of government which is federal, state and local Government (World health organization report, 2009). According to the WHO, Primary Health Care that is the foundation of the national health system in Nigeria remains in a very poor state due to gross under funding, mismanagement and lack of capacity at the local government area level (World health organization report, 2009). According to federal ministry of health, (2005), it was estimated that total of 23,640 health facilities in Nigeria, 85.8% are primary health care facilities, 14% are secondary and 0.2% tertiary health care. Private health sectors in Nigeria makes up to 38% and provides 60% of health care in the country. Health care in Nigeria is low to the extent that even when compared to other less endowed African countries like Uganda in 2006, Uganda allocated 11% of its total budget to health care while Nigeria budgeted only 5.6% to health delivery (World health organization report, 2009). There are about 55 teaching hospitals in Nigeria and they can only offer limited cancer screening services (Osinbu, 2011). Nigeria is among the country with highest incidence rate of HIV infected persons in the African continent and the fourth highest TB burden in the world (World health organization report, 2009).

Health service delivery in Nigeria is characterized by fraudulent distribution of resources, decaying infrastructure, poor management of human resources for health, negative attitude of health care providers, poor referral systems, poor coverage of health care administration with high impact cost-effective interventions, lack of integration and poor supportive supervision (Federal ministry of health, 2008). Despite the existence of a national policy, implementation remains slow with limited funding (National Population Commission, 2008). With per capita health expenditure of 10 dollars and about 70% of self-sponsored expenditure on health financing in Nigeria, the health care system still remained unpredictable, insufficient and uncoordinated with limited attempts to provide safety nets for vulnerable populations towards achieving universal access to health care (Soyinbo, 2004). There are also gaps in the national health insurance scheme (NHIS) and lack of adherence to reporting guidelines, poor availability and utilization of standardized tools, lack of skills for interrogation of data, non-involvement of private providers (National health account, Malawi, 2005).

2.4. Incidences of Cancer

Cancer is a leading cause of death worldwide and accounted for 7.6 million deaths with estimated 13% of all deaths in 2008 (World health science, 2010). About 70% of all cancer deaths occurred in low- and middle-income countries (World health science, 2010). Deaths from cancer worldwide are projected to continue to rise to over 13.1 million in 2030 (Globocan, 2008 & World health science, 2010). The United States has the seventh highest cancer burden in the world (American Institute for Cancer Research, 2011). Among the 50 nations with the highest overall cancer rates in the world, Denmark takes first place and South Africa comes in at number 50. Ireland, Australia, New Zealand, Belgium, and France fill the slots in between Denmark and the United States (American Institute for Cancer Research, 2011).

2.4.1. Incidences of Cancer in Developing Countries

Cancer burden in developing countries is a threat to lives because and exacts a heavy morbidity, mortality and high cost in these countries (World health science, 2010). The countries with lowest prevalence of cancer are Northern Africa, Southern and Eastern Asia (World health science, 2010). For both men and women, the 5 most common cancers are those of the lung, stomach, breast, liver, and colorectal (American institute for cancer research, 2011). 85% of cervical cancer cases and deaths occur in developing countries. India is the second most populous country in the world and it accounts for 27% of the total cervical cancer deaths (Parkin, Almonte, Bruni, Clifford, Curado, & Pineros, 2008). Cervical cancer rate is the lowest in Western Asia, Australia, New Zealand, and North America (American institute for cancer research, 2011).

The disproportionately high burden of cervical cancer in developing countries like Nigeria is largely due to lack of screening (Mathew & George, 2009). Worldwide, the highest incidence rates of cervical cancer are in Eastern, Western, and Southern Africa, as well as South Central Asia and South America (Vizcaino, Moreno, & Bosch, 2000). According to International network for cancer treatment, (2013), poor health care and cancer management program, poverty, limited Government fund for health care expenditure, lack of human resources are the challenges facing health care system in developing countries. Lack of health care professionals trained in cancer care, lack of resources for cancer care, migration of health care professionals,

poor prevention program, and ineffective screening program are also major problem with cancer care in developing countries (International network for cancer treatment, 2013).

According to Sudarshan, (2013), social stigma and exclusion associated with diagnoses of cancer is a huge challenge for many patients in low and middle income countries in addition to the poor socioeconomic status. With the increasing cancer burden in Africa, cancer is given low public health priority largely because of limited resources, lack of awareness of the magnitude of present and future cancer burden among policy makers, public and international health care agencies (Sudarshan, 2013). The occurrence of cancer in Africa differs from economically developed countries like North America; by the type of major cancer, stages at diagnosis, survival, incidence and mortality rate (United Nations, 2010). Zambia, Malawi, Mozambique and Tanzania have the highest incidence of cervical cancer with 50 cases per 100,000 worldwide (Jemal et.al, 2010).

This high incidence is due to high prevalence of human papillomavirus (HPV) infection as a cause of cervical cancer in addition to lack of screening services like Pap smear for prevention and early detection (Ferlay et.al, 2010). While in Eastern Africa, cervical and breast cancer was the most common cancer diagnosed and the most common diagnosed in South Africa with 9,000 cases and 4,500 deaths in 2008 (Ferlay et.al, 2010). Northern and South African women have the highest incidence of breast cancer in African (Vorobiof, Sitas & Vorobiof, 2001). For example in Zimbabwe the rate of breast cancer was six times higher among whites with a figure of 127.7% than blacks with a figure of 20.4 in 1990-1992 (Vorobiof, Sitas & Vorobiof, 2001). Middle and West Africa have the same rate of cervical and breast as compared to Southern, Northern and Eastern Africa (Mackay, Jemal, Lee & Parkin, 2006). Breast cancer is the most common diagnosed in Sub-Saharan Africa and cervical cancer is the leading cause of deaths in Sub-Saharan Africa as well (Mackay, Jemal, Lee & Parkin, 2006).

Among men in Africa, the patterns of cancer occurrence vary to that of African women. Kaposi sarcoma was found to be the major cause of death in Eastern Africa in 2008 with an estimated number of 16,000 cases and 13,700 deaths (Globocan, 2008). The incidence and mortality rates in Eastern Africa were more than twenty times high as that in Northern Africa which was

consistent with geographical variations of HIV/AIDS epidemic (Globocan, 2008). Kaposi sarcoma has been known as HIV/AIDS associated cancer caused by human papilloma virus (Ziegler, Newton & Bourboullia, 2009). After Kaposi sarcoma, esophageal cancer was secondly the most common diagnosed and second leading cause of deaths (Ocama, Kagimu & Odida, 2008: 80-84). The exact cause of esophageal cancer among Eastern Africa men are not yet proven but are attributed to cigarette smoking, heavy alcohol consumption and poor dietary pattern such as intake of maize diets low in vegetables and fruits (Schneider, Norman, Steyn & Bradshaw, 2000).

Prostate cancer is most common in Southern Africa, Sub-Saharan, Western Africa and Africa at large and also the leading cause of deaths in Sub-Saharan, Western and Africa in general (Globocan, 2008). Liver cancer is the most commonly diagnosed in middle Africa, followed by West and Sub-Saharan Africa and it was the leading cause of death in middle Africa in 2008 (Blumberg, 1984). Liver cancer was also revealed to be second leading cause of deaths in Sub-Saharan, Western Africa with an estimated figure of 13,600 and Africa at large in 2008 (Blumberg, 1984). Chronic infections like hepatitis B virus (HBV) and hepatitis C virus (HCV) were discovered to be a contributing factor to liver cancer in Sub-Saharan Africa (Lehman & Wilson, 2009).

After lung cancer, the incidence and mortality rate of bladder cancer among men in Northern Africa are twice high as seen in South Africa (Sitas, Urban & Bradshaw, 2004). Egyptians have the highest incidence of bladder cancer (Parkin, 2008). Childhood cancer is very rare in Africa (Steliarova, Stiller & Kaatsch, 2004). In developed countries, more than 80% of children with malignancies can be treated unlike in developing countries that have the highest population of children with a less opportunity for treatment and cure (Brown, Bamigboye & Sodeinde, 2008).

Majority of cancers in Africa are diagnosed at late stage simply because of lack of screening and early detection services, limited awareness of signs and symptoms of cancers among the public and lack of health care givers with oncology specialty (World health organization, 2002). In Africa, the chance of surviving from cancer is very poor especially in patients diagnosed at screening and then placed on treatment (World health organization, 2002). In Gambia, Uganda,

and Algeria the five-year survival rate is less than 50% as compared to 90% of United States survival; these are largely because of limited access to quick standard treatment adding to other factors listed above (World health organization, 2002). According to World health organization, (2002), availability of cancer drugs were only 22% and only 11% of the population in Africa can afford the treatment.

2.4.2. Incidences of Cancer in Nigeria

World Health Organization, (2007) reports revealed that there are presently more deaths from cancer than from HIV/AIDS, tuberculosis, and malaria. HIV itself is an additional cause of the increased incidence of cancer in Nigeria (Ogunbiyi, 2013). High incidence of lung cancer among women had called attention to the culpability of chemical pollutants derived from wood-burning and the use of charcoal in cooking (Ogunbiyi, 2013). These environmental risks are also considered important in cases of lung cancer among young people regardless of their gender (Ogunbiyi, 2013). In major cancer treatment Centre's in Nigeria, it is estimated that about one out of ten cases seen will be prostate cancer (Ogunbiyi, 2013). Prostate cancer progresses more rapidly in Nigerian environment (Ogunbiyi, 2013). According to WHO, (2013) cancer accounts for 13 percent of all deaths registered globally and 70 percent of that figure occurred in middle and low income countries e.g. Nigeria. In Nigeria, estimated numbers of 10,000 cancer deaths are recorded annually while 250,000 new cases are recorded yearly (World health organization, 2013). Most cancer treatment Centre's in Nigeria today lack modern diagnostic equipment for diagnosing the condition and there is also lack of awareness about cancer especially the causative factors, preventative measures, treatment options and available facilities for prompt cancer treatments (Andreas, 2013)

In Nigeria, the public still believe that cancer is a disease of the wealthy, elderly and developed countries, while victims of the disease in Nigeria still regard it as their fate and as such death rate is high (Abdulkareem, 2009). According to Osinubi, (2011) the increasing incidence of cancer in Nigeria is due to lack of awareness and apathy and this has led to late present presentation of patients to hospitals were only radiation and palliative care is the best option. In addition to improved child survival due to improved immunization against childhood infections and management modalities, the effect of malignancies in childhood mortality has reduced (Abdulkareem, 2009). Data from various parts of the country showed that the five most common

childhood cancers are Non-Hodgkin's lymphoma in which majority are Burkitt's lymphoma, retinoblastoma, nephroblastoma, Sarcomas and Leukemia (Mohammed & Aliyu, 2009). The reduce rate of Burkitt lymphoma has been attributed to improved living condition and prompt malaria control (Mohammed & Aliyu, 2009). Retinoblastoma and nephroblastoma are common in children under 5years, while lymphomas and sarcomas occur in older children (Abdulkareem, 2009).

Poor management outcome due to late presentation, poverty and unavailability of radiotherapy are also serious health challenges in Nigeria (Abdulkareem, 2009). More than 70% of childhood cancer is now curable with best modern therapy, the treatment is expensive and majority of children approximately 80% of world's children presently have little or no access in economically disadvantaged countries like Nigeria (Abdulkareem, 2009). Although available data are hospital based, it is still very obvious that cancer incidence is rising in Nigeria and majority of the common cancers are preventable or curable if detected early (Abdulkareem, 2009). Autopsy study from Lagos revealed that 39.7% of childhood deaths are due to infective causes and only 3.3% of deaths were attributed to neoplasm (Mohammed & Aliyu, 2009).

2.5. Knowledge about cancer

The most effective weapon against cancer is knowledge and it is powerful in reduction, prevention and early detection (CANSA, 2013). Knowledge about the cancer burden enables the development, implementation, monitoring and evaluation of cancer strategies that prevent, cure and care. This knowledge is lacking in many low- and middle-income countries, making cancer control efforts less effective (International Agency for Research on cancer & cancer Research UK, 2012). Awareness on cancer is an important aspect, and physicians need to focus on that as well just as on prevention of heart disease and diabetes. Fortunately, many of the recommendations for lowering the risk for other chronic conditions are applicable to reducing the risk for cancer. "Thus, it is important for physicians and other healthcare providers to understand the importance that lifestyle can play in reducing cancer risk. It has also been discovered that patients in Sub-Sahara region of Africa present with locally advanced or metastatic disease due to limited screening program, inadequate diagnostic facilities, lack of health education, limited skilled oncology personal, poor access to health care facilities, past

negative experience, physicians attitudes, cultural and religious beliefs, and ignorance (Woods, Montgomery, Belliard, Johnny & Colwick, 2004).

2.5.1. Knowledge about cancer in Nigeria

In Nigeria, the public still believe that cancer is a disease of the wealthy, elderly and developed countries, while victims of the disease in Nigeria still regard it as their fate (Andreas, 2013: 1). There is a remarkable lack of knowledge about cancer screening among the population in Nigeria (Ajape, Babata & Abiola, 2010). In addition to the treatment complexity and cost, death rate from prostate cancer are increasing daily due to negative attitude, beliefs, poor knowledge towards prostate cancer screening and poor management skills (National Cancer Society, 2012). Education and knowledge about prostate cancer and screening is low in Nigeria (Akinremi, Ogo & Olatunde, 2011). According to Ejike & Ezeanyiwa, (2009), lifestyle changes among Nigerian men such as eating of westernized diet may lead to increased incidence of chronic diseases like cancer. According to Odedina, Akinremi, Reams, et al, (2009 & Akinremi, Ogo & Olatunde, (2011), immigration of Nigerian men to the United States significant impact on prostate cancer knowledge and beliefs.

According to Nnodimele, (2010), awareness and knowledge about prostate cancer is low in Nigeria and only 1.5% of their research participants were able to identify specific symptoms. According to Nnodimele et al,(2010). From the study done by Nnodimele et al, (2010) some of their participants that not been aware of prostate cancer can prevent one from having prostate cancer and they believe that prostate cancer has no cure. There is also lack of awareness among men in Benin-City about prostate cancer screening (Oghenetejiri, 2007). Substantial number of women in Benin City, Nigeria is still ignorant of breast cancer issues and a large number of women that have knowledge are yet to put knowledge and attitude into practice (Azubuike & Okwuokei, 2013). According to Akigbe & Omuemu, (2009) their study revealed that there is poor knowledge of breast cancer, the screening methods and as well as low level of practice of breast examination among these health workers in Benin-City.

2.6. Attitude to cancer in Nigeria

In Nigeria, lots of the women are found to be ignorant of breast cancer and this is coupled with late presentation at hospitals (Azubuike & Okwuokei, 2013). The incidence and rate of cancer in Nigeria is such a virus that many lives are at risk, and this has been attributed to high adoption of western life style and diet (Fregene & Newman, 2005) & (Azubuike & Okwuokei, 2013). Disbelief and misconception about breast cancer has also been reported as contributory factor to late reporting of patients to hospitals (Luquis & Cruz, 2006) & Azubuike & Okwuokei, (2013: 1). According to Azubuike & Okwuokei (2013), many Nigerians do not seek screening because they believe they cannot have cancer. Another major reason for non-participation in any of the cancer preventive measures was the ‘feeling that one cannot get breast cancer’, which is followed by lack of awareness, forgetfulness and avoidance of fear and anxiety (Azubuike & Okwuokei, 2013). Tendency for positive attitude towards preventive measures in Nigeria could be seen to be high, but there is still high level of superstitious beliefs and ignorance that could hinder good practice towards cancer among many in Nigeria (Azubuike & Okwuokei, 2013).

2.7. Practices relating to cancer

Rural people in Turkey believes that different illness like cancer are caused by possessed spirit or “mixed up” by Jinns, spiritual entities (Guz, Gursel & Ozbek, 2010). According to Thoresen, (1998); as cited in (Holt, Wynn & Darrington, 2009), religious practice involvement has been revealed to be positively associated with breast cancer–related knowledge and awareness and cancer prevention behaviors such as dietary habits. According to Holt, Wynn & Darrington, (2009), the role of religious beliefs and church support were identified as important in prostate cancer prevention and screening behaviors. In another study conducted at national level in Southern Eastern America, the role of religious involvement was examined with regard to prostate cancer screening and it was revealed that those with religious affiliations were more likely to participate in screening than those without religious affiliations (Holt et.al, 2009).

In a survey done on churches of various size and socioeconomic strata, it reported that many African American men (89%) were already up-to-date on their prostate cancer screening and concluded that these churchgoers were well screened when compared with national averages (Holt et.al, 2009). Many people tend to involve religious practices in dealing with cancer and health related issues because the church provides a social network of support, religion providing meaning, coping, and interpretive framework for distress or suffering (Holt et.al, 2009).

According to Holt et.al, (2009) 26% of the overall sample had not received screening, and

African Americans were more likely to report the belief that faith contributes to health. Religious beliefs is majorly used to cope with chronic disease as it tend to address patients hopelessness, fear of losing ego/self-control (Guz, Gursel & Ozbek, 2010). Many patients with chronic diseases and stressful life most times turn to religious and spiritual practices to get coping mechanism (Guz et.al, 2010).

According to Azubuike & Okwuokei, (2013), their study on “knowledge, attitude and practices of women towards screening for breast cancer in Benin”, revealed that majority of their participants believed one cannot get breast cancer which depicts disbelief and superstition. Religious and spiritual belief is often used to cope with chronic disease such as cancer. Also wearing of amulets is seen as a way to prevent and treat diseases (Guz et.al, 2010). In addition to lack of understanding, knowledge, access to hospitals, financial constraints, fear, religious and cultural beliefs were the most common reasons for non-participation in prostate cancer screening in West Africa (Rebbeck, Zeigler-Johnson, Heyns & Gueye, 2011). Religions usually influence beliefs and cultural values and this in turn influence health behavior of Nigerians to screening awareness campaign (Akgibe & Akigbe, 2012). Many Nigerians believes that death is inevitable once diagnosed with cancer and as such do not participate in cancer screening, detection and treatment (Akgibe & Akigbe, 2012).

Religious beliefs tend to dominate Nigerians as majority has passion and confidence in God as such believes in fatalism, witchcraft, magical powers, and demons (Akhigbe & Akigbe, 2012). Fatalism is the belief that all things/situations such as illness or traumatic events occurs as a result of higher power such as God or they are meant to happen and cannot be prevented or avoided (Akhigbe & Akigbe, 2012). Cancer fatalism is a situational occurrence of fatalism in which the individual affected may feel powerless in the case of cancer and accept it diagnosis as a struggle that can never be solved or cured (Powe & Johnson, 1995) & (Akhigbe & Akigbe, 2012). In Nigeria, Christianity and Islam dominates majority of the population and replaced traditional beliefs and this has affected attitude of the population towards health seeking behavior (Akhigbe & Akigbe, 2012).

2.8. Beliefs about cancer in Nigeria

According to Olasoji, Babagana, Tligali & Yahaya, (2008) cancer is believed to be as a result of curses from wicked people, ancestors' punishment as a result of family's wrong doing.

According to Olasoji, Babagana, Tligali & Yahaya, (2008). In Nigeria, lots of men believe that not been aware of prostate cancer can prevent them from the disease. They also believe that prostate cancer has no cure and does not kill, therefore screening is not necessary (Nnodimele et.al, 2010). Many patients believe that cancer diagnosis is a death sentence; therefore they see no reason for cancer screening (Guz, Gursel & Ozbek, 2010).

2.9. Health education about cancer in Nigeria

Education about prostate cancer is very low in Nigeria (Akinremi, Ogo & Olatunde, 2011). The findings of Ajape, Babata & Abiola, (2010) stated that education is lagging among health care providers as regards sensitizing Nigerians about the threat of prostate cancer. To health educate Nigerians about cancer prevention, the state of cancer management in Nigeria, prevalent cancers in Nigeria, nuclear medicine, public education needs and areas of possible research collaborations (Newsroom, 2007). According to Akinremi, Ogo & Olatunde, (2011), studies revealed that education and knowledge about prostate cancer is very low in Nigeria, and suggested that medical students needs better training.

2.10. Screening of cancer in men

According to Baan, Straif, Grosse, Secretan , El Ghissassi, Bouvard , Altieri & Cogliano, (2007); as cited in (CDC, 2014) various studies around the world have proven that drinking alcohol regularly increases the risk of getting mouth, larynx, esophagus and throat and throat cancers. A large number of studies have also provided strong evidence that drinking alcohol is a risk factor for primary liver, breast and colon cancer (CDC, 2014). Eating of healthy meals should be encouraged in order to help to maintain a healthy body weight as obesity substantially increase risk of prostate, uterine, breast and colorectal cancer (National Institutes of Health, 2012). Eating of a variety of fruit and vegetables, whole grains and pulses such as beans, peas etc. should be encouraged, limit intake of red meat such as beef, pork, lamb (Irish Cancer Society, 2013). Hepatitis is the inflammation of the liver and it is most often caused by a virus. Over time, chronic hepatitis C can lead to serious liver problems including liver damage, cirrhosis, liver failure, or cancer of the liver. This has led Center for disease control to

recommend that anyone who was born between 1945 and 1965 should get tested for hepatitis C (CDC, 2014).

2.11. Screening of cancer in men in Nigeria

Tobacco control initiatives are not effective and Nigerians still smoke about an estimated rate of 93 million cigarettes every year (Enumah, 2013). Due to lack of jobs and Government support in Nigeria, people smoke to combat stress and are not disturbed about the effect of smoking to lung cancer as prevention programs for all kinds of cancer are very limited in Nigeria due to lack of infrastructures and skilled professionals (Enumah, 2013). Chemoprevention drugs such as tamoxifen and femara are limited, as well as HPV vaccine for cervical cancer prevention. In the entire Nigeria as a country, they have only ten CT scan machines (Enumah, 2013). There is no is yet any national cancer screening program in Nigeria and annual prostate specific antigen are not routinely practiced (Akinremi, Ogo & Olatunde, 2011).

2.12. Prostate cancer

According to Hass, Nicholas Delongchamps, Brawley, Wang, & Gusstavo de la Roza, (2008), Prostate cancer is the most common diagnosed non-skin cancer in the United States and the third leading cause of cancer deaths. In many industrialized countries like United States, it is one of the most common cancers and it's among the leading causes of cancer deaths (Hass et al, 2008). It may be less common developing countries but with a high incidence and mortality rate (Deongchamps, Singh, & Haas, (2007); as cited in Hass et al, (2008). Incidence of prostate cancer is influenced by the intensity of diagnostic measures and efforts, and the mortality figures reported for any particular geographic region depend on the reliability of their cancer registries (Nicholas et al, 2008). United States has one of the most active prostate cancer early detection programs in the world, and also the highest incidence of prostate cancer; this is attributed to good cancer registry in United States (Potosky, Miller, Albertsen & Kramer, (1995); as cited in Hass et al, (2008). Prostate cancer prevalence is higher among American men of Caucasian and African origin, but the trends are similar with all other countries reports (Sanchez-Chapado, Olmedilla, Cabeza, Donat, & Ruiz, 2003) & (Hass, et al, 2008). United States have experienced a constant drop in mortality rate since the last decade (Deongchamps, Singh & Haas, 2007). The clinical incidence, mortality, and to a lesser degree prevalence of prostate cancer varies among different geographical regions of the world (Globocan, 2008).

Prostate cancer is the most common in Southern Africa, Sub-Saharan, Western Africa and Africa at large and also the leading cause of deaths in Sub-Saharan, Western and Africa in general in 2008 (Globocan, (2008); as cited in American cancer society, (2011). According to National cancer registry, (2004) & CANSA, (2013), Prostate cancer is most prevalent among white South African males than black. Recent statistics indicates that black South African males are at increased rate of prostate cancer and mostly develop the aggressive type (CANSA, 2013). According to Health 24, (2012), it is estimated that 20% of South African men have prostate cancer and has chance of 78% increase by 2030. In Sub-Saharan Africa, Nigeria ranked first, with Republic of Congo second and Uganda third position respectively with the incidence rate of prostate cancer (Nnodimele et al, 2010). In West Africa e.g. Ghana, prostate cancer is found to be the second leading cause of cancer death among Ghanaian men. It is estimated that almost 1,000 Ghanaian men are diagnosed with prostate cancer and may lose their lives. According to Mathew, Mensah, Gepi-Attee, Kwami, Kwabena, Asante, Klufu & Yeboah (2013), each year about 750 men die of prostate cancer.

2.12.1. Prostate cancer in Nigeria

According to World Health Organization, (2004) as cited in Nnodimele, (2010), in Africa, Nigeria was rated first out of the nine countries with highest incidence of prostate cancer in 2004. This is suggestive of genetic predisposition and that it is estimated that a number of new cases per year was 6,236, and the number of deaths were 5,098 per year (WHO Impact on Nigeria, 2005). According to Nnodimele et.al, (2010), results of small prostate cancer screening initiative among 200 previously untested rural Nigerians reveals that the incidence of PSA (prostate specific antigen) levels was greater than or equals to 4ng/ml and was comparable to that of previously unscreened population with high incidence of prostate cancer in African American males. According to World Health Organization, (2004, it was revealed that among the top ten countries in the world with the prostate cancer, Nigeria was rated third in deaths rate from prostate cancer globally, and 11th position from breast cancer death in the year 2004. The total death from this disease was 13,700 after India with a total of figure 18,200 and United State with 35,300 deaths (Nnodimele et.al, 2010).

Prostate cancer is the most common cancer in Nigerian males having overtaken liver cancer, it accounts for 6.1-19.5% of all cancers and the incidence is increasing (Abdulkareem, 2009). Various data from most parts of the country revealed that it is the most common cancer in all states in Nigeria except in Calabar state where a very high figure was recorded for prostate cancer as the most common in both sexes accounting for 34.7% of all cancers (Abdulkareem, 2009). The increase incidence has been attributed to introduction of PSA screening test which enable early diagnosis of cancer cases. Compared to African-American men, Nigerian men are 10 times more likely to have prostate cancer and 3.5 times more likely to die from it (Abdulkareem, 2009).

Comparing indigenous and immigrant Nigerian men's diet, alcohol consumption, tobacco use and physical activities were enough differences to provoke deeper search for the high incidence of prostate cancer in Nigeria (Kumar, Yu D, Akinremi & Odedina, 2009). According to Ejike & Ezeanyiwa, (2009), suggested that lifestyle changes in Nigerian men leading to westernized diet may lead to increase in incidence of chronic diseases like cancer. Age above 40years, positive family history, high fat diet and high serum androgens levels are also attributed to the high incidence (Abdulkareem, 2009).

In Nigeria, like other developing countries in Sub-Sahara Africa, there is no national cancer mortality database or active screening program which has pose difficulties in determining the true burden of prostate cancer (Albertsen, 2010). Prostate cancer in Nigeria had a 45.3-fold increase reported in individuals between the age groups of 30-44 and 45-50 for age-specific deaths for 2005 (Mathers, Lopex & Murray, 2006). Various Series of studies done in Nigeria revealed that with high prevalence of prostate cancer, most cases are diagnosed late, patients are less likely to receive curative treatment and most common treatment are androgen deprivation (Nwofor & Oranusi, 2004).

According to Akang, Aligbe & Olisa, (1996), in Benin-City, Nigeria, prostatic tumors accounted for 10.2% of all surgical specimens. The research was done from specimen collected from male patients in the Department of Anatomic Pathology of the University of Benin Teaching Hospital, Nigeria between 1973 and 1990. The findings revealed that nodular prostatic hyperplasia

accounted for 83% of the cases and the peak age incidence was in the 60th year of life. Prostatic cancer occurred in the remaining 17% of the cases and the peak age incidence for occurrence was in the 60th year of life (Akang, Aligbe & Olisa, 1996). Malignant neoplasms most common in Benin-City is adenocarcinomas out of which 64% were-well differentiated, 27% moderately and 9% poorly-differentiated and 61% of the adenocarcinomas were classified as cases of incidental carcinoma of the prostate (Akang, Aligbe & Olisa, 1996).

Prostate cancer research is growing having many aspect and problems to be addressed (Akinremi, Ogo & Olutunde, 2011). In Nigerians, the clinical prostate cancer rate may be much higher compared to African Americans. According to World Health Organization, (2004) as cited in Nnodimele et.al, (2010), in Africa, Nigeria was rated first out of the nine countries with highest incidence of prostate cancer in 2004. According to World Health Organization, (2004) as cited in Nnodimele, (2010), it was revealed that among the top ten countries in the world with the prostate cancer, Nigeria was rated third in deaths rate from prostate cancer globally, and 11th position from breast cancer death in the year 2004. The total death from this disease was 13,700 after India with a total of figure 18,200 and United State with 35,300 deaths (Nnodimele et.al, 2010).

Environmental and genetic factors have also been identified as the major reason for the geographic differences in incidence. Age above 40years, positive family history, high fat diet and high serum androgens levels are also attributed to the high incidence of prostate cancer (Abdulkareem, 2009). In Nigeria, like other developing countries in Sub-Sahara Africa, there is no national cancer mortality database or active screening program and this has pose difficulties in determining the true burden of prostate cancer (Albertsen, 2010). Prostate cancer in Nigeria had a 45.3-fold increase reported in individuals between the age groups of 30-44 and 45-50 for age-specific deaths for 2005 (Mathers, Lopex & Murray, 2006). Various Series of studies done in Nigeria revealed that with high prevalence of prostate cancer, most cases are diagnosed late, patients are less likely to receive curative treatment and most common treatment are androgen deprivation (Nwofor & Oranusi, 2004).

2.13. Causes and risk factors of prostate cancer

The exact cause of prostate cancer is unknown, though it appears to result from endogenous hormones and environmental factors (American Cancer Society, 2012). There are various risk factors that predispose men to prostate cancer as follows: Race- prostate cancer is nearly 60% more common among African-American men than it is among Caucasian-American men. The differential incidence and mortality rate among African-American males have been suggested to be related to hormonal factors, as higher rates of bioavailable testosterone have been noted among African-American males along with higher rates of mutations in the prostate susceptibility gene (Cancer Research UK, 2012). According to Cancer Research UK, (2012), a high fatty-diet, and red meat, have been proven to be a risk of developing prostate cancer as they influence circulating levels of testosterone and estradiol, which in turn may decrease the progression of prostate cancer. Diets high in selenium, vitamin D, E, and lycopene especially such as watermelon, grapefruits, guava, etc. have been suggested to be chemo-protective (American Institute for Cancer Research, 2013).

According to national cancer society, (2013), lack of Folate, exposure to nickel-cadmium batteries has been proven to be a risk factor (Kristal & Lipman, 2009). Causes of prostate cancer have been attributed to family history that is the major factor (Carter, Steinberg, Beaty et.al, 1991). Ethnicity, obesity, age, heavy alcohol consumption and smoking have also been identified to be risk factors of developing prostate cancer (Moynihan & Rochester, 2012).

There are no known cause of prostate cancer, but the following are proven risk factors in Nigeria; increase dietary intake of traditional Nigerian foods low in fruits, vegetables mixed with western foods also pose a threat to prostate cancer (Solake, 2000). High-fatty diets such as red meat and dairy products are also risk factors for prostate cancer (marks, 2009). Variations in geographical epidemiology of the disease and environmental has been identified to be a risk factor for prostate cancer in Nigeria (Ogunbiyi & Shittu, 1999). In addition to all factors listed above, environmental pollution relating to urbanization and industrialization has also been linked to prostate cancer cause in Nigeria (Eke & Sapira, 2002).

2.14. Signs and symptoms of prostate cancer

There are no specific signs and symptoms of prostate cancer, but the cancer usually grows slowly and some of the symptoms related to growth of the prostate are typical of non-cancerous enlargement, and these symptoms majorly bring changes in urination pattern such as urgency, frequency, weak stream, painful urination or dribbling of urine (Calabrese & Mueller, 2006). In more advanced prostate cancer there may be weight loss and fatigue and if it has spreads to the bones, there may be pain in that area as a result of pressure on the nerves endings (Calabrese & Mueller, 2006). According to Canadian cancer society, (2014), the signs at early stage are problems with urination such as frequency at night, difficulty in passing or stopping urine flow, urgency (intense need to urinate), sense of incomplete emptying of the bladder, weak or decreased urine stream, pain or burning sensation during urination, difficulty in achieving or maintain erection, and painful ejaculation. At advanced stage, there are bone pains especially in the spine, hips or pelvis, ribs, back, neck, thigh; there may also be weakness or numbness in legs or feet, anemia (low red blood cell count), fatigue, weight loss, loss of bladder control, loss of bowel control such as fecal incontinence and blood in urine (Canadian cancer society, 2014).

2.15 Screening and detection of prostate cancer

Prostate cancer screening remains a controversial issue (American Urological Association, 2012). It is the only method recognized to control prostate cancer disease through early detection. Lots of evidence has shown that prostate specific antigen (PSA) screening can detect early stage prostate cancer (American Urological Association, 2012). Screening based on the serum marker PSA is the most cost-effective method for the detection of early disease (American Cancer Society, 2004). American Cancer Society, (2004), recommended that men at high risk, based on race and family history, should commence early screening with PSA blood test and digital rectal exam (DRE) at age 45 years. While American Urology Association, (2013), states that screening will be of great benefit in quality of life improvement and PSA screening should not be done for men below 40 years; routine screening for men between 40-54 years and men over 70 years or those with less than 10-15 years life expectancy, is also not recommended. But for men between 55-64 years, the decision should be individualized and based on weighing the benefits and potential harm of prostate cancer screening. These guidelines were approved base on the findings that screening pose lots of complications such as painful biopsies, bleeding from site of biopsy, infection, hematuria(blood in urine), dysuria,

bone pain, and hematospermia (blood in sperm) which occur in 10-70% of patients (Journal of Urology, 2011). It was also discovered to be the cause of hospitalization in 6.9% of patients (American Urology Association, 2013).

Despite the controversies surrounding screening, it is been identified that the reduced mortality rates is attributed to screening, which will result in early detection and prompt treatment (Jemal, Murray, Ward, et.al, 2005 & Kenerson 2010). A recent prospective randomize trial from Canada suggest that prostate cancer mortality can be reduced widely through prostate specific antigen screening (American Cancer Society, 2012). Prostate cancer screening may reveal results that may lead to recommendations for biopsy and other tests that can also help if biopsy is considered (American Cancer Society, 2004). The main aim of screening is to reduce possibility of developing the disease at asymptomatic stage as a method of early detection because of their various negative attitudes, poor knowledge and beliefs (Kenerson, 2010).

The major problem with early detection of prostate cancer prevention is lack of knowledge about screening and poor detection guidelines among medical professional group (Woods et.al, 2004). According to Clarke-Tasker & Wade, (2002) & Woods et.al, (2004), it was discovered by researchers that sexual dysfunction is a sensitive issue for black men, therefore discourages them from participation in prostate cancer screening and early detection strategies. Direct rectal examination (DRE) was identified as a major problem at it threatens men's sexuality (Woods et.al, 2004). Majority of their participants indicated fear of weak erection, impotence and insufficient strength for vaginal penetration as a major concern why men do not go for prostate cancer screening (Woods et.al, 2004). A goal of healthy people 2020 is to eliminate racial health disparities and reduce prostate cancer death rate to 21.2 per 100,000 males. To achieve this goals, innovative measures must be applied to overcome the perceived barriers that hinders early screening practices for prostate cancer, create mechanisms to partake, support and reinforce men to make healthy choices (Healthy people, 2010). Screening is a very big issue especially in black men as compared to women Woods et.al, (2004). Black men are less likely to seek health care and participate in preventive health-related activities such as screening/detection (Woods et.al, 2004).

Many research work done has revealed economic limitation, low level of education, poor access to health care facilities, lack of knowledge about studies, past negative experience, physicians attitude, cultural and religious beliefs/attitude as various negative factors preventing individual participation in prostate cancer (Steele, Miller, Mayham et.al, (2000). Lack of knowledge about screening is been identified as a negative influence (Nnodimele et.al, 2010) and only 46.5% of their study participants indicated that they have heard about prostate cancer screening and 68.8% indicated interest for screening. In Abdulwahab, et al (2011) study, only 5.8% of their respondents were aware of prostate cancer screening; none of them have ever been tested for prostate specific antigen and they have never contemplated going for screening, all the respondents as a result of participating in the study agreed to be screened for prostate cancer but 15.4% indicated that they will screen if it's free.

According to Odedina, Yu, Akinremi, Reams, Freedman & Kumar, (2009), it was revealed that emigration of Nigerian men from Nigeria to the United States has a significant impact on prostate cancer knowledge and beliefs. In addition to lack of understanding, knowledge, access and financial constraints as the most common reason why screening is not done, fear, religious and cultural beliefs were the most common reasons for non-participation in prostate cancer screening in West Africa (Rebbeck, Zeigler-Johnson, Heyns & Gueye, 2011). According to Olasoji, Babagana, Tligali & Yahaya, (2008), cancer is believed to be as result of curses from wicked people, ancestors' punishment related family member's wrong doing. In Nigeria, lots of men beliefs that not been aware of prostate cancer can prevent them from having prostate cancer. They also belief that prostate cancer has no cure and does not kill, therefore screening is not necessary, and only 46.5% of their respondents indicated some level of awareness about prostate cancer screening (Nnodimele et.al, 2010). Many patients belief cancer diagnosis is a death sentence; therefore see no reason in screening (Guz, Gursel & Ozbek, 2010).

It has also been discovered that patients in Sub-Sahara region of Africa present with locally advanced or metastatic disease due to limited screening program, inadequate diagnostic facilities, lack of health education, limited skilled oncology personal, poor access to health care facilities, past negative experience, physicians attitudes, cultural and religious beliefs, and ignorance (Woods et.al, 2004). There is a remarkable lack of knowledge about cancer screening among the native African population in Nigeria (Ajape, Babata & Abiola, 2010).

According to Oghenetajiri, (2007) there is also lack of awareness among men in Benin-City, Nigeria towards prostate cancer screening. Knowledge and perception of prostate cancer screening is low in Nigeria and 81.5% of their research participants were willing to be screened for prostate cancer (Akinremi, Ogo & Olutunde, 2011).

In most developing countries e.g. Benin Republic, Gambia, Senegal, Ghana, and Nigeria, access to health care and prostate cancer screening methods for early detection is limited (Odedina, 2009). High rate of mortality has been revealed to be due to late detection (Woods et.al, 2004). Since there are no recognizable symptoms for early detection of prostate cancer, early detection through screening should be encouraged among men at risk (Odedina, Nilsen, Johnson & Vatten, 2000). With all the above mentioned problems preventing non-participation in prostate cancer screening, there is need to carry out this research study in Nigerian men as they are identified to be on a very high risk as a consequence of their ethnicity, beliefs.

According to WHO (2004), as cited in Nnodimele et.al, (2010) large number of interventions are available for prostate cancer treatments and it start from primary and secondary prevention intervention. Primary prevention strategies are screening done at the asymptomatic stage of the disease such as physical examination, digital rectal examinations, Prostate specific antigen (PSA) tests which are usually conducted annually for men over 50 and to men who have at least 10-year life expectancy and for younger ones who are at risk (Nnodimele et al, 2010). An abnormal PSA ranges from 20ng/ml- 40ng/ml higher. According to Mayo Clinic, (2012), transrectal ultrasound (TRUS) is a test done by using sound wave echoes to create an image of the prostate gland to visually inspect for abnormal conditions such as gland enlargement, nodules, penetration of tumor through capsule of the gland, and or invasion of seminal vesicles. TRUS may also be used for guidance during needle biopsies of the prostate gland or guiding the nitrogen probes in cryosurgery (American Cancer Society, 2004). TRUS with biopsy is recommended when the PSA level is elevated or an abnormality is detected on DRE. Usually, extent biopsies (both bases, mid glands, and apex) are taken but in high risk patients, the seminal vesicles may also be sampled (American Cancer Society, 2004).

According to Mayo foundation for medical education & research, (2012) a computed tomography scan (CT scan) is a diagnostic imaging procedure that uses a combination of X-rays and computer technology to produce cross-sectional images of the body in order to evaluate the nodes, tissues, and prostate organ. It is done to estimate prostate size by showing the detailed images of any part (Mayo foundation for medical education & research, 2012). Magnetic resonance imaging (MRI) is a diagnostic imaging procedure that uses a combination of large magnets, radiofrequencies, and a computer to produce detailed images of organs and structures within the body to evaluate extra capsular penetrations beyond the gland itself (American Cancer Society, 2004). It also evaluates lymph node and seminal vesicle for cancer spread. Radio nucleotide scan is a nuclear imaging for detecting and confirming metastasis to bone which involves an injection of radioactive material in order to locate diseased bone cells throughout the entire body (American Cancer Society, 2004). A bone scan is recommended with PSA levels of 20ng/ml or greater to rule out bony metastasis (Mayo Clinic, 2012). Other screening methods are Lymph node and/or prostate biopsy, intravenous pyelogram, and the use of Gleason score system to determine the level of aggressiveness of cancer (Mayo foundation for medical education & research, 2012).

The Stage of the cancer tells if the cancer is likely to be localized or confined to the prostate. Locally advanced means spread outside of the prostate in the area of the prostate, while metastatic means spread outside of the prostate to the lymph nodes, bone or other areas of the body (Calabrese & Mueller, 2006). According to Calabrese & Mueller, (2005), presently, there is no documented way to prevent prostate cancer, but there are on-going clinical trials investigating this important topic. According to American Cancer Society, (2013), the exact cause of prostate cancer is not known; therefore it is not possible to prevent most of these diseases, but certain measures that can be taken to lower the risks as listed in risk factors which are more of life style modifications. The American Cancer Society and the American Urologic Association recommends that most men start prostate cancer screening at the age of 50. While men with a family history of prostate cancer should start screening from the age of 40

Examples of these life style modifications that contribute to lowering the risk of prostate cancer are: monitoring of body weight, physical activity, diet, use of certain vitamins like vitamin E, mineral selenium and other supplements. Certain drugs (5-alpha reductase inhibitors groups)

such as Finasteride (Proscar) and Dutasteride (Avodart) have also been proven as a prevention of prostate cancer (American Cancer Society, 2013). The American Cancer Society recommends that men should be allowed to make an informed decision with their health care provider about whether to be screened for prostate cancer or not. They should first receive information about what is known and what is not known about the risks and possible benefits of prostate cancer screening. Men should not be screened unless they have received this information (American Cancer Society, 2013).

2.16 Treatment of prostate cancer

Treatment of Prostate Cancer depends upon the stage and grade of the cancer, the age and general health of the patient, and the treatment preference of the patient. Each treatment option has effects that can impact the patient's quality of life, and sometimes treatment options are used in combination (Calabrese & Mueller, 2006). as prostate cancer grows very slowly most of the time, expectant management is used in some men especially on those who are old age or who have other major health problems may never need treatment for their cancer may be because of the cancer stage. These are also used for early prostate cancers (American cancer society, 2014). During active management phase, the patient is been observed and monitored closely with PSA blood tests, digital rectal exams (DREs), and ultrasounds at regular intervals to determine if the cancer is growing. Prostate biopsies may be done as well at this period to ascertain if the cancer is starting to grow faster. If changes are observed in the test results, option of further treatment will be discussed and plan (American cancer society, 2014).

Sometimes patient at early stage of cancer are place under a less intensive type of follow-up accompanied with fewer tests been done but rather rely majorly on changes in a man's symptoms in order to decide if treatment is needed; this is a phase of watching waiting (American cancer society, 2014). Any of these methods may be a good if there are no symptoms caused by the cancer and cancer still confined in the prostate. This is less often a choice if patient is young and healthy, or have a cancer that is likely to grow fast (based on the Gleason score). Because of the complicating side effects of treatment, some men choose this approach, while some men are willing to accept the possible side effects of active treatment in order to try to remove or destroy the cancer (American cancer society, 2014).

Surgery is the most common choice use in treating and trying to cure prostate cancer. This is done if it has not spread outside the prostate gland .The main type of surgery for prostate cancer is known as a radical prostatectomy (American cancer society, 2014). Radiation therapy is a treatment with high-energy rays (such as x-rays) to kill cancer cells or shrink tumors. This may be used to treat cancer in and around the prostate. It is also used to treat areas of cancer spread. Radiation therapy can be external beam radiation or internal (brachytherapy). The radioactive isotope is placed directly on the cancer to kill it (American cancer society, 2014). External beam radiation therapy (EBRT) is treatments were beams of radiation are focused on the prostate gland from a machine outside the body. This type of radiation can be used in trying to cure cancers at an early stage, or to help relieve symptoms such as bone pain if the cancer has spread to a specific area of the bones (American cancer society, 2014). Each treatment lasts only a few minutes and patients usually are usually given 5 treatments per week in an outpatient clinic over a period of 7 to 9 weeks. The treatment is painless. EBRT, seem to have a positive chance of increasing the success rate and reducing side effects (American cancer society, 2014).

Some common short-term side effects of EBRT are diarrhea, sometimes melena stool (blood in the stool), rectal leakage, frequency of urination, burning sensation while passing urine, blood in urine, feeling tired. Later side effects are urinary incontinence (American cancer society, 2014). With the use of brachytherapy, radioactive materials are put in or near the place to be treated. But for prostate cancer treatment, the radioactive materials are placed in the prostate. The risk of side effects to other areas is lower, because the radiation travels only a short distance (American cancer society, 2014).

Cryosurgery is sometimes used to treat early stage prostate cancer by freezing the cells with cold metal probes also known as hollow needles. It is used only for prostate cancer that is still confined to a position, but it may not be a good option for men with large prostate glands or large tumors (American cancer society, 2014). The probes are placed through the skin between the anus and the scrotum. This method requires spinal or epidural anesthesia or general anesthesia. Cold gases are then passed through the probes, which creates ice balls to destroy

the prostate gland (American cancer society, 2014). During this procedure, warm salt water is circulated through a catheter that has been inserted into the bladder through the penis to keep the urethra tube from freezing. The catheter is required for the draining of the bladder after surgery, and this is removed a few weeks. It is usually a day case or some patient can be discharged same day after the procedure (American cancer society, 2014).

According to Calabrese & Mueller, (2006), hormone therapy prevents the production of testosterone thus shrinking the prostate cancer and slowing down its growth. Hormone therapy can be given through shots, pills or bilateral orchiectomy (a surgery). This option is intended as a treatment, but does not give a cure for prostate cancer. Hormone therapy is also known as androgen deprivation is given to lower the levels of the male hormones (androgens), such as testosterone, or to stop the spread of the hormone from reaching prostate cancer cells. Androgens are like a nutrient to prostate cancer cells (American cancer society, 2013).

Hormone therapy is usually given to male patient who cannot undergo surgery, have radiation therapy and also to patient whose cancer cannot be cured because of its metastasis. It is also use for reoccurrence cancer situation and as first treatment to prostate cancer risk patient. Examples of these hormone therapies are Leuprolide (Lupron), Goserelin (zoladex), Triptorelin (Trelstar), and Histrelin (Vantas) (luteinizing hormone-releasing (LHRH analogs). When these LHRH analogs are the given, the testosterone level increases briefly before going down to low levels. This is called "flare" (American cancer society, 2013). Men whose cancer has spread to the bones may have bone pain during this flare. In order to reduce the flare, anti-androgens drugs are given before starting treatment with LHRH analogs (American cancer society, 2013).

High intensity focused ultrasound is the method were high concentrated ultrasound are placed on the prostate tissue to heat it up to death. The cancers are targeted while using this treatment. Because the prostate gland is deep within the pelvis, the HIFU for prostate cancer treatment is inserted by using an ultrasound probe into the rectum. HIFU is a new treatment technique and results from clinical trials have proven its successful outcome for prostate cancer treatment. Possible side effects are prostate infections and incontinence (Cancer Research UK, 2014).

According to National institute of health and care excellence, (2013), HIFU should only be used within clinical trials.

Like hormone therapy, chemotherapy is unlikely to cure cancer, but rather destroys cancer cells and slows the growth. Chemotherapy is not a standard treatment for early stage prostate cancer but studies are on to see if it can be helpful if given for a while after surgery of early stage (American cancer society, 2013). There are various kinds of chemotherapy drugs used for prostate such as Docetaxel (Taxotere), Cabazitaxel (Jevtana), Mitoxantrone (Novantrone), Estramustine (Emcyt), Doxorubicin (Adriamycin), Etoposide (VP-16), Vimblastine (Velban), Paclitaxel (Taxol), Carboplatin (Paraplatin) and Vinorelbine (Navelbine) (American cancer society, 2013). Docetaxel is the most common drug used in the treatment of prostate cancer that is not responding to hormone therapy (Life Nurses, 2010). National institute for health and care excellence, (2010) recommends up to 10 treatments per patient and treatment should be discontinued if the cancer continues to spread or if patient have severe side effects.

Steroids are substances made naturally in the body and are sometimes used to treat prostate cancer that has spread. It is used when cancer is not responding to hormone therapy and is called hormone refractory prostate cancer (Cancer Research UK, 2014). It does not give a cure to cancer but can shrink it and stop the cancer growth for a period of time (Cancer Research UK, 2014). Example of this steroid is dexamethasone which is the most commonly for prostate cancer treatment and usually in tablet form. At times steroids such as prednisolone may be used together with chemotherapy (Cancer Research UK, 2014).

Sipuleucel-T is also known as Provenge which is a cancer vaccine used to treat advanced prostate cancer (Cancer Research UK, 2014). Most vaccines are designed to prevent diseases, but this vaccine is aimed at treating prostate cancer, not preventing it. This vaccine is not commonly produced. It is manufactured specially for each patient from his own blood cells (Cancer Research UK, 2014). White blood cells are taken from the patient's blood and sent to a lab to be exposed to a certain protein from prostate cancer cells. These cells are then transfuse intravenously back to the patient. It is done two or more times, 2 weeks apart, so that the patient

gets 3 doses of cells. In the body, the cells cause other immune system cells to attack the patient's prostate cancer (Cancer Research UK, 2014).

2.16.1. Palliative treatment

This is used for advanced stage prostate cancer with aim of extending life and relieving symptoms such as pain management (Life Nurses, 2014). Abiraterone is an example of drug used at this stage which brings about massive reduction in the level of prostate specific antigen (PSA) (Life Nurses, 2014). Chemotherapy such as docetaxel may also be administered at this stage in combination with prednisolone in order to prolong the life of patient (Tannock, Berry, Horti, Pluzanska, Qudard, Theodore, James et.al, 2004). Skeletal complications such as fractures are been treated with Bisphosphonates group of drugs e.g. Zoledronic acid. Radiation therapy in patients with hormone refractory metastatic prostate cancer has also been proven effective (Life Nurses, 2014). Alpharadin which is a new alpha emitting drug has been proven to prolong patient survival times, improve quality of life and reduce pain (Life Nurses, 2014). Opioid pain relievers such as morphine and oxycodone are used to treat pain due to metastatic disease (Life Nurses, 2014).

2.16.2 Complementary and alternative medicine (CAM) for prostate cancer

Complementary therapy is the use of other treatments alongside with regular medical care and majority of them are not offered to cure cancer but to make them feel better e.g. use of acupuncture to relief pain, peppermint tea to relieve nausea (American cancer society, 2013). According to National health statistics report, (2008), prostate cancer surgery, chemotherapy and radiation often pose negative effect on the musculoskeletal system causing pain and stiffness in joints and muscles, therefore complementary approach is used to treat these complications. Examples of complementary management are massage, reflexology, and chiropratic care in order to relief discomfort, reduce stress, and alleviate certain side effects of standard medical care including nausea and vomiting (National health statistics report, 2008).

Alternative therapies are used instead of medical treatment and may be offered as a cure for prostate cancer but they have not been proven safe and effective in clinical trials (American cancer society, 2013). Biologically-based alternative prostate cancer from adequate nutrition

during treatments provides high energy levels, strong immune system and increased strength. Many believed that these natural substances such as vitamins and herbs are effective in treating prostate cancer (National health statistics report, 2008)

Complementary and alternative therapies include physical, psychological, herbal, nutritional and spiritual therapies. Some are derived from traditional healing systems and each of them has various risks and benefits (Raszeja, Jordens & Kerridge, 2013). Cancer patients use these therapies for different reasons such as relieve of cancer symptoms and side effects of conventional therapies. Secondly they take these therapies to enhance effects of conventional treatments, for curative purpose, to prolong life, and also for cultural reasons (Raszeja, Jordens & Kerridge, 2013). Some complementary and alternative medicines have been proven to benefit cancer patients while some can also pose a large risk especially when the therapies are oral or parenteral, therefore it is necessary that medical practitioners knows the risks and benefits of these therapies. Also they should have record and monitor the use of complementary and alternative medicines in other avoid significant harms as most patient on conventional treatment uses these therapies (Raszeja, Jordens & Kerridge, 2013).

2.17 Treatment of prostate cancer in Nigeria

Nigeria has trained surgeons, but instrumentations and supplies are limited and in most cases not available. Post-operative follow up care is limited or poor because of lack of infrastructures such as CT-scan machines, bone scanners, laboratory services for detection of recurrence cancers (Enumah, 2013). Chemotherapy is also limited due to high cost with only 5% availability of cytotoxic drugs in Nigeria. With lack of electricity and refrigerators for storing of chemotherapy drugs, the potency of even the available ones is questioned (Enumah, 2013). More than four million Nigerians need radiotherapy treatment, but most shocking only six radiotherapy machines is available in the entire country and only about 15% of the population has access to this treatment at their own cost (Enumah, 2013). Majority of these patients cannot afford the cost of this therapy. Adjuvant therapy is expensive while curative therapeutic radiotherapy is limited. Lots of patients also present at a very late stage of cancer which makes palliative radiotherapy fruitfulness (Enumah, 2013).

There is limited palliative care in Nigeria because there is no physical infrastructure for use (Enumah, 2013). Majority of Nigerians who can afford cancer treatment cost goes abroad especially to India (India cancer blog, 2013). According to Africa Nigeria, (2013), there are only eight recognised palliative centres in Nigeria which are Amedu Bello University teaching hospital palliative centre, centre for palliative Nigeria, Ibadan, Oyo state, Federal medical centre Hospice palliative care services, Ogun state, Heart of Gold children, Lagos, Hospice and palliative care federal medical centre, Ogun state, Abeokuta and lastly pain and palliative unit, Enugu. They provide in and outpatient services to paediatrics and adults, provision of in-patient pain and palliative care, twice weekly visitation to provide home base care and bereavement support, research, advocacy and community sensitization (Africa Nigeria, 2013).

Complementary and alternative medicine use is common among cancer patients in Nigeria. Some of the users do not derive expected benefits, and adverse effects are very few. (Ezeome & Anarado, 2007). In Nigeria the use of traditional herbs and remedies are however well known and very common (Liu, Chu, Chin, Chen, Hsieh, Chiou, et. al, (1997); as cited in Ezeome & Anarado, (2007). The high cost of western medical treatment and inadequate access to orthodox medicine has led many Nigerians into using alternative and complementary medicine. There no medical law or litigation to regulate or limit use of complementary and alternative medicine in Nigeria (Ezeome & Anarado, 2007). Due to all these medical treatment issues, cancer is considered a death sentence in Nigeria. Adding to the unavailability of medical care, lack of access to health centres, availability and comfort derived from this complementary medicine, orthodox medicine is seen as ineffective among Nigerians especially among those in the communities (Nwoga, I. A. 1994); as cited in Ezeome & Anarado, (2007). The use of complementary medicine among cancer patients is most practiced in Nigeria than any other countries in the western population. It's been reported to be less commonly used among females than males (Ezeome & Anarado, 2007). Age, marital status, socioeconomic status, or level of education has no influence over who can use it. Herbs and faith healing/prayer house healing are the most common forms of complementary and alternative medicine used after herbs (Ezeome & Anarado, 2007).

The most commonly used complementary and alternative medicine in Nigeria are the biological-based treatments, including herbs, aloe Vera, Forever Living Products, medicinal tea and black

stone (Ezeome & Anarado, 2007). Other complementary and alternative medicine used by small number of patients are ginger, garlic, Noni juice, mineral therapy, bloodletting, local surgery (minor incisions with razor blades) divinations/incantations of the ancestral spirits, qamwood oil (okwuma), drinking or application of urine, magnetic water, tuja 1000, uda, mind-body technique, manual healing/touch and green tea (Ezeome & Anarado, 2007).

The alternative medical systems, such as energy techniques, manipulation, and body-based methods such as acupuncture are rarely used in Nigeria. According to Ezeome & Anarado, (2007), findings from their study participants revealed these cancer patients' uses complementary medicine for the purpose of treatment and cure for cancer. Some use it just to do anything that will help fight the cancer and other illness, while others indicated that they use it to improve physical well-being, to improve psychological and emotional well-being, relief of cancer symptoms and boost immunity against cancer (Ezeome & Anarado, 2007). Specific benefits indicated by their respondents are relief of pain, refreshment of the body, feeling of healthiness, reduction in swelling, act as constipation relief, healing of wounds and stops bleeding in urine. They also indicated that complementary and alternative medicine helps them to wash off disease from the stomach, relief of fever, stops pushing effect in rectum (pile). Python fat clears keloid (scar tissue) at operation site and lastly that prayer sustains their life's (Ezeome & Anarado, 2007).

2.18 Nursing management of prostate cancer

Nurses are the major key workers for patients with prostate cancer, and are responsible for maintaining continuity of care (National Institute for Health and Care Excellence (NICE), 2004). These major nursing roles are providing information and supporting men in making treatment decision (Bagnall, 2014). The nurse ensures that patients are given as much as they want and after treatment, nurses need to assess patients for side-effects and offer formal assessment and treatment for any troubling symptoms. Patients should be asked and assessed regularly of their treatment side-effects (Bagnall, 2014). The nurse should ensure that patients are encouraged to express their fears, concern especially on sexuality changes and explain to patient that radical surgery always produces impotence and all other side effects (Life Nurses, 2010). Post operatively, the nurse should ensure adequate provision of comfort as this could help reduce

level of pain and always encourage patient to identify measures that promotes their comfort (Life Nurses, 2010).

2.19 Prostate Cancer rehabilitation

According to Justin & Robert, (2013: 1), Cancer rehabilitation is defined as a process of assisting cancer patient to obtain maximal physical, social, psychological, and vocational functioning within the limits created by the disease and its resulting treatment. Cancer rehabilitation is a program designed to address patient desire to achieve an active life and it continues outside the hospital when patient has been discharged (John Hopkins Medicine, 2012). Cancer rehabilitation is a comprehensive interdisciplinary program developed to provide outpatient rehabilitation to all cancer patients and survivors in need (John Hopkins Medicine, 2012). This is to improve daily function and quality of life for all cancer survivors. Cancer rehabilitation is a challenging and rewarding field as it combines many aspects of medicine, such as inpatient and outpatient care, patient continuity of care, clinical assessment, diagnostic evaluation, and interventional skills (Lehmann, Warren, DeLateur, Bryant & Nicholson, 1978). Rehabilitation can improve the quality of life of people with cancer and their families, including improvement in physical strength to help reduce limitations cancer and its treatment may impose (Cancer Net, 2013). Rehabilitation helps individual patient to become independent and less relying on caregivers, cancer patient in adjusting to normal, perceived and potential losses due to cancer and treatment complications. Cancer rehabilitation also helps to minimize sleep problems and lowers the amount of hospitalization (Cancer Net, 2013).

It is focused on addressing a wide range of symptoms and diagnoses for each type of cancer such as fatigue, weakness, pain, stiffness of joint, difficulty in walking, numbness in feet or hand, scar tissue restriction, intolerance, decline in balance, etc. (John Hopkins Medicine, 2012). The rehabilitation approach to the treatment of cancer originated with the National Cancer Act of 1971. This law declared cancer rehabilitation as an objective and directed funds to the development of training programs and research projects (National Cancer Act of 1971). In 1972, the National Cancer Institute sponsored the National Cancer Rehabilitation Planning Conference and 4 objectives in rehabilitation of patients with cancer were identified which are psychosocial support, optimization of physical functioning, vocational counseling and optimization of social functioning (Justin & Robert, 2013).

The following are list of various cancer rehabilitation specialist involve in cancer rehabilitation program; Physicians (medical oncologist, surgeons, radiation oncologist, oncologist, and psychiatrists), case manager, oncology or rehabilitation nurse, psychologist, physical therapist, social worker, occupational therapist, vocational counselor and dietician (Justin & Robert, 2013). According to John Hopkins Medicine, (2012), the following are different types of cancer rehabilitation service: Psychiatrist, physical therapist, occupational therapy, rehabilitation psychology, speech language pathologist, recreational therapist, home-health aide and lymphedema management. Specialists in rehabilitation have proposed different general principles regarding rehabilitation interventions for patients with cancer (Justin & Robert, 2013).

Rehabilitation requires team approach of various disciplines (specialist) because of the different kinds of potential problems patients may face during the course of illness and treatment (Justin & Robert, 2013). The availability of these professionals from major disciplines is essential to offering comprehensive care. The patient's needs determine the team members to be involved in individual patient (Justin & Robert, 2013). The healthcare team must develop rehabilitation goals within the limitations of the patient's illness and environment. Goals must be objective, realistic, and attainable in a reasonable time to demonstrate gains from active participation in therapy and thereby maintain the patient's motivation (Justin & Robert, 2013). Patients, family members, and significant others must be actively involved in the rehabilitation process. Patient and family involvement assists in achieving the goal of restoring patient to normal life. The rehabilitation team must provide services to patients throughout the course of illness, during all stages of cancer and treatment. Treatment plans must be individualized to meet each patient's unique and specific needs (Justin & Robert, 2013).

Despite all recent efforts in surgical technique such as of laparoscopic and robotic means for the management of early organ-confined prostate cancer, most contemporary reports revealed that significant high rates of erectile dysfunction (Tariq, Trustin, & Gerald, 2009). And there lots of Controversies related to the different types of the pre-and postoperative management strategies such as agents to enhance nerve recovery, erectogenic drugs, antioxidants, vasoactive injectable vacuum erection devices and nerve grafting procedures (Tariq, Trustin, & Gerald,

2009:1). In addition to the optimal timing of these interventions and their duration, dose, frequency and outcome thresholds cannot still be ascertain (Tariq, Trustin, & Gerald, 2009). There are various methods of treating prostate cancer which involve surgery, radiotherapy or high intensity focused ultrasound and their goal is to achieve cure of the cancer, preserve urinary control and erectile function (Katelaris, 2010). Unfortunately even with increasing treatment sophistication and therapeutic efforts, lot of side effects are associated with prostate cancer therapy, especially with regards to urinary incontinence and erectile dysfunction (Katelaris, 2010). During the recovery phase after prostate cancer treatment, patients are offered a comprehensive rehabilitation plan, which include emotional and psychological support (Katelaris, 2010). The most encouraging approach is multi-disciplinary, involving urologist and physiotherapist experienced in the management of male urinary incontinence, and a psychologist, cancer and sexual dysfunction counselor (Katelaris, 2010).

Urinary incontinence occurs as a result of damage to the urethral sphincter during prostate surgery. Regardless of the surgeon's experience, severe urinary incontinence occurs in at least 3% of prostate surgery (Katelaris, 2010). Post operatively, the type of incontinence is majorly sphincter weakness. If the urgency symptoms are suggestive of detrusor instability or bladder over activity, further examinations may need to be done (Katelaris, 2010).

It is normal for the majority of men to experience a degree of incontinence due to sphincter weakness following the removal of urinary catheter. A physiotherapist can be involved here to teach patient the right technique for pelvic floor training (Katelaris, 2010). The male sling is appropriate for men with mild to moderate stress urinary incontinence that has not responded to conservative measures (Katelaris, 2010). The sling is a polypropylene mesh material that is inserted via a small perineal incision (Katelaris, 2010). This operation is done on a day stay basis. In cases of moderate to severe urinary incontinence, the inflatable artificial urinary sphincter is the standard of care (Katelaris, 2010). The artificial urinary sphincter is made of biocompatible silicon and is primed with a normal saline solution. It consists of a reservoir of fluid placed intra-abdominally, an inflatable and deflatable cuff that surrounds the urethra and a deflate mechanism that is situated beneath the scrotal skin (Katelaris, 2010). The artificial sphincter is inserted through a small transverse scrotal incision and the patient is discharged after an overnight stay in hospital (Katelaris, 2010). After six weeks the device is activated and the patient is taught the simple technique of manipulating the small scrotal pump to relax the

cuff in order to facilitate voiding (passing of urine). In difficult cases such fibrosis of the urethral as a complication from external beam radiotherapy, a double cuff system may be implanted to ensure restoration of urinary control (Katelaris, 2010).

2.20. Summary of chapter two

In this chapter, the literature review of the study which comprises of demography, history and demography of Nigeria, culture of Benin-City and health services in Nigeria were presented. The chapter also presented incidences of cancers in developed countries, developing countries and Nigeria. Knowledge, attitudes, religious beliefs and health education about cancer in the world and Nigeria were also presented in this chapter. Screening of cancer in men, screening of cancer in Nigerian men, prostate cancer and prostate cancer in Nigeria, causes and risk factors of prostate cancer, signs and symptoms, screening and detection of prostate cancer were presented as well. And finally, the chapter also comprises of treatment of prostate cancer, palliative treatment, complementary and alternative medicine for prostate cancer, treatment of prostate cancer in Nigeria, nursing management, and rehabilitation of prostate cancer. The next chapter (chapter 3) will present the research methodology.

CHAPTER THREE: METHODOLOGY

3.1 Introduction to chapter

This chapter consists of qualitative and quantitative research approach (mixed method), advantages and disadvantages of the researches approaches, research design, population and sample, inclusion and exclusion criteria, methods of data collection and its advantages/disadvantages, process of data collection, data management and storage, validity and reliability of instruments, ethical considerations, and finally constraints and limitations of the study. The next chapter (chapter 4) will present the results of the study.

3.2 Mixed method approach

Mixed method research is a type of research in which both qualitative and quantitative approaches are used in types of questions, research methods, data collection, analysis procedures, and or inferences (De Vos, Strydom, Fouche & Delport, 2011). (According to Ivankova et.al, (2007) as cited in De Vos et al, (2011), mixed method research is a procedure for collecting, analyzing and mixing both quantitative and qualitative data at some stage of the research process within a single study to understand a research problem more completely. According to Creswell, (2006), mixed method as a research methodology evolves a philosophical assumptions that guides the direction of collection and analysis of data. Mixed method research provides a better understanding of research problems than either approach alone (De Vos et al, 2011). It indicates that data will be integrated, related or mixed at some stage of the research process (De Vos et al, 2011).

Some of the advantages of mixed method research are as follows: It enables the researcher to simultaneously address a range of confirmatory and exploratory questions with both quantitative and qualitative approaches. Therefore verify and generate theory in the same study ((De Vos et.al, 2011). It provides strength to weakness of both qualitative and quantitative research, therefore has the potential provide better or stronger inferences or conclusion (Creswell, 2006).

In using mixed method research, researchers are allowed to use all of the tools of data collection available rather than being restricted to the types of data collection typically associated with qualitative research or quantitative research (Creswell, 2006). Mixed methods research provides answer to questions that cannot be answered by qualitative or quantitative approaches alone (Creswell, 2006). It provides adequate and comprehensive evidence for studying a research problem than either quantitative or qualitative research alone.

Mixed methods research encourages the use of multiple paradigms rather than the typical association of certain paradigms for quantitative research and others for qualitative research (Creswell, 2006). It also encourages us to think about a paradigm that might encompass all of quantitative and qualitative research, such as pragmatism, or using multiple paradigms in research (Creswell, 2006). Mixed methods research encourages researchers to collaborate across the sometimes adversarial relationship between quantitative and qualitative researchers (Creswell, 2006). It encourages researcher to corroborate (to help prove a statement) across some adversarial relationship between quantitative and qualitative researchers (De Vos et.al, 2011). In using mixed method approach, if findings are proven with different approaches, then greater confidence can be held in singular conclusion and if findings in a study conflicts, the researcher have greater knowledge and can modify interpretations and conclusions accordingly (De Vos et.al, 2011).

Mixed method is “practical” because the researcher has the authority or right to use all kinds of methods possible to address a research problem as well as combining inductive and deductive reasoning process (Creswell, 2006). It is also “practical” because individuals tend to solve problems using both numbers and words, they combine inductive and deductive thinking, and they (e.g. therapists) employ skills in observing people as well as recording behavior (Creswell, 2006). Mixed method eliminates different kinds of bias, explains the true nature of a phenomenon under investigation and improves various forms of validity or quality criteria. In major cases, the goal of mixed method is to ensure and expand researchers understanding (De Vos et.al, 2011).

Despite all the values of conducting mixed method research, disadvantage of it are as follows: It is not easy, it takes time and resources to collect and analyze data (Creswell, 2006). It requires specific skills to collect and analyze both quantitative and qualitative data in one study (De Vos et.al, 2011). It complicates the procedures of research and requires clear presentation if the reader is going to be able to sort out the different procedures (Creswell, 2006). Majority of investigators are often trained in only one form of inquiry (quantitative or qualitative), but with using mixed methods it requires that the researcher knows both forms of data (Creswell, 2006). The value of mixed methods research seems to outweigh the potential difficulty of this approach (Creswell, 2006).

3.2.2. Quantitative approach

It is a formal, objective, systematic process in which numerical data are used to obtain information and it is more appropriate to ensure that extent of a problem or phenomenon is determined. Quantitative research is a quantifiable research approach in which raw data are collected and turned into usable information by mathematical manipulation that leads to future predictions (Kokemuller, (2014). It is a structured approach because the research process such as objectives, design, sample and measuring instruments is predetermined. It is a highly structured approach thereby making it easy to measure and analyze data and a large number of people can be included in the sample (De Vos et al, 2011).

According to Burns & Grove, (2009) quantitative research is explaining **phenomena** by collecting numerical data that are analyzed using mathematically based methods and it is more efficient when dealing with a larger sample size. Some of the benefits of quantitative research is that it is an inquiry into a social or human problem based on testing a theory composed of variables, measured with numbers and analyzed data with statistical procedures in order to ensure that predictive theories are true (De Vos, 2011). One of the main benefits of quantitative research compared with qualitative research is that it is more precise and easy to analyze and it requires more subjective evaluations (Kokemuller, 2014). Data collected from quantitative research provides a more efficient picture of the results and they are usually more objective as researchers are not able to manipulate the numbers or scores when the studies are conducted accurately with no bias (Kokemuller, 2014). It is the most used method for scientific investigation and it is used to describe variables, examine relationships between variables and answer

questions about relationships among measured variables with the aim of explaining, predicting and controlling **factors** (De Vos et al, 2011).

Quantitative research involves statistical comparisons and percentages and it provides support for decision making, and it gives more confidence when taking action (Kokemuller, 2014). All data are collected in numerical or statistical format. According to Neill, (2007); as cited in Kokemuller, (2014) quantitative data are more often recommended during latter phases of a research project or study.

However, some of the disadvantages of quantitative are that firstly its focus is usually concise (breaking the whole parts to be examined into parts), and does not generate new knowledge (Burns & Grove, 2009). Secondly, it requires control of the researcher to identify and limit problem to be researched and outside variables that focus of the study. And finally, researcher involvement in the study brings about bias as it sways the study toward the perceptions and value of the researcher. Biasing a study tends to be non-scientific technique (Burns & Grove, 2009).

3.2.3. Qualitative approach

Some of the benefits of qualitative research are that it is an interpretative methodological approach that is aimed to produce more of subjective science. It focuses more on understanding the unique, dynamic, holistic nature of man and it helps individuals involve understanding the meaning of their social interactions (Burns & Grove, 2009). The focus is usually broad; its intent is to give holistic meaning and it generates knowledge about meaning and discovery. These qualities make findings from the study to identify the relationships among the variables, and the relational statements are used to develop theories (Burns & Grove, 2009). The findings from qualitative are unique to the study and it is not the researchers' intent to generalize the findings to a larger population (Burns & Grove, 2009).

However, some of the disadvantages of are that the qualitative researcher has an active involvement in the study and the researcher values and perceptions influences the findings.

Researcher involvement in the study bias or sway the study toward the perceptions, values of the researcher and this brings about poor scientific technique (Burns & Grove, 2009). It uses unstructured observations and interviews to collect data. The data collected share the interpretations of the researcher and the subjects, and no efforts are made to control the interactions (Burns & Grove, 2009).

3.2.4. Philosophy of quantitative research

Quantitative research approach originated from the branch of philosophy called logical positivism; it operates on strict rules of logical truth, laws, axioms and predictions (Burns & Grove, 2009). Quantitative researchers hold on the belief or position that truth is absolute and that there is a reality that could be defined by using a careful measurement. To achieve the goal of finding truth in quantitative research, researcher must be have a complete objective, meaning that values, feelings, and personal perception and knowledge must not be imposed into the measurement of reality. The researcher must find and develop right instrument or tools to measure the behavior (Burns & Grove, 2009). Philosophy of quantitative research consists of positivism, post positivism, empiricism, determinism and materialism (Rahman, 2010). Positivism is the principal approach or steps associated with the application of natural science methods to social research. It is a philosophical approach to the creation of knowledge that can be characterized by an emphasis on empiricism—that is knowledge based on empirical observation, testing of theories and development of universal laws (Rahman, 2010)

With positivism, truth can be discovered only by imperfectly and probalistic sense which contradict positivism ideal as it focus is establishing cause-and-effect explanation of unchangeable or universal facts (Burns & Grove, 2009). It also rejects the opinion that the researcher is totally objective about findings to be discovered. But it continues to emphasize the need control environmental influence (Burns & Grove, 2009). Empiricism understanding events that is observable through our senses. This knowledge is based on empirical observation (Rahman, 2010). Determinism states that everything that happens has a specific cause and gives rise to specific effects (Rahman, 2010). Materialism states that whatever exists must exist in some amount (Rahman, 2010). According to Carswell, (2013) materialism also known as physicalism in philosophy simply means that the view of all facts which include facts about

human mind & will and the course of human history are usually dependent on physical process. It also called the theory of nature of man.

3.2.5. Philosophy of qualitative research

Various types of qualitative research are guided by a specific philosophy known as paradigm. This philosophy directs the questions asked, observations made in the study and how data collected will be interpreted i.e. how to collect the data (interview and interpretation) and analyses (Burns & Grove, 2009). It also focuses on how the problem is presented, and examining the researcher's methods (Burns & Grove, 2009). Six approaches of theories are been used in qualitative research which are phenomenological, historical, rounded theory, ethnography, philosophical inquiry, and critical social theory (Burns & Grove, 2009).

The philosophical basics of qualitative research are interpretive, humanistic and naturalistic. It also focuses on helping the researcher and participant to understand meaning of their social interactions (Burns & Grove, 2009). According to Marshall & Rossman, (2006); Munhall, (2001); as cited in (Burns & Grove, 2009), qualitative researchers holds to the opinion that truth is complex and dynamic and can only be discovered by studying the persons as they interact with an within their social-historical background. There are different kinds of philosophical approaches to qualitative research which influence the choice of theoretical framework and methodology (Lemanski & Overton, 2011).

3.3. Research design

In order to achieve the objectives of this study, a qualitative cross-sectional approach. Cross-sectional research falls within the quantitative and qualitative research paradigm and it is used when there are constraints of time and resources (Collins & Hussey, 2008).

3.3.1. Descriptive cross-sectional design

Cross-sectional research falls within the qualitative research paradigm and it is used when there are constraints of time and resources (Collins & Hussey, 2008). The main aim of using cross-sectional design is to manipulate the independent variable (Collins & Hussey, 2008). The data is

collected only once and over a short period of time, before it is analyzed and reported on (Collins & Hussey, 2008). In cross-sectional design the criterion groups majorly consist of different age groups such as colleges, universities and organizations (Welman, Kauger & Mitchell, 2005). Descriptive research has two goals and that is explaining phenomena such as human behavior and predicting goals (Welman, Kauger & Mitchell, 2005).

3.4. Population and sample

3.4.1. Population

According to Collis & Hussey, (2009) Population is made up of some of the members of the target population. The populations were all male students in Benson Idahosa University, Benin City. However, the target population will be postgraduate and undergraduate male university students who range between the ages 18-35 years in the Faculty of Social and management Science. This population size was selected for this study because it's been detected that if prostate cancer is identified at an early stage of life, prognosis for management and cure is good. It is necessary to assess the knowledge, beliefs and attitudes of this young population at an early stage towards screening. In recruiting the research participant, the Vice chancellor, the Registrar, The Dean of faculty, Heads of Department, faculty lecturers as well as the ethical committee board were all informed and supports was given by all. Refer in the list of appendix D, E, F and G are the letters of support/approval from the University.

3.4.2. Sample group

The population size was male students in the Faculty of Social and management Science in Benson Idahosa University, Benin City, Nigeria. Participants' used for the study were selected using non-probability sampling i.e. opportunistic sampling. It provides the complete representation of a particular segment of the population and very useful when the population to be studied is heterogonous (George, 2011). It eliminates ambiguity of the study population by ensuring effective use of the subgroups (George, 2011).

3.5. Inclusion and exclusion criteria

3.5.1. Inclusion criteria

- Male university students who were available and identified as faculty of social and management science students were included.
- Male university students within the age range of 18-35 years.
- Male students that have consented and agreed to participate
- All undergraduate male student
- All postgraduate male student

3.5.2. Exclusion criteria

- Male university students less than 18 and more than 35 years will be excluded from this study.
- Male university students who are not studying in the faculty of social and management science
- All male academic staff of the faculty will be excluded
- All male administrative and support staff will be excluded

3.6. Recruitment of participant

The participants' were recruited on individual approach and appointment was made and agreed on date, time and venue in which the study was conducted. Ethical approval was granted from Cape Peninsula University and was submitted to the University where the study was conducted (See Appendix C). Letter of support and approval were granted from the Vice Chancellor, Registrar and Dean of faculty of Social and management science in Benson Idahosa University, Benin City. (See in appendix D, E, F and G). The faculty heads of department informed the research participants' about the study.

3.7. Methods of data collection

Two main data collection methods were used in the collection, i.e. questionnaires and semi-structured interviews

3.7.1. Questionnaires

The questionnaires used for this study were based on a validated questionnaire developed by (Nnodimele et al, 2010). It is called “Level of Awareness, Perception and Screening Behavior Regarding Prostate Cancer among Men in a Rural Community of Ikenne Local Government Area, Nigeria” (Nnodimele et.al, 2010). Letter of permission to use the questionnaire was received from the Author (Appendix H in proposal). The researcher was given approval to use it on condition that she referenced it properly. A letter, informing the participants’ what the study was all about accompanied the consent form. The researcher ensured that informed written consent were all signed by participants’ and retrieved. Prior to commencement of the study and during the study, confidentiality and privacy was maintained.

According to Burns & Grove, (2009), questionnaire is a printed self-report form designed to elicit information that can be obtained from a subject’s written responses. The information obtained through questionnaires is similar to that from interview. Questionnaires are presented in a consistent manner. It has less opportunity for bias. It is designed to determine facts about subjects or persons known by the subjects. It also determines facts about events or situations or beliefs, attitudes, opinions, levels of knowledge, or intentions of the subjects (Burns & Grove, 2009). Questionnaires can be distributed to large scales of research participants’ directly or indirectly. Questions on questionnaire are easy to design and information obtained from questionnaire has less depth. The subjects are unable to elaborate on responses or ask questions to be clarified. Data collected cannot probe strategies (Burns & Grove, 2009). A pretest study was conducted to verify user-friendly of the proposed questionnaire.

3.7.2: Interviews

Semi-structured interviews will be conducted and questions will be based on findings from questionnaire responses analysis. Key areas that the interviews will focus on will include knowledge about prostate screening, cultural belief about self-examination, and personal attitude about prostate cancer. Participants interviewed consented to participate. Interview is a flexible technique to ensure researcher explore greater depth of meaning to obtain data than other techniques (Burns & Grove, 2009). It allows the use of interpersonal skills to encourage participant cooperation and elicit more information. The response rate from interview is higher than that from questionnaire and thus offers a more representative sample. It allows

researchers to collect data from subjects who are unable or unlikely to complete questionnaire due to illness or inability to express themselves in writing. The insight gained from the interview process and from relating to the interviewee as a person made the process worthwhile (Burns & Grove, 2009). Some of the disadvantages of interviews are-Is a form of self-report, and it makes the researcher assume that information derived is accurate. It is more costly as much time is needed. Because of this sample size is usually limited. Subject bias is always a threat to validity of the findings (Burns & Grove, 2009).

The questionnaires used for this study were based on a validated questionnaire developed by (Nnodimele et al, 2010). It is called "Level of Awareness, Perception and Screening Behavior Regarding Prostate Cancer among Men in a Rural Community of Ikenne Local Government Area, Nigeria" (Nnodimele et.al, 2010). Letter of permission to use the questionnaire was received from the Author (See Appendix H). The researcher was given approval to use it on condition that she referenced it properly and this was respected and acknowledged.

3.8. Process of data collection

Questionnaires and interview were used to collect data. 220 questionnaires were distributed and 174 were retrieved from participants who agreed and consented to participate. Questionnaires were filled independently and privately. Estimates of about 10-15 minutes were used by the individual participant to finish their questionnaires. Adequate time was allowed ensuring that participant completed their questionnaires. 11 respondents from the 174 who consented to participate were also interviewed with the use audio recording tape. 5-6 hours was used per day. Therefore, interview process was done within one week. Questionnaire was distributed to participants' and collected by the researcher alone. Interview was also conducted by the researcher alone.

3.9. Data management and storage

Data collected was treated as an asset and with utmost care and attention (Remenyi, Swan & Assem, 2011). Data was only used for the purpose for which it was collected. Therefore Individual data collected were coded with the use of numbers ranging from 01-174. Questionnaires were captured, stored and analyzed with statistical package for social sciences

(SPSS) and later translated into excel in computer system for graphic chart representation of results. Interview response was transcribed into Microsoft word. The data collected was stored in a safe box at the department of nursing in Cape Peninsula University of Technology after analysis.

3.9.1. Strategies for data analysis

According to Burns & Grove, (2009), computer systems are used universally for data analysis at it is more accessible and ease to use. Package computer programs are used to analyze data and provide result of the analysis on a computer printout (Burns & Grove, 2009). Data was also be analyzed by experienced members of the research team in order to ensure accuracy and omissions before publication. The opinion of other external research experts (statistician) was consulted. Data was analyzed using Statistical Package for Social Sciences (SPSS) software to generate frequency, mean, and standard deviations (Burns & Groove, 2009). Charts were represented using Microsoft excel.

3.9.2. Questionnaire response

The researcher read through all questionnaires retrieved to ensure that all questions are attended to. Uncompleted questionnaires were separated from the completed once. Descriptive statistics was used to analyze closed ended questionnaire. Microsoft word was used to capture the open ended questions. The table below (figure 1.4) shows the relationships between objectives, questionnaires and information needed from respondent.

Table 1.1: Relationships between objectives, questionnaires and information needed from respondents

Table 1:1

OBJECTIVES	QUESTIONNAIRE QUESTION	INFORMATION NEEDED
To determine basic knowledge of male university students about screening for prostate cancer	What is prostate cancer screening?	Is a test done to detect cancer
	What are the complications of prostate cancer screening?	Are health problems that after prostate cancer screening
To examine factors that prevent or motivate male university students for seeking prostate cancer screening	Does your culture see prostate cancer screening as a taboo?	Yes or No
To identify attitudes and beliefs of male university students towards screening for prostate cancer.	How does your culture regard anyone who has prostate cancer screening done?	To check if treated as a shame to manhood

3.9.3. Interview response

Recorded audio data was transferred onto computer and was listened to by the researcher to know if what was recorded is the same as what is written. Manuscript was typed into Microsoft document by the researcher for transcription.

Table 1.2: Relationships between objectives, interviews and information needed from respondents

OBJECTIVES	INTERVIEW QUESTIONS	INFORMATION NEEDED
To determine basic knowledge of male university students about screening for prostate cancer	What is prostate cancer screening?	To check if they have prostate cancer knowledge
	In your view what is the attitude of males towards prostate cancer screening?	Is it positive attitude Is it negative attitude
To examine factors that prevent or motivate male university students for seeking prostate cancer screening	What is your cultural perception about prostate cancer screening?	To know if the culture allows prostate cancer screening
To identify attitudes and beliefs of male university students towards screening for prostate cancer	How does your culture see prostate cancer?	They see it as a disease They see it as a curse They see it as a taboo

3.9.6. Presentations of results

Data will be presented in a descriptive form using charts (Burns & Grove, 2009), and comments from interview used as quotes.

3.10: Validity and reliability of instrument

The following aspects pertaining to data validity and reliability were applied to this research study:

3.10.1. Questionnaire Validity

According to Collis and Hussey (2009), 'validity' is concerned with the extent to which the research findings accurately represents what is happening. More specific, whether the data is a true picture of what is being studied. Validity helps to ascertain if whether an instrument accurately measures what it is supposed to measure, giving the context in which it is applied (Brink, 2005). According to Cooper & Schindler, (2006), three major forms of validity can be identified, namely 'content validity', 'criterion-related validity' and 'construct validity'. The questions have been repeatedly been validated with the acknowledge questionnaires as it has been tested (Nnodimele et al, 2010). Measures used to perform this study were derived and conceptualize from the health belief model, in which the variable knowledge, beliefs and attitudes towards screening was explored.

3.10.2. Reliability

Reliability (also referred to as 'trustworthiness'), is concerned with the findings of the research (Collis & Hussey, 2009). Trustworthiness is defined as consistency, stability and repeatability of the informants' accounts as well as ability of the researcher to collect and record information accurately (Brink, 2009). The findings can be said to be reliable if you or anyone else repeated the research and obtained the same results. Reliability will be done through pretest.

Determination of validity and reliability in qualitative research is very difficult. Therefore, measures like pretesting were done to ensure validity and reliability of the study. In order to identify problem and to access the reliability and validity of the interview instrument, a pretest

study of the questionnaire was conducted to verify user-friendly once ethical approval is granted. A Pre-test study is a smaller version of a proposed study conducted to refine the methodology. It is a research design used in social science research to verify validity of proposed research questions. It is developed much like the proposed study, using similar subjects, same setting, same treatment and technique of data collection and analysis (Burns & Grove, 2009).

3.10.3. Dependability

Dependability is the consistency of the research findings following a study. It is to establish the trustworthiness of the study. A study is regarded as trustworthy when the findings of the study are considered dependable (Brink, 2006). The dependability of this study was ensured by following the research process, objectives, research questions and information needed in figure 1.4 & 1.5, and appendix A and B Shows that the questionnaires and interview questions constructed were dependable enough to collect the study data.

3.10.4 Confirmability

Confirmability is measured by the research findings in relation to the data collected. It guarantees that findings, conclusions and recommendations are supported by the data and there is agreement between investigators interpretation and the actual evidence. Confirmability will be achieved in the study by associating objectives with questionnaire and interview questions in figure 1.4 & 1.5, and appendix A and B.

3.11. Ethical considerations

3.11.1. Ethics

Ethics refers to the appropriateness of behavior in relation to the rights of those who becomes subjects of the researchers work, or affected by it (Watkins, 2012). It is the branch of philosophy that deals with morality (Burns & Grove, 2009). It is a means of striving for rational ends when others are involved. The desirable rational ends are justice, generosity, faithfulness etc. The following ethical considerations were observed in this research study:

3.11.2. Autonomy

The research participants had right to anonymity and were made known that data collected will be kept confidential. The researcher ensured that Identity of the subject was not linked to individual responses and the researcher will never be able to contact participant for further additional information (Burns & Grove, 2009).

3.11.3. Beneficence

The researcher ensured that research participants were protected from harm and discomfort. The participants received benefit as of participating in this study was creation of awareness about prostate cancer, screening and cancer in general and also improving their knowledge and perceptions. This is the principle of “do good and no harm” (Burns & Grove, 2009).

3.11.4. Non-maleficence

This is the right to protection from harm or discomfort. The researcher ensured that participants were all protected from harm or discomfort by ensuring that the benefits outweighed the harm (Burns & Grove, 2009). This was achieved by ensuring that environment is safe, quiet and private. Interview questions were structured in a manner to avoid psychological, emotional trauma, and also keeping to timeframe.

3.11.5. Confidentiality

In this study, the researcher ensured that the identity of the subjects and information given were kept anonymous from others and this will be achieved by giving respondents' code numbers and their names will not be used or indicated. Research participants were informed that data collected will be analyzed in groups and not as individuals. Subject identity will not be published as part of the research findings. The signed consent forms was not attached or stapled to data collection tools. Individuals who were not involve in the research study will not have access to the data collected (Burns & Grove, 2009). Data collected, consent forms and data sets are kept and locked up in a safe box in nursing department at Cape Peninsula University of technology.

3.11.6. Justice & right to withdraw

The selection of the population and specific participants was fair and they were selected for reasons directly related to the problem being studied or researched. All participants were treated as one and given equal right to participation (Burns & Grove, 2009). The researcher ensured that research participants that requested for withdrawal during this study was respected and granted. This research was conducted on a strictly voluntary basis. (Burns & Grove, 2009).

3.11.7. Risk and benefits of the study

The risk in this study was minimal which some student came across in some questions/answers that were upsetting, unpleasant causing psychological stress due to the sensitive nature of topic as it calls for disclosing personal health issues, adding to the researcher being a female. The researcher ensured that detailed information with regards to cancer in general and prostate cancer screening were provided, thereby promoting more knowledge and minimal risks. Secondly, the benefit of this study increased the knowledge and modified the negative attitudes of the participants. For the University where this study was carried out, the benefit ensured that they had much more informed students who can take preventative measures in reducing the risk of prostate cancer. The lecturers and some administrative staff gained more informed knowledge as a result of this study. The universities' throughput rate could also be enhanced by having less sickly students suffering from prostate or any other form of cancer.

3.11.8. Informed consent

The researcher ensured that information about the topic and the purpose of the study were made known to the participants'.

3.11.9. Referral

During this study, the researcher will inform participants' the need and right to be referred for clarification of doubts towards the research topic. This would be particularly necessary for screening and management if required. The referral system will be done by giving the individual referral letter or accompany them to the school clinic where the client will be counseled before giving him another referral to the university teaching hospital (Appendix N).

3.12. Constraints and limitations of the study

- The main limitation of the study is that the research was carried out only among faculty of social and management science at Benson Idahosa University, Benin City, Edo State, Nigeria.
- Another limitation of the study was the self-reported information about cultural beliefs, knowledge and attitude towards prostate cancer and screening which is a very sensitive topic that some participants may not reveal completely to the researcher and in addition to researcher been a female
- Data's collected from personal feelings are not always accurate as some individuals may hold information's as it pertains to family and personal history.
- The potential constraints pertaining to this research study were availability of participants and financial constraints as study was self-sponsored

3.13. Summary of chapter three

This chapter provided details of the research approaches used, methods and techniques used for data collection, process of analysis of research findings and as well as ethical issues considered.

CHAPTER 4: RESULTS

4.1. Introduction

This chapter explains the findings of the data collected and analyses of the questionnaires and interview responses from male students in Nigerian university. Among male students of the faculty, one hundred and seventy four (n=174) male student responded to the questionnaires and eleven (n=11) were interviewed among the participants'. The study was conducted among students in the faculty of social and management science which is not a health science faculty. The results will be presented in different sections that include male university student's demographic data such as age, marital status and religion, knowledge, beliefs and attitude towards prostate cancer screening.

4.2. Demographics

4.2.1. Age range of respondents

Chart 2a. Age range of the participants'

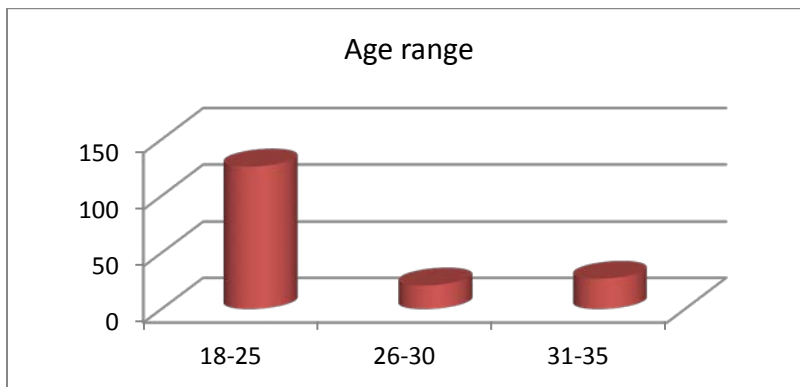
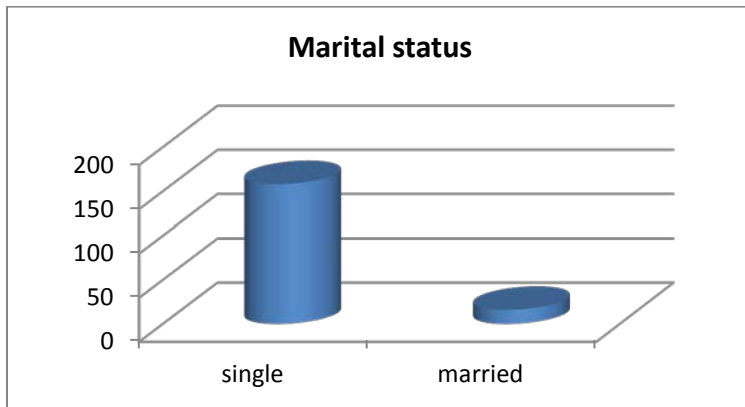


Chart 2a presents the age range of respondents. Their ages ranged from 18-35 years old. The respondents within the age range of 18-25 were (n=126, 72%), those within the age range of 26-30 were (n= 21, 12%) and those within 31-35 years were (n= 27, 16%). Out of the 174 participants', 11 agreed to be interviewed. The age of the interviewees ranged from 18-35

years. (n=4) of the interviewee's were between the ages of 18-25 years old, (n=3) were between 26-30 years old and (n=4) were between 31-35 years old.

4.2.2. Marital status of respondents

Chart 4.2b. Marital status of the participants'



One hundred and fifty eight (n=158, 91%) of the participants' are unmarried whilst sixteen (n=16, 9%) were married (Chart 4.2b). Majority of the interviewees (n=7) were also unmarried whilst (n=4) were married.

4.2.3. Religion

Chart 4.2c. Religious beliefs of the participants'

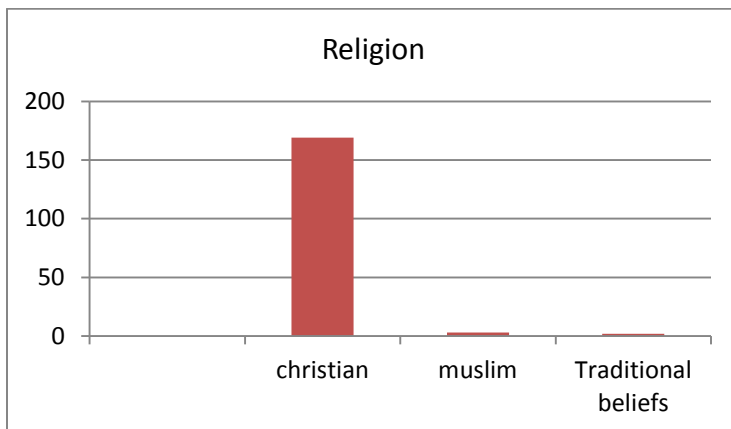
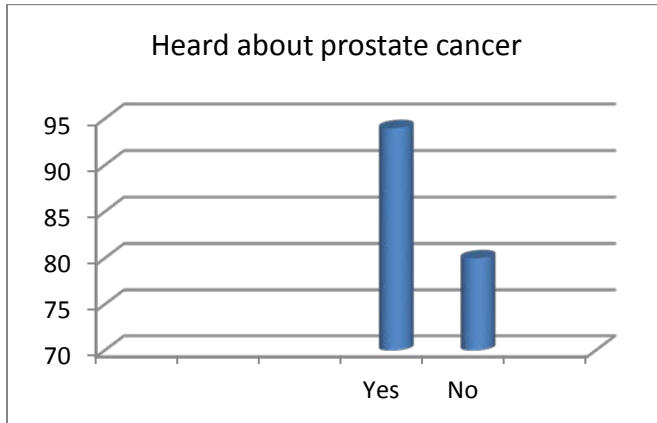


Chart 4.2c presents the religious beliefs of the respondents. One hundred and sixty nine (n=169, 97%) of the participants' were Christians, three (n=3, 2%) were Muslims (n=3, 2%) and two (n=2, 1%) were following traditional beliefs.

4.3. Knowledge of prostate cancer

4.3.1. Heard about prostate cancer

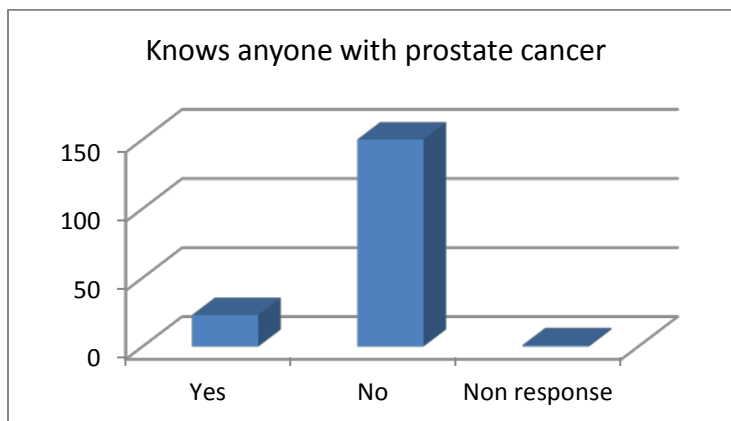
Chart 4.3a. Participants' who have heard about prostate cancer



Ninety four (n=94, 54%) participants' confirmed that they have heard about prostate cancer while eighty (n=80, 46%) reported that they had no prior knowledge of prostate cancer (Chart 4.3a). Among the interviewees, seven (n=7) stated that they have no prior knowledge of prostate cancer whereas four (n=4) has heard about prostate cancer.

4.3.2. Knows anyone with prostate cancer

Chart 4.3b. Participants' that knows anyone with prostate cancer

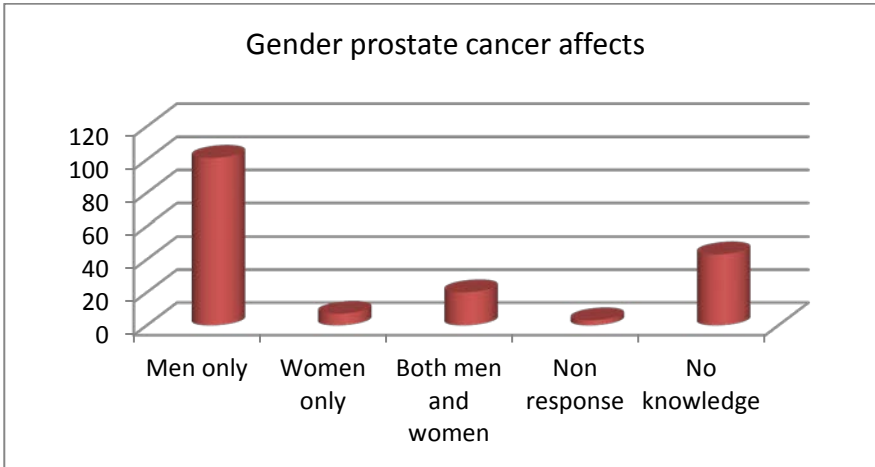


Twenty three (n=23, 13%) respondents indicated that they know someone that has prostate cancer, while one hundred and fifty (n=150, 86%) indicated that they do not know anyone with

prostate cancer, and one respondents did not respond to the question (Chart 4.3b). All the interviewees stated that they do not know any one that has prostate cancer.

4.3.3. Gender prostate cancer affects

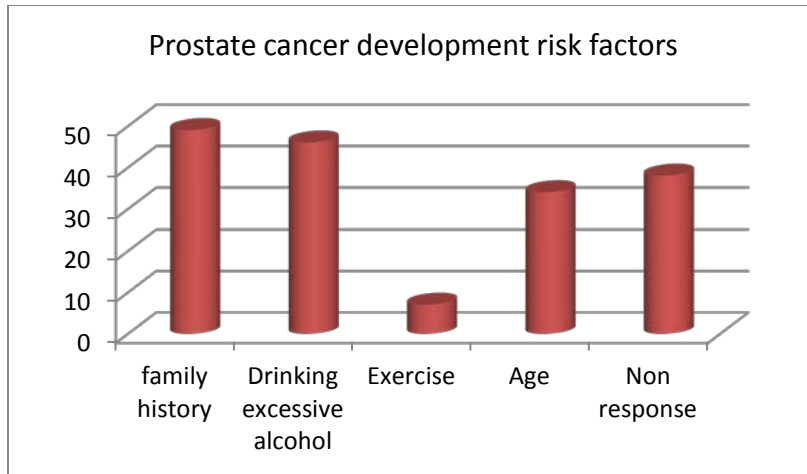
Chart 4.3c. Genders prostate cancer affects



One hundred and one (n=101, 58%) participants indicated that prostate cancer affect men only, twenty (n=20, 11%) indicated that prostate cancer affects both men and women; seven (n=7, 4%) indicated that prostate cancer affects women only, forty three (n= 43, 25%) participants' indicated that they have no prior knowledge of prostate cancer and three (n=3, 2%) gave no response to the question (Chart 4.3c). All the interviewees stated that prostate cancer is a disease that affects men only.

4.3.4. Risk factors

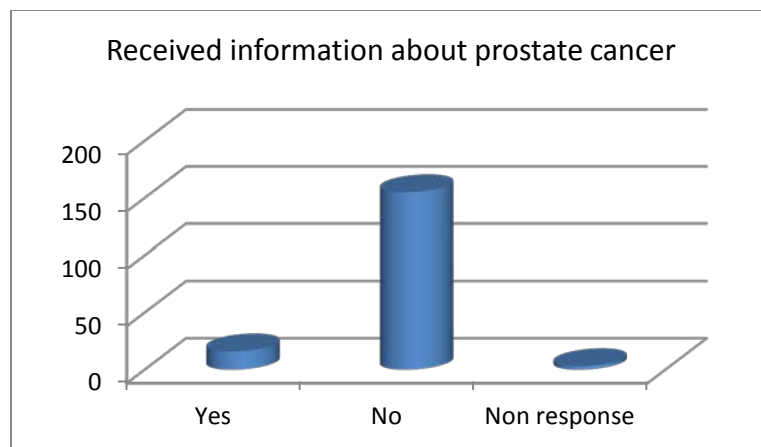
Chart 4.3d. Participants' response on risk factors



Forty-nine (n=49, 28%) respondents confirmed that family history is a risk factor for developing prostate cancer, forty-six (n=46, 26%) respondents indicated that drinking of excessive alcohol is a risk factor for developing prostate cancer, while seven (n=7, 4%) identified exercise as a risk factor, thirty-four (n=34, 20%) identified age, and thirty eight (n=38, 22%) gave no response to question (Chart 4.3d). All the interviewees stated that they do not know the risk factors of prostate cancer.

4.3.5. Received information about prostate cancer

Chart 4.3e. Participants' who has received information about prostate cancer

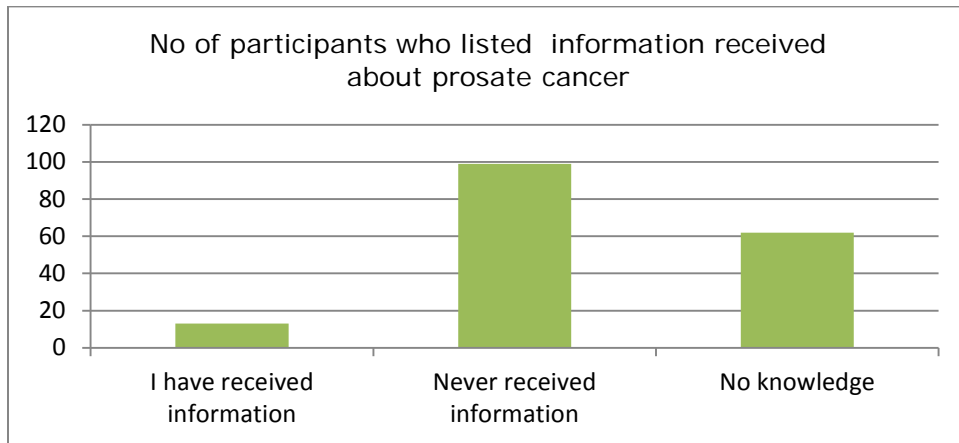


Only sixteen (n=16, 9%) among the participants' indicated that have received information about prostate cancer from their health care giver, one hundred and fifty five (n=155, 89%) which is the majority has never received information about prostate cancer, and three (n=3, 2%) gave no response to the question (Chart 4.3e). All eleven interviewees has never received information

about prostate cancer from their health care giver, though two indicated they got little information about prostate cancer from the media.

4.3.6. No of participants who listed information received about prostate cancer

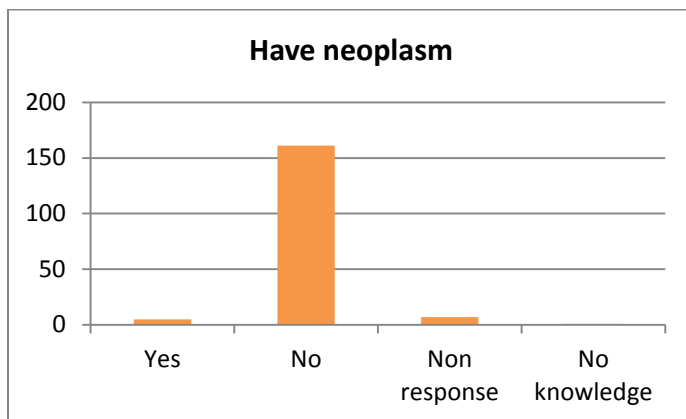
Chart 4.3f.No of participants' who listed information received about prostate cancer



Only thirteen (n=13, 7%) respondents were able to list the correct information received from their health care provider about prostate cancer (Chart 4.3f). All the interviewees could not list the information as they also have never received and information about prostate cancer from their care provider. But among the interviewees (n= 2) provided information received from media; that prostate cancer is most common among the Northern Nigerian men and that prostate cancer is a disease of the western world (white men).

4.3.7. Have neoplasm

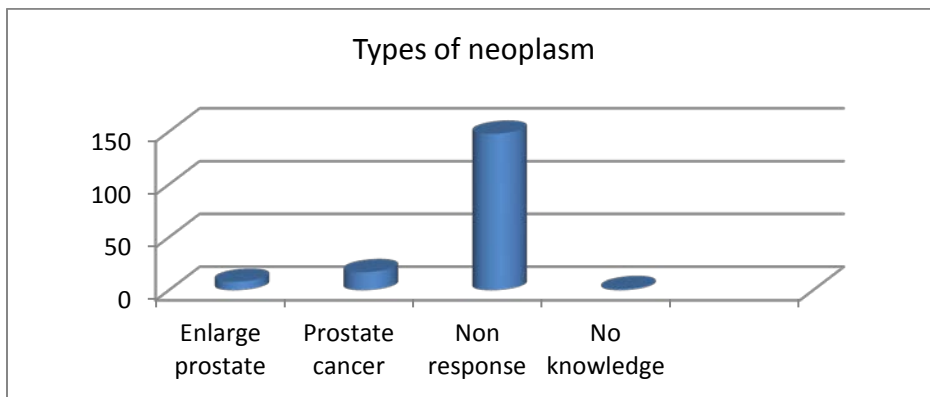
Chart 4.3g. Participants' who have prostate neoplasm



Only five (n=5, 3%) participants' indicated that they have been told they have prostate neoplasm, one hundred and sixty one (n=161, 92%) indicated that they have never been told they have prostate neoplasm, seven (n=7, 4%) gave no response to question and one has no prior knowledge (Chart 4.3g). All the interviewee's stated that they have never been told they have prostate neoplasm.

4.3.8. Types of neoplasm

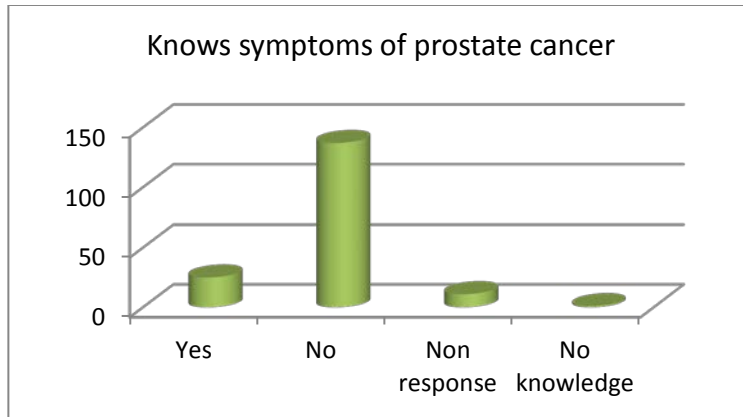
Chart 4.3h. Participants' knowledge about types of neoplasm



Seventeen (n=17, 10%) respondents confirmed that neoplasm is prostate cancer, eight (n=8, 4%) respondents indicated that neoplasm is enlarge prostate, while one hundred and forty (n=148, 85%) respondents did not respond to the question and one had no prior knowledge (Chart 4.3h). All the interviewees (n=11) stated that they have no prior knowledge if neoplasm is prostate cancer or enlarge prostate.

4.3.9. Knows symptoms of prostate cancer

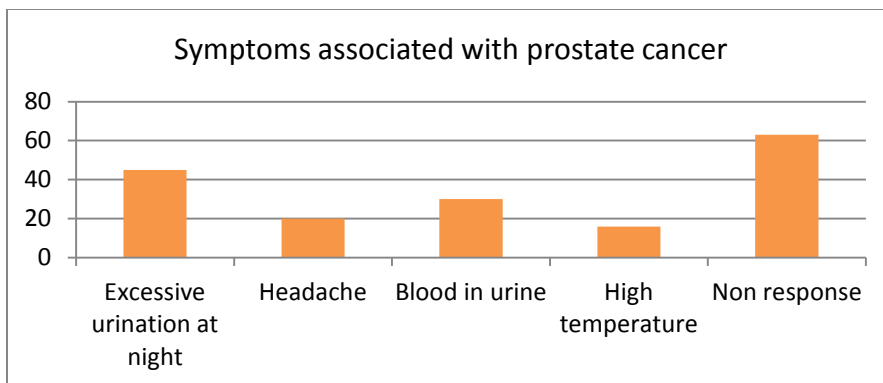
Chart 4.3i. Participants' that knows symptoms of prostate cancer



One hundred and thirty seven (n=137, 78%) participants' indicated that they do not know the symptoms of prostate cancer, only twenty-five (n=25, 14%) respondents reported that they know the symptoms of prostate cancer, eleven (n=11, 6%) gave no response to the question and one had no prior knowledge of prostate cancer symptoms (Chart 4.3i). Majority of the interviewees (n=9) do not know the symptoms of prostate cancer and two (n=2) stated that they know the symptoms of prostate cancer.

4.3.10. Symptoms associated with prostate cancer

Chart 4.3j. Participants' that knows symptoms associated with prostate cancer



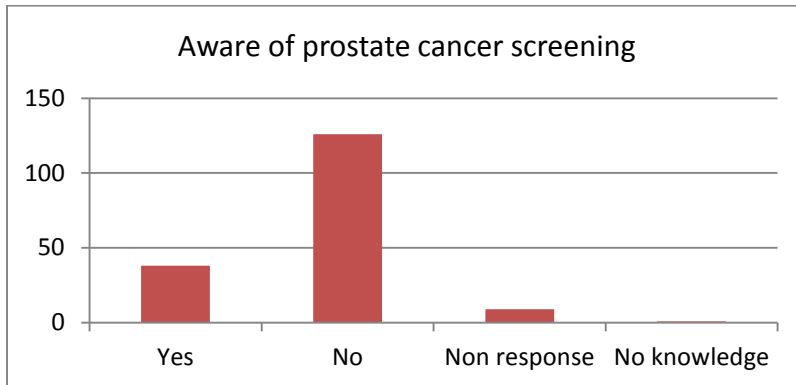
Sixty three (n= 63, 36%) respondents gave no response to the question "Symptoms associated with prostate cancer". Forty five (n=45, 26%) respondents indicated that excessive urination at night is a symptom of prostate cancer; thirty (n=30, 17%) respondents indicated that blood in urine is a symptom of prostate cancer; sixteen (n=16, 9%) indicated that high temperature is a symptom of prostate cancer and twenty (n=20, 12%) indicated that headache is a symptom of prostate cancer. Only eighty-five (n=85, 43%) were able to identify the specific symptoms associated with prostate cancer which is excessive urination at night and blood in urine (Chart

4.3j). The interviewee's stated that they have no prior knowledge of the symptoms of prostate cancer.

4.4. Knowledge about prostate cancer screening

4.4.1. Aware of prostate cancer screening

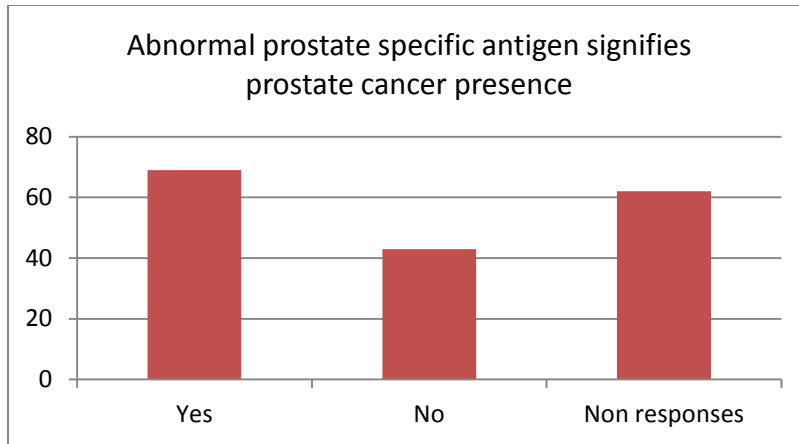
Chart 4.4a. Participants' that was aware of prostate cancer screening



Thirty eight (n=38, 22%) respondents were aware of prostate cancer screening, one hundred and twenty six (n=126, 72%) participants' were not aware of prostate cancer screening, nine (n=9, 5%) respondents gave no response the question and one had no prior knowledge (Chart 4.4a). Among the interviewee's, only one was aware of prostate cancer screening, whilst (n=10) were never aware of prostate cancer screening and they stated that they got the knowledge as a result of participating in this study.

4.4.2. Abnormal prostate specific antigen(PSA) signifies cancer presence

Chart 4.4b. Participants' that knows the significance of PSA

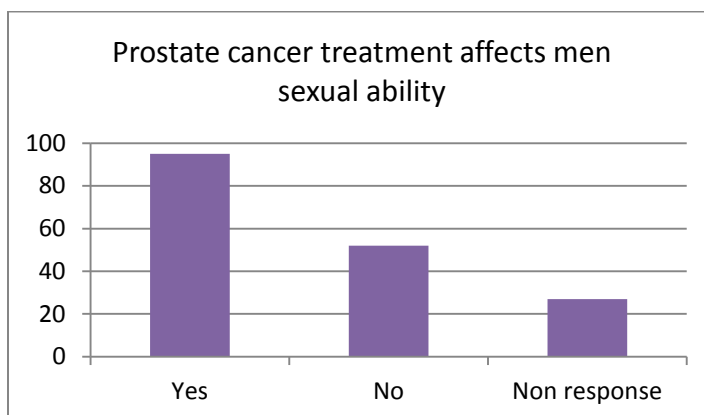


Sixty nine (n=69, 40%) respondents confirmed that an abnormal prostate specific antigen (PSA) blood test means there is cancer, forty three (n=43, 25%) respondents indicated that an abnormal PSA blood test does not signify presence of cancer, while sixty two (n=62, 35%) respondents gave no response to the question (Chart 4.4b). Seven (n=7) interviewees stated that abnormal PSA means presence of cancer and four (n =4) were not sure what prostate specific antigen means.

4.5. Knowledge of prostate cancer treatment

4.5.1. Prostate cancer treatment affects men sexual ability

Chart 4.5a. Prostate cancer treatment affects men sexual ability

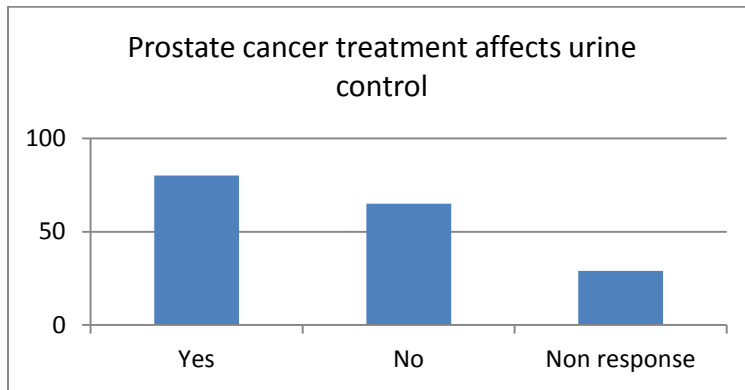


Ninety-five (n=95, 55%) participants' indicated that some treatment of prostate cancer can cause problems to men sexual ability, fifty-two (n=52, 30%) respondents indicated that prostate cancer treatment cannot affect men sexual ability, and twenty-seven (n=27, 15%) gave no

response to the question (Chart 4.3m). All the interviewees' stated that treatment of prostate cancer can cause problems to men sexual ability.

4.5.2. Prostate cancer treatment affects urine control

4.5b. Prostate cancer treatment affects urine control

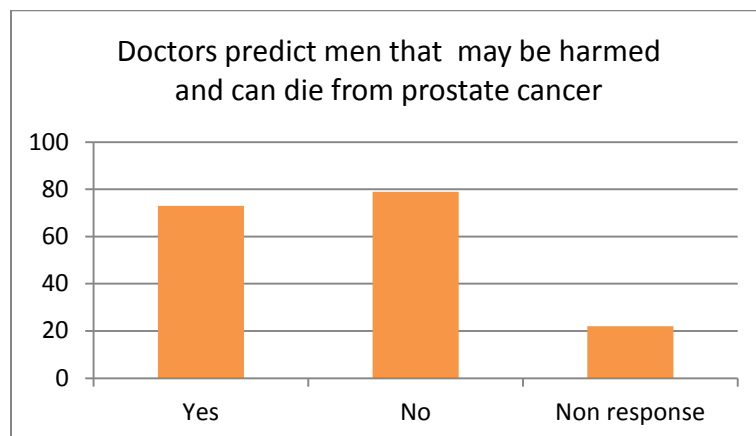


Eighty (n=80, 46%) respondents reported that some treatment of prostate cancer make it harder for men to control urine, sixty-five (n=65, 37%) respondents indicated that prostate cancer treatment cannot affect urine control, and twenty-nine (n=29, 17%) gave no response to the question (Chart 4.5b). All the interviewees stated that they are not sure if treatment for prostate cancer makes urine control difficult.

4.6. Beliefs about prostate cancer

4.6.1. Doctors predicts men that may be harmed and can die from prostate cancer

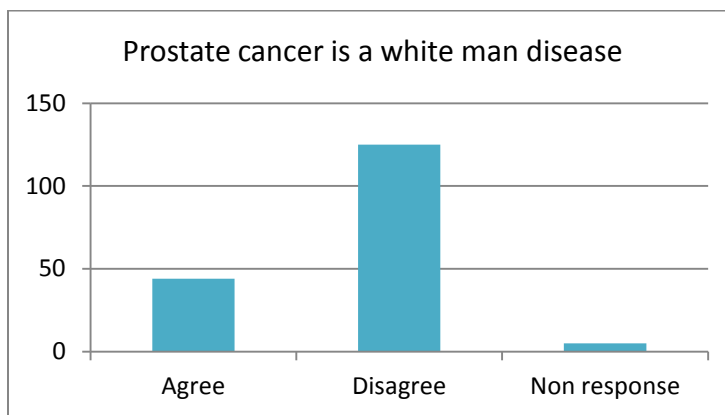
Chart 4.6a. Doctors predicts men that may be harmed and can die from prostate cancer



Seventy three (n=73, 42%) respondents indicated that doctors can predict men that can die and may be harmed from prostate cancer, seventy nine (n=79, 45%) respondents indicated that doctors can not predict which men may be harmed or may die from prostate cancer and twenty two (n=22, 13%) gave no response to the question (Chart 4.3n).

4.6.2. Prostate cancer is a white man disease

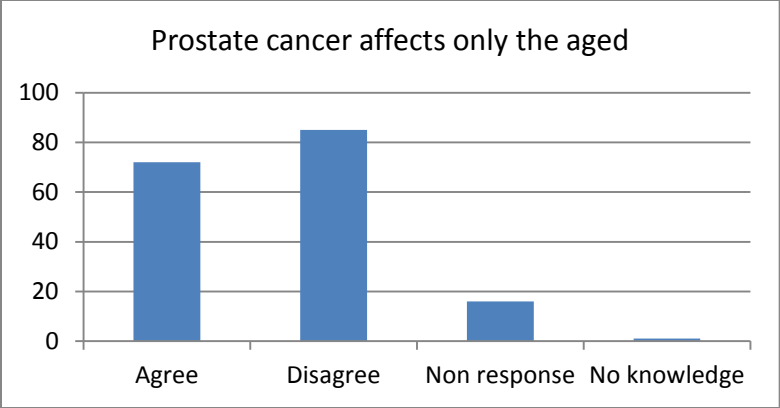
Chart 4.6b. Prostate cancer is a white man disease



Only forty four (n=44, 25%) reported that prostate cancer is a white man disease, one hundred and twenty five (n=125, 72%) respondents reported that prostate cancer does not affect only white men, and five (n=5, 3%) gave no response to the question (Chart 4.4i). Majority (n=10) of the interviewee also stated that prostate cancer does not affect only white men, and only one stated that prostate cancer is a white man disease.

4.6.3. Prostate cancer affects only the aged

Chart 4.6.c. Prostate cancer affects only the aged

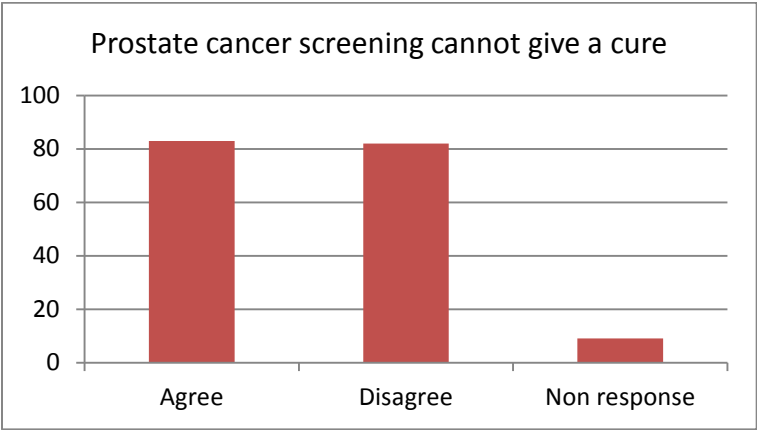


Seventy two (n=72, 41%) respondents indicated that prostate cancer affects only men of advanced age, eighty five (n=85, 49%) respondents indicated that prostate cancer does not affect only men of advanced age, while sixteen (n=16, 9%) gave no response to the question and one had no prior knowledge (Chart 4.6.c). Among the interviewees seven (n=7) stated that it is not only men of advanced age that prostate cancer affects, but added that it is a disease of men with many wives. Whereas four (n=4) had no prior knowledge.

4.7. Beliefs about prostate cancer screening

4.7.1. Prostate cancer screening cannot give one a cure

Chart 4.7a. Prostate cancer screening cannot give one a cure

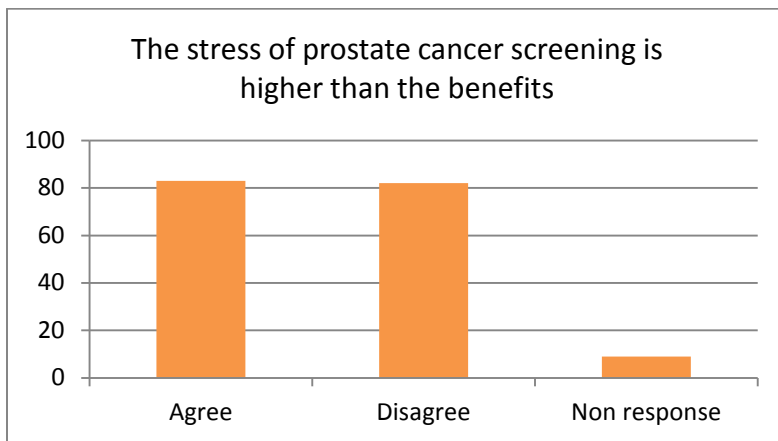


One hundred and five (n=105, 60%) respondents indicated that prostate cancer screening cannot give one a cure, sixty two (n=62, 36%) respondents indicated that prostate cancer screening can give a cure, while seven (n=7, 4%) gave no response to the question (Chart

4.7a). And majority of the interviewees (n=10) also stated that prostate cancer screening cannot give a cure, and added their own opinion that screening helps to preserve life, improve healthy living by getting early treatment. While one has no prior knowledge.

4.7.2. The stress of prostate cancer screening is greater than the the benefits

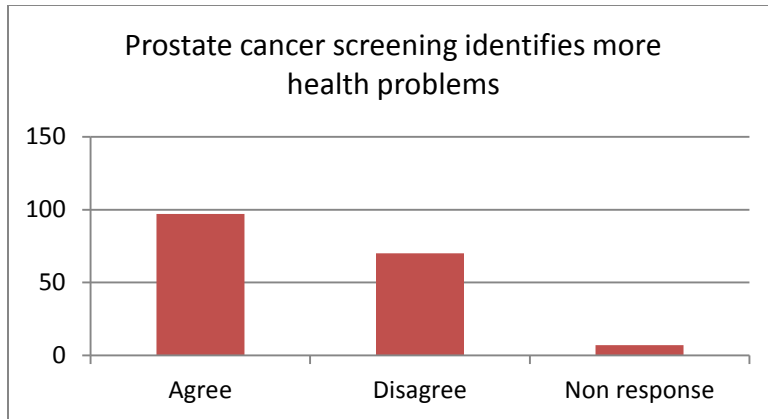
Chart 4.7b. The stress of prostate cancer screening is higher than the benefits



Eighty three (n=83, 48%) participants' reported that prostate cancer screening outweighs the benefits, eighty two (n=82, 47%) indicated that prostate cancer screening does not outweigh the benefits, while nine (n=9, 5%) gave no response to the question (Chart 4.7b). Majority of the interviewees' (n=10) stated that prostate cancer screening outweighs the benefit. And added their opinion that prostate cancer screening helps to know individual's health status, helps to initiate early treatment and also that it will help the WHO to achieve the goal of vision 2020 which focus is to improve health. While one stated that because he believes in death and resurrection of Jesus Christ, so he is immune to disease and has nothing to do with prostate cancer screening

4.7.3. Prostate cancer screening identifies more health problems

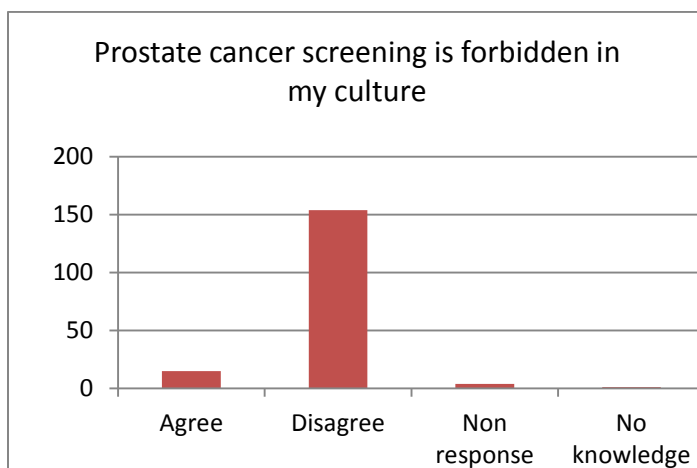
Chart 4.7c: Prostate cancer screening will identify more health problems



Ninety seven (n=97, 56%) participants' confirmed that prostate cancer screening will identify more health problems, seventy (n=70, 40%) participants' reported that prostate cancer screening will not identify more health problems, and seven (n=7, 4%) gave no response to the question (Chart 4.7c). Majority of the interviewees (n=10) stated that prostate cancer screening will not identify more health problems and one stated that prostate cancer screening will identify more health problems because he believes that knowledge derived as a result of screening will create fear, psychological trauma which he stated that it has killed lots of persons.

4.7.4. Prostate cancer screening is forbidden in my culture

Chart 4.7d. Prostate cancer screening is forbidden in my culture

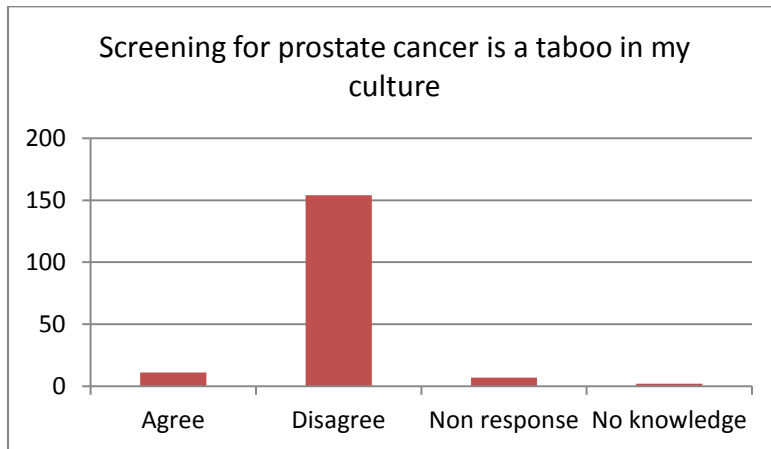


One hundred and fifty four (n =154, 88%) respondents reported that prostate cancer screening is not forbidden in Bini culture, fifteen (n=15, 9%) respondents confirmed that prostate cancer screening is forbidden in Bini culture, whereas four (n=4, 2%) gave no response to the question and one had no prior knowledge (Chart 4.7d). Among the interviewees' ten (n=10) stated that

prostate cancer screening is not forbidden in Bini culture, while only one stated that it is forbidden in some parts/communities in Benin-City.

4.7.5. Screening for prostate cancer is a taboo in my culture

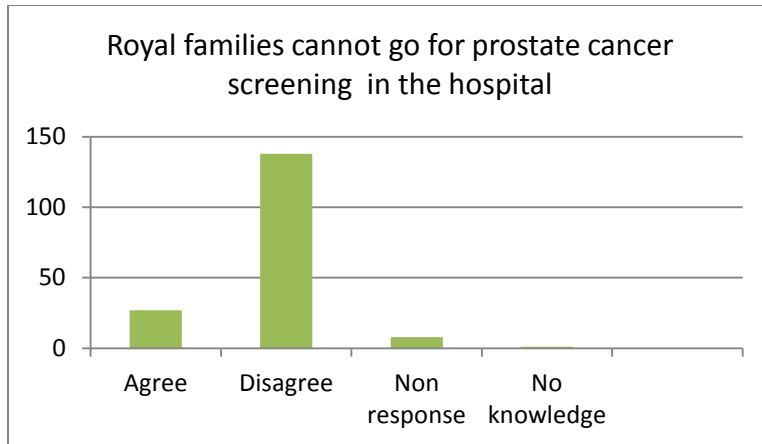
Chart 4.7e. Screening for prostate cancer is a taboo in my culture



One hundred and fifty four (n=154, 88%) participants reported that prostate cancer screening is not a taboo in Bini culture, and only few of the respondents eleven (n=11, 6%) indicated that it is a taboo to screen for prostate cancer in Bini culture, whereas, eight (n=8, 5%) gave no response to the question and one had no prior knowledge (Chart 4.7e). Majority of those interviewed nine (n=9) also stated that it is not a taboo to screen for prostate cancer in Bini because they believe that diseases occurs naturally and it's accepted in Bini culture, while only two (n=2) stated that it is a taboo to screen for prostate cancer in Bini culture.

4.7.6. Royal families cannot go for prostate cancer screening in the hospital

Chart 4.7f. Royal families cannot go for prostate cancer screening in the hospital

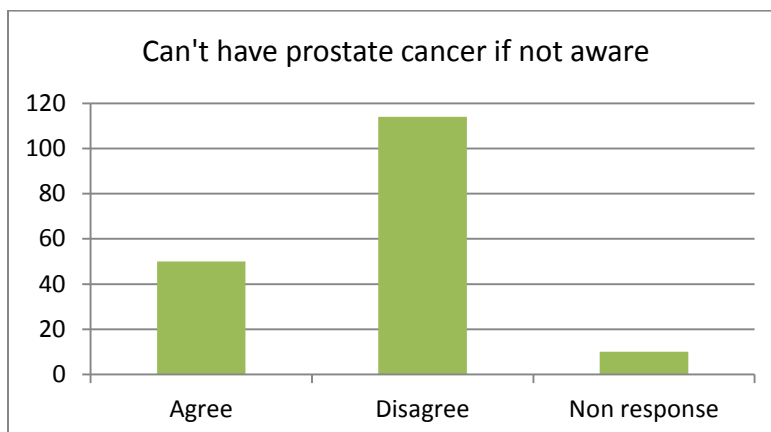


One hundred and thirty eight (n=138, 79%) participants' indicated that the royal families can visit hospital for prostate screening and that there is no cultural law against seeking orthodox care, twenty seven (n=27, 16%) participants' indicated that the royal families cannot visit hospital for prostate cancer screening, and eight (n=8, 5%) of the respondents gave no response to the question (Chart 4.7f). Ten of the interviewees' (n=10) stated that the royal families can visit hospital for screening as they all believe that screening for prostate cancer is not embarrassing to manhood or royalty, while only one stated that the royal families cannot visit hospital for screening as it is embarrassing to royalty, but he also stated that "sickness kills pride and dignity", so he will go for screening.

4.8. Attitude towards prostate cancer

4.8.1. Can't have prostate cancer if not aware

Chart 4.8a. Can't have prostate cancer if not aware

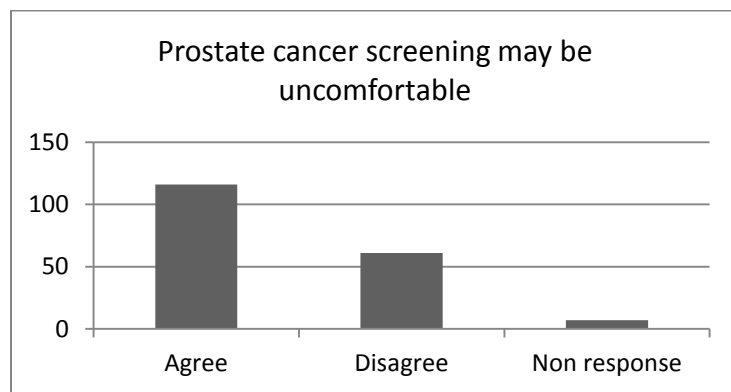


One hundred and fourteen (n=114, 65%) participants' reported that individuals cannot get prostate cancer if aware, fifty (n=50, 29%) reported that individuals can get prostate if not aware, and ten (n=10, 6%) gave no response to the question (Chart 4.8a). Four of the interviewee's (n=4) stated that being aware of prostate cancer reduce the chance of having it. They added and maintained that "with knowledge there will be improvement in health". They also stated that having prostate cancer is not about knowledge and that cannot make an individual at risk. While one stated that as a Christian he is not disturbed about prostate cancer and screening and (n=6) gave no response to the question.

4.9. Attitude towards prostate cancer screening

4.9.1. Prostate cancer screening may be uncomfortable

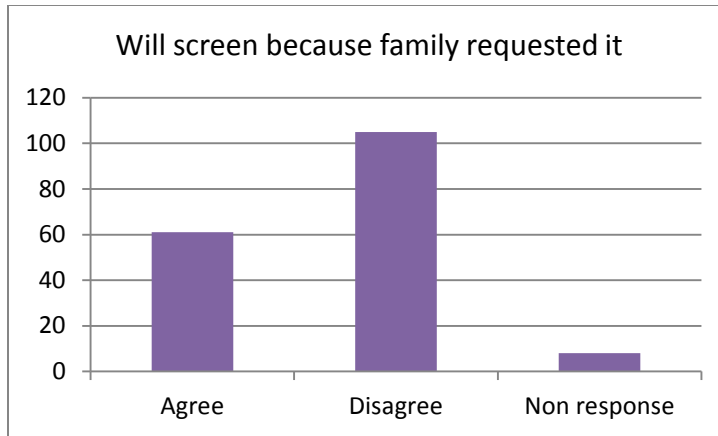
Chart 4.9a. Prostate cancer screening may be uncomfortable



One hundred and sixteen (n=116, 61%) participants' indicated that prostate cancer screening might be physically uncomfortable, sixty one (n=61, 35%) reported that prostate cancer screening does not impose discomfort, while seven (n=7, 4) gave no response to the question (Chart 4.9a). Ten of the interviewees (n=10) stated that prostate cancer screening might not be uncomfortable and one of the interviewees stated that prostate cancer screening might be uncomfortable.

4.9.2. Will screen because family requested it

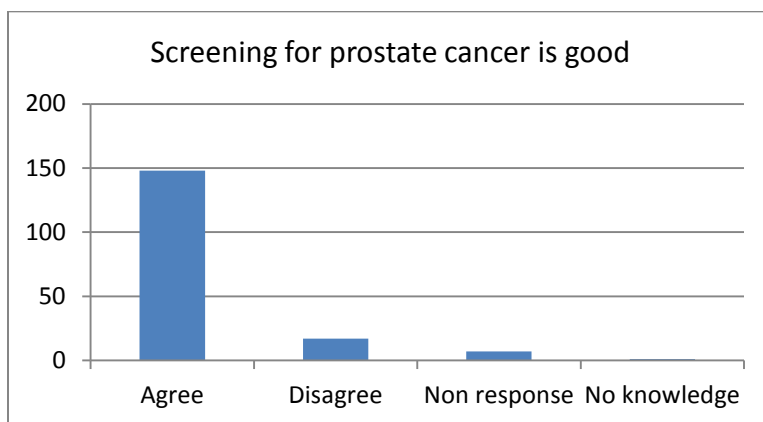
Chart 4.9b. Will screen because family requested it



One hundred and five (n=105, 60%) participants' indicated that they will not go for prostate cancer screening if family requested it, sixty one (n=61, 35%) of the respondents indicated that they will go for prostate cancer screening if immediate family request them to, and eight (n=8, 5%) gave no response to question (Chart 4.9b).

4.9.3. Screening for prostate cancer is good

Chart 4.9c. Screening for prostate cancer is good

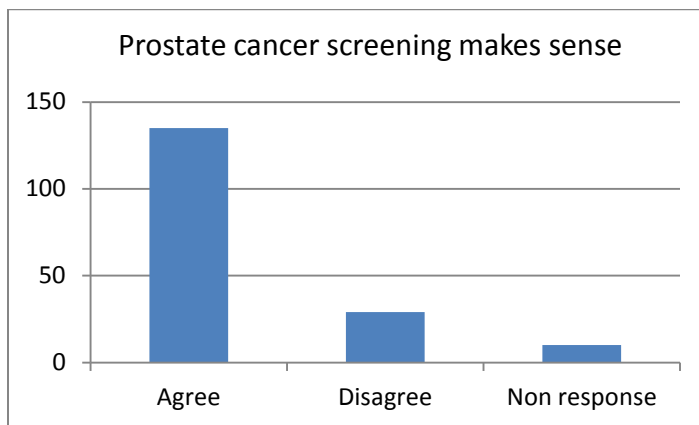


One hundred and forty eight (n=148, 85%) participants' confirmed that prostate cancer screening is good, seventeen (n=17, 10%) indicated that prostate cancer screening is not good. Whereas seven (n=7, 4%) gave no response to the question and one had no knowledge (Chart 4.9c). Eight of the interviewee's (n=8) stated that prostate cancer screening is good while only three (n=3) stated that prostate cancer screening is not good because anybody that goes for

screening is seen as not having trust in his health and will be stigmatized. Secondly the person will be seen as the cause of his illness as they believe that prostate cancer occurs as a result of life style such as smoking, multiple sexual partner, and alcohol intake and also as a curse from spiritual powers.

4.9.4. Prostate cancer screening makes sense

Chart 4.9d. Prostate cancer screening makes sense

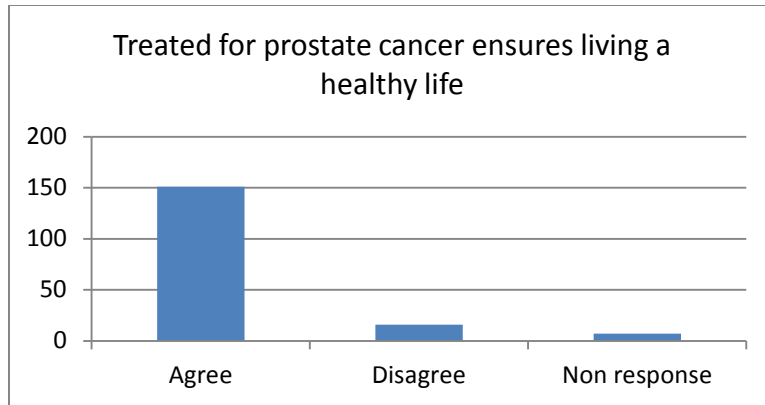


One hundred and thirty five (n=135, 77%) respondents indicated that prostate cancer screening makes sense to life, twenty nine (n=29, 17%) respondents indicated that prostate cancer screening has no meaning to life, while ten (n=10, 6%) gave no response to the question (Chart 4.9d). Only three (n=3) of the interviewees stated that prostate cancer screening makes sense to life; and they added that prostate cancer screening helps to ensure a healthier life, and also added that cancer motto is “Early detection is the cure to cancer”. Whereas four (n=4) indicated no response the question and four (n=4) had no prior knowledge.

4.10. Knowledge about prostate cancer treatment

4.10.1. Treated for prostate cancer ensures living a healthier life

Chart 4.10a. Treated for prostate cancer ensures a healthy living



One hundred and fifty one (n=151, 87%) indicated that being treated for prostate cancer may increase the chances of living a healthier life, sixteen (n=16, 9%) reported that being treated for prostate cancer does not ensures the chance of living healthier, and seven (n=7, 4%) gave no response to the question (Chart 4.10a).

4.11. Summary of chapter four

This chapter presented the results of the study on knowledge, beliefs and attitude towards prostate cancer using charts and figures. The results was presented in different sections that include male university student's demographic data such as age, marital status, religion, knowledge, beliefs and attitude towards prostate cancer screening. The chapter (chapter 5) will present discussion of results.

CHAPTER 5: DISCUSSION

5:1. Introduction to the chapter

This chapter contains the discussions of demography of the participants' such as age, marital status, religion, knowledge, beliefs and attitudes.

5:2. Demographics

5.2.1. Age range

One hundred seventy four (174) male university students participated in this study.

Respondents were undergraduate and postgraduate students and are within the age range of 18-25 as specified in the inclusion criteria (Chart 4.2a). The age range of participants' in this study corresponds with Nakandi, Kirabo, Semugabo, Kittengo, Maena, Kitayimbwa & Kalungi, (2013) findings revealed that 59.4% of their respondents were within the age range of 18-28 years.

5.2.2. Marital status

Majority of the respondents are not married (Chart 4.2b). There is no significant difference between marital status and attitude, beliefs and attitude towards prostate cancer screening in this study. The marital status of participants in this study corresponds with Nakandi, et al, (2013) which indicated that 57.1% of their study participants' were unmarried.

5.2.3. Religion

Majority of the respondents are Christians (Chart 4.2c); this corresponds with Nakandi, et al, (2013) where 63.1% of their study participants were Christians. The Christians do not believe in cultural or traditional norms but majority of the respondents in this study believes and accept prostate cancer screening initiatives as normal for every man to undergo. This study result is comparable to Nnodimele, Motunrayo, Ademola & Omotoyosi (2010) whose findings reported that 63% of their participants were Christians. The result obtained in the study as regards religion is also in correspondence with Akhigbe, (2012) whose findings revealed that Christianity

and Moslems dominates in Nigeria; this has replaced traditional beliefs, the belief of people about life and their attitude towards health issues. The findings from this study also corresponds with Azubuike & Okwuokei, (2013) whose results revealed that religious and spiritual beliefs are often used to cope with chronic diseases like cancer and also revealed that majority of Nigerians have a strong believe in God, therefore cannot be infected with diseases like cancer.

5.3. Knowledge of prostate cancer

5.3.1. Heard about prostate cancer

The male university students' knowledge on screening of prostate cancer was ascertained and it shows that majority of the respondents have good knowledge about prostate cancer (Chart 4.3a). The result obtained in this study did not correspond with Andreas, (2013) & Nnodimele et.al, (2010) whose reports quoted that there is low level knowledge about prostate cancer in Nigeria. The findings from the questionnaire respondents does not correspond to interviewee's as only four out of the eleven participants interviewed reported having knowledge of prostate cancer.

5.3.2. Know anyone with prostate cancer

Most of the respondents reported that they do not know anyone that has had prostate cancer before (Chart 4.3b). The findings of this study is in line with Abdulwahab, Abdullateef & Babata, (2010) whose findings revealed that none of their respondents have seen or cared for someone with prostate cancer. The findings from this study also corroborate with the interviewees responses were all the participants' stated that they do not know any one that has prostate cancer.

5.3.3. Genders prostate cancer affects

Majority of the respondents in this study reported that prostate cancer affects men only (Chart 4.3c), this result is in close comparison with Nnodimele et.al, (2010) whose report quoted that majority of their study participants' indicated that prostate cancer affects men only. The findings from this study also correspond with interview response as all the interviewees confirmed that prostate cancer is a disease that affects men only.

In response to questionnaire items that required listing of possible risk factors of prostate cancer, only 28% of the respondents confirmed that family history is a risk factor for developing prostate cancer and 20% of the respondents identified age as a risk factor for prostate cancer development (Chart 4.3d). With these findings from this study, it shows that knowledge about risk factors of prostate cancer is poor which is comparable to Nnodimele et.al, (2010) whose findings stated that only 42% of their participants know the risk factors of prostate cancer. This study findings also corroborate with Woods et.al, (2004), whose report quoted that 48.7% of their respondents were not certain of the risk factors of prostate cancer. The findings in this study also correspond with the interview response were all the interviewee's indicated that they do not know the risk factors of prostate cancer.

5.3.4. Received information about prostate cancer

Majority of the respondents in this study have never received information about prostate cancer from their health care giver (Chart 4.3e). The result obtained in this study is in corroboration with Nnodimele et.al, (2010) whose report shows that only 5% of their participants have received information from their physician regarding prostate cancer. The findings from the questionnaires responds in this study also corresponds with interview response as all interviewee's stated that they have never received information about prostate cancer from their health care giver.

5.3.5. Information received about prostate cancer

Only 7% of this study participants' were able to list information's received about prostate cancer from health care giver (Chart 3.3f). Only two of the interviewee's listed information received. This is comparable to Kenerson, (2010) were only few of the respondents were able to list the information received about prostate cancer from their health care giver. This result also corresponds with Nnodimele, et.al, (2010) whose findings reported that only 5.3% of their research participants were able to list information received from their health care giver

5.3.6. Neoplasm

Only five (3%) of the respondents indicated that they have been told they have neoplasm (Chart 4.3g). This is in relationship with Nnodimele, et.al, (2010) whose results shows that only two (0.5%) of their respondents indicated been told by their physician that they have prostate

condition. This result is also in comparison with interview response were all interviewees reported that they have never been told they have prostate neoplasm. Majority of the respondents do not have knowledge on the types of neoplasm (Chart 4.3h). The findings in this study is comparable to Kenerson, (2010) were majority of her study participants' indicated that they do not have knowledge of the various types of prostate cancer.

5.3.7. Knows symptoms of prostate cancer

Few respondents know the symptoms of prostate cancer (Chart 4.3i). This result also corresponds with interviews response as only two of the interviewee's stated that they know the symptoms of prostate cancer. The result obtained from this study does not correspond to Woods et.al, (2004) whose findings revealed that 81% of their participants know the symptoms of prostate cancer.

5.3.7. Symptoms associated with prostate cancer

Few respondents were able to identify the specific symptoms associated with prostate cancer which is excessive urination at night and blood in urine (Chart 4.3j). All the interviewee's stated that they have no prior knowledge of the symptoms of prostate cancer. The result obtained from this study corresponds with Nnodimele, (2010) whose findings revealed that only 1.5% of their participants know the specific symptoms of prostate cancer. The findings from this study simply imply that knowledge about symptoms of prostate cancer is poor in Benin-City, which is due to poor health education system among health care providers in Nigeria in sensitizing the public about prostate cancer (Abdulwahab, et al, 2010). Majority of Nigerian population do not take major health signs and symptoms serious because they have no knowledge of the negative effect, this leads to late presentations of patients to hospital (Abdulwahab, et al, 2010).

5.4. Knowledge of prostate cancer screening

5.4.1. Aware of prostate cancer screening

From the findings of this study, there is a very low knowledge about prostate cancer screening in Benin City, Nigeria as only few participants was aware of prostate cancer screening (Chart 4.4a). The findings of this study is comparable to interview response as only one of the

participants' indicated to be aware of prostate cancer screening. The result obtained in this study is in corroboration with Abdulwahab et.al, (2010) whose result revealed that only 5.8% of their respondents were knowledgeable about prostate cancer screening and it is also comparable to Oghenetajiri, (2007) whose findings shows that there is a remarkable lack of knowledge about prostate cancer screening among African population in Nigeria.

5.4.2. Abnormal prostate specific antigen signifies cancer presence

Knowledge about prostate specific antigen (PSA) was determined and only few respondents confirmed that an abnormal PSA blood test means there is cancer, this implies that majority of the population have no knowledge of PSA significant (Chart 4.4b). The findings from this study is comparable to interviewee's response were majority does not know what abnormal PSA is, and only one of the interviewee's was aware of prostate cancer screening. This study result is comparable to Abdulwahab, AbdulLateef & Olusegun, (2010) which reported that only few 5.8% of their respondents have heard about prostate cancer screening.

5.5. Knowledge about prognosis of prostate cancer treatment

5.5.1. Prostate cancer treatment affects men

Majority of the respondents reported that some treatment of prostate cancer can cause problems with man's ability to have to sex (Chart 4.4a). This study result is comparable to interview response as all interviewee's stated that treatment of prostate cancer can cause problems to man's sexual ability. The result obtained from this study is in corroboration with Woods et.al, (2004) whose findings revealed that 91.9% of their respondents indicated that treatment of prostate cancer affects sexual ability (weak erection and insufficient strength for vaginal penetration). Clarke-Tasker & Wade, (2002); as cited in Woods, (2004), also stated that sexual dysfunction is a sensitive issue for black men, therefore discourages them from participation in prostate cancer screening and early detection strategies. This result of this study is also in corroboration with Spain, (2008) which revealed that fear related barriers including fear of cancer problems, fear of cancer treatment, fear of sexual dysfunctions, and fear of cancer diagnosis stand as a barrier why most men do not go for prostate cancer screening. Eighty (46%) respondents reported that some treatment of prostate cancer makes it harder for men to

control urine and 37% of the respondents indicated that prostate cancer treatment cannot affect urine control (Chart 4.5b).

5.6. Belief about prostate cancer

5.6.1. Doctors predicts men that may be harmed and can die from prostate cancer.

Few number of the study respondents indicated that doctors can predict which men that can die and may be harmed from prostate cancer. The findings from this study is in correspondence with Kenerson, (2010) were only few of her participants indicated that doctors can predict men that can die or may be harmed from prostate cancer.

5.6.2. Prostate cancer is a white man disease.

Few respondents confirmed that prostate cancer is a white man disease and large number of the participants indicated that prostate cancer is not only a white man disease (Chart 4.6b). The result of this study is in correspondence with interviewee's response as only one indicated that prostate cancer is a white man disease. This study result is not in correspondence with Abdulwahab et.al; (2009) whose findings reported that cancer is a disease of the developed country and the wealthy. Nnodimele et.al, (2010) also stated that some Nigerians still hold onto the beliefs that cancer is a disease of Caucasian men.

5.6.3. Prostate cancer affects only the aged

Majority of the respondents indicated that prostate cancer does not affects only men of advanced age (Chart 4.6c). The interviewees have a different opinion as majority stated that it is a disease of men of advanced age. The result obtained in this study does not corroborate with Abdulwahab, (2009) whose findings showed that prostate cancer is a disease of the elderly.

5.7. Belief about prostate cancer screening

5.7.1. Prostate cancer screening cannot give one a cure

Majority of the respondents confirmed that prostate cancer screening cannot give one a cure (Chart 4.7a). This study result is comparable to interviewees response were majority of the

respondents also stated that prostate cancer screening cannot give a cure. This study result is also in correspondence with Akhigbe, (2012) whose findings revealed that many Nigerians believe that death is inevitable once diagnosed with cancer and as such will not participate in screening.

5.7.2. The stress of prostate cancer screening is greater than its benefits

Majority of the respondents that attended to this question reported that the stress of prostate cancer screening outweighs the benefit (Chart 4.7b). This study result is comparable to interview response were majority of the interviewee's also confirmed that the stress of prostate cancer screening is higher than the benefit. The findings from this study is consistent with the study conducted by Tingen et al, (1998) which revealed that African American men believed that the benefits of prostate cancer screening outweighed perceived barriers to screening. This study result is also in correspondence with Guz, Gursel & Ozbek, (2012) whose study participants revealed that cancer diagnosis is death sentence, therefore will not participate in screening.

5.7.3. Prostate cancer screening identifies more health problems

Majority of the respondents indicated that prostate cancer screening will identify more health problems (Chart 4.7c). In comparing with interview response, the interviewee's are of different opinion and stated that prostate cancer screening will not identify more health problems. This study findings is in corroboration with "Woods et.al, (2004) whose findings reported that fear of prognosis of screening will identify more health problems and at such it encourage non-participation in prostate cancer screening.

5.7.4. Prostate cancer screening is forbidden in my culture

Majority of the participants reported that prostate cancer screening is not forbidden in Bini culture. (Chart 4.7d). This study result is comparable to the interviewee's response as majority of them also confirmed that prostate cancer screening is not a taboo in Bini culture. This simply means that culture has no negative effect why Bini men in Nigeria do not screen for prostate cancer and it's not embarrassing to their culture. The findings obtained in this study does not

corroborate with Akhigbe, (2012) whose report revealed that beliefs are usually influenced by religious and cultural values.

Majority of the participants' reported that prostate cancer screening is not a taboo in Bini culture (Chart 4.7e). Majority of those interviewed also stated that it is not a taboo to screen for prostate cancer in Bini because they believe that disease occurs naturally. From the result of this study, cultural law does not have negative influence among Bini men towards prostate screening. This result obtained from this study differs from all other research studies and this may be due to that fact the study participants were young male students and not among the traditional men of Bini kingdom.

Only few participants' indicated that the royal families cannot visit hospital for prostate cancer screening. Whereas majority of the participants revealed that royal families can visit hospital for screening (Chart 4.6f). In comparison with interview response, majority of those interviewed also stated that the royal families can visit hospital for screening as they all believe that it is not embarrassing to manhood or royalty in Bini culture. The result obtained from this study is interestingly comparable to Denmark-Wahnefried, (1995) whose result reported that only few men listed embarrassment as a factor for not participating in prostate cancer screening.

5.8. Attitude towards prostate cancer

Majority of the respondents reported that individual cannot get prostate cancer if aware (Chart 4.8a). This study result is in correspondence with interview response as most of the interviewee's also confirmed the statement as a myth "that individual cannot get prostate cancer if not aware". And they added that having prostate cancer is not about knowledge and that it can occur in anyone at risk. The result obtained from this study contradict with Nnodimele, et.al, (2010) & Olasoji, Babagana, Tligali & Yahaya, (2008) whose findings revealed that majority of their respondents indicated that not been aware of prostate cancer can prevent them from having prostate cancer.

5.9. Attitude towards prostate cancer screening

5.9.1. Prostate cancer screening may be uncomfortable

Discomfort which is seen as a barrier to prostate cancer screening was determined and majority of the respondents interestingly reported that prostate cancer screening might be physically uncomfortable (Chart 4.9a). This is line with Forrester-Anderson, (2005); McFall et al., (2006); Oliver, (2007) study results that discomfort from screening shows why African-American men do not participate in prostate cancer screening. This study result varied with interviewee's response as they have different opinion "that prostate cancer screening does not pose any discomfort".

5.9.2. Will screen if family requested it

Most of the participants' confirmed that they will screen if requested by their family member (Chart 4.9b). This study result is significant to Kennerson, (2010); Odedina, (2008) & Weinrich, (2006) whose findings revealed that family member influence plays a positive role towards prostate cancer screening among African-American men.

5.9.3. Prostate cancer screening is good

Majority of the respondents confirmed that prostate cancer screening is good (Chart 4.9c). The result obtained from this study is also significant to interview response were majority of the interviewee's stated that prostate cancer screening is good and meaningful to life. The findings obtained from this study is comparable to Abdulwahab, Abdullateef & Olusegun, (2010) whose findings showed that majority of their participants reported that prostate cancer screening is meaningful to life and would be willing to screen even at their own cost.

However, three of the interviewees stated that prostate cancer screening is not good because anybody that goes for screening will be stigmatized. secondly the person will be seen as the cause of his illness as they believe that prostate cancer occurs as a result of life style such as smoking, multiple sexual partner, and alcohol intake and also as a curse from spiritual powers. Majority of the respondents indicated that prostate cancer screening makes sense to life (Chart

4.9d). Only three of the interviewees stated that prostate cancer screening makes sense to life; and they added that prostate cancer screening helps to ensure a healthier life, and also added that cancer motto is “Early detection is the cure to cancer”.

5.10. Knowledge about prostate cancer treatment

5.10.1. Treated for prostate cancer ensures living a healthier life

A large number of the respondents indicated that being treated for prostate cancer may increase the chances of living a healthier life respectively (Chart 4.10a). This is in correspondence with Kennerson, (2010) which reported that been treated for prostate cancer has a positive influence to life.

5.11. Summary of the chapter

This chapter discussed the summary of the total key findings of the study. The findings were then compared with previous studies of other researchers that have used knowledge, attitude and cultural content to examine prostate cancer screening in Nigeria.

CHAPTER 6: CONCLUSIONS AND SUMMARY

6.1. Introduction to chapter

This chapter contains summary and conclusion of study findings, application of objectives from the study into findings. It also presents confirmation of study with conceptual model, followed by study implication to nursing profession and oncology nursing and finally recommendations and areas of further research. The findings in this study are valid to the objectives stated in proposal “to determine the knowledge, beliefs and attitude of male university students towards screening for prostate cancer”.

6.2. Objective One

The first objective of the study was “To determine basic knowledge of male university students about screening for prostate cancer”

6.2.1. Conclusion

From the findings of this study,

- They are aware of prostate cancer, but majority do not know the risk factors of prostate cancer development
- There is good knowledge of the specific gender which prostate cancer affects, the treatment prognosis, and effects on sexuality
- They have never received information from their health care provider about prostate cancer
- Very few were able to identify the possible symptoms of prostate cancer.
- There is low level of knowledge about prostate cancer screening and they do not know what is abnormal prostate specific antigen (PSA)
- Majority of the participants gained informed knowledge about prostate cancer screening for the first time from this study.
- The little knowledge of the participants was gotten from personal curiosity, and majorly from international media.

- The level of prior knowledge is also attributed to the fact that research participants were all university students.
- They do not know anyone that has had prostate cancer
- Level of education has a positive influence to prostate cancer and screening.
- They have a pronounced negative attitude towards prostate cancer screening.

6.2.2. Confirmation of conceptual model

Assessment of the male university students provided personal experience and understanding of the level of knowledge and beliefs about prostate cancer in Benin City, this confirms the conceptual model (Figure 1.6a), from the conceptual model, attitude is strongly associated with putting knowledge into practice

BASED ON THE ABOVE CONCLUSIONS, THE FIRST OBJECTIVE OF THE STUDY HAS BEEN ACHIEVED

6.2.3. Recommendation

- Initiation of cancer teachings in schools, churches, and traditional gatherings
- Demonstrations with the use posters in public places about prostate cancer menace and screening
- Policy that every male students from age 30 should be involved in health education and promotion programs for prostate cancer
- Oncology specialist should encourage health promotion and education in every association, gatherings, denominations of faith they find themselves

6.3. Objective two

The second objective of this study was “To examine factors that prevents or motivates male University students from seeking prostate cancer screening”.

6.3.1. Conclusion

The findings of this study shows that

- Fear of outcome of screening, fear of complications of screening and fear of prognosis that screening will identify more health problems was discovered to be negative influence towards prostate cancer screening.
- Fear of treatment as they believe that men’s sexual ability will be affected was also identified as a barrier why Nigerian men do not go for prostate cancer screening.
- Loss of bladder control was also identified as a barrier why Nigerian men do not participate in prostate cancer screening.
- Culture was not identified as a barrier towards screening, as majority indicated that cancer and screening are been preached and encouraged in their various denominations of faith.
- Few of those that believe in traditional norms also stated that prostate cancer screening is not a taboo to Bini culture.
- Lack of awareness about cancer screening programs is also identified as a major barrier why many Nigerian men do not go for screening

6.3.2. Confirmation of conceptual model

Screening of the male university student’s knowledge, attitude and beliefs identified more negative beliefs and attitude about prostate cancer and screening intents. This confirms the conceptual model (Figure 1.6a). From the conceptual model, there are significant negative barriers to attitude on the practice of the screening method; “DRE and PSA which they belief that it affects men sexual ability. The conclusion of this study also supports the conceptual model because CT scan can be used for prostate cancer screening and diagnosis with obvious advantage.

BASED ON THE ABOVE CONCLUSIONS, THE SECOND OBJECTIVE OF THE STUDY HAS BEEN ACHIEVED

6.3.3. Recommendation

- There should be sufficient communication between the health care giver and the patients as regards cancer in general.

Majority of the participants identified complications of screening and treatment on sexuality and bladder as a negative influence why men do not participate in prostate cancer screening, therefore:

- There should be a stated and clarified policy about who should go for direct rectal examination (DRE) and prostate specific antigen (PSA).
- Direct rectal examination should only be done for men from age 60-65 who have less desire for sexual and reproductive needs
- Only prostate specific antigen test should be done for men between age 40-60 years who are still in the reproductive age and are sexually active
- There should be proper communication between the health care giver and the patients about the side effects of direct rectal examination (DRE) to that of PSA, before making decisions.

6.4. Objective three

The third objective of this study was “To identify attitudes and beliefs of male university students towards prostate cancer screening”.

6.4.1. Conclusion

And from the findings of this study,

- The male university students have lots of negative attitudes towards screening.
- They believed that prostate cancer is a disease of the aged.
- Some of the respondent still believed that prostate cancer is a disease of white men of only
- They also believed that the stress of prostate cancer screening is greater than the benefit.
- They believed that prostate cancer will identify more health problems

- The family has a strong role to play towards individuals' health decision about prostate cancer screening.
- Prostate cancer screening is not a taboo to Bini culture

6.4.2. Confirmation of conceptual model

Screening of the student's beliefs and attitude was done, and lots of negative attitudes were identified as barriers towards prostate cancer screening amongst the Bini culture. The conclusion of this study support the health belief model (Figure 1.1) because behaviors towards prostate cancer screening interventions depends on the level of knowledge, beliefs and attitudes. Majority of the study participants do not have clear knowledge about the risk factors of prostate cancer. They have lots of negative attitude towards screening; this confirms the health belief model (Figure 1.2) and this could be used for further research.

BASED ON THE ABOVE CONCLUSIONS, THE THIRD OBJECTIVE OF THE STUDY HAS
BEEN ACHIEVED

6.4.3. Recommendation

Base on the conclusion, the following are recommended

- The health care providers should initiate all measures to reach out to the public by visiting schools, markets, government houses, royal palace to create awareness campaign and education about prostate cancer and screening.

6.5. Implications of study findings for oncology nursing

- Knowledge gained from this study will help to influence oncology nursing care to patients and the general public
- It will provide excellent guide for research priorities for health policy activities
- It will encourage oncology nurses and researchers to be responsive to trends that are needed for professional growth.

- It helped to identify the complex and social cultural factors affecting prostate cancer screening
- It will help to address cultural beliefs and attitude towards men's health.

6.6. Implications of study findings for nursing practice

- Better understanding of the negative factors contributing to disparities about prostate cancer and screening was identified.
- The findings of this study indicated that prostate cancer and screening knowledge alone may not prompt men in Benin to participate in screening, therefore it is expected that nurses should use their skills to encourage patient to screen, as this will help promote cancer prevention programs and promoting healthy living.
- With deep understanding of the knowledge, attitude and cultural beliefs of the population, nurses can use this type of information to plan education, prevention and screening programs.

6.7. Recommendations to policy makers

- Strategies should be put in place to address the negative factors affecting prostate cancer screening, e.g. use of posters.
- Cancer education at schools because it's a potential channel to create awareness to young males about prostate cancer and cancer in general
- Initiation of policies and programs in clinics, research councils and schools that will encourage youths and adults into action towards screening
- Mass media campaign on behavioural change strategies to curb the morbidity and mortality rate from cancer
- Training and equipping of nurses about cancer and it's managements
- The ministry of health should encourage policy on men's health
- There should be appropriate linguistic and symbolic communication like the use of posters in order to create awareness about cancer and its mayhem.

6.8. Areas for further research

- Network mass installation and use of generator in homes as a cause of cancer in Nigeria (Effects of environmental hazards/pollution in Nigeria).
- Energy sparing device as the cause of cancer in Nigeria

- Review of oncology nurses strength in Nigeria
- Attitude of male patient in cancer clinics towards oncology nurses in Western Cape, South Africa

7. LIST OF APPENDICES

APPENDIX A: Questionnaire



Nursing Department, Bellville Campus

P. O. Box 1906, Bellville 7535

Cape Town, South Africa

Website: www.cput.ac.za

Section A: Demographic Characteristics

Instruction: Please, tick as appropriate []

1.1 Age range in years () years 18-25() 26-30() 31-35()

1.2 Marital status: Single () Married () Divorced () Separated ()

1.3 Religion: Christian () Muslim () Traditional Beliefs ()

Section B: Knowledge.

Instruction: Please tick as ()

2. Have you heard about prostate cancer before: Yes () No ()

3. Do you know anyone that has had prostate cancer before? Yes () No ()

4. Prostate cancer affects which gender?

a. Men only () b. Women only ()

c. Both men and women () d. don't know ()

5. Which of the following factors could make a person more likely to develop prostate cancer?

Instruction: Kindly tick as many options as applied.

a. Family history of the disease condition (), b. Drinking excessive alcohol ()

c. Exercise () d. Age () e. don't ()

6. Have you ever received information from your healthcare giver about prostate cancer?

Yes () No ()

7. If yes to question 6, kindly list two of the information about prostate cancer that you received from your healthcare provider

a) _____

b) _____

c) No information ()

8. Have you been told you have neoplasms? Yes () No ()

9. If yes to question 8, please which of these conditions? Enlarge prostate () Prostate cancer ()

10. Do you know the symptoms of prostate cancer? Yes () No ()

11. Which symptoms are associated with prostate cancer?

Instruction: Please kindly tick as many options applied to the question 11.

a) Excessive urination at night (). b) Headache ()

c) Blood in urine (). d) High temperature ()

12. Are you aware of screening of prostate cancer Yes () No ()

13. Some treatments for prostate cancer can make it harder for men to control their urine? Yes () No ()

14. Some treatments for prostate cancer can cause problems with a man's ability to have sex? Yes ()

15. Doctors can tell which men may die from prostate cancer and which men will not be harmed by prostate cancer Yes () No ().

16. An abnormal prostate specific antigen (PSA) blood test means i have cancer

Section C: Beliefs

Ask scale: Agree/Disagree.

17. Being treated for prostate cancer may increase chances of living a healthier life.					
18. Screening for prostate cancer cannot give one a cure					
19. I am bothered by the possibility that prostate cancer screening might be physically uncomfortable					
20. The stress of screening outweighs the benefits					
21. I have to screen because my immediate family think I should it.					
22. Going for prostate cancers screening will identify more health problems					
23. Having a prostate screening test makes sense to me.					
24. An individual can't have prostate cancer if not aware					
25. Prostate cancer is only for white men.					

Please tick Yes or No as (√)

26. My culture forbids men from orthodox screening for prostate cancer Yes () No ()

27. The royal families can't visit hospital for prostate cancer screening Yes () No ()

28. Prostate cancer screening is a taboo in my culture Yes () No ()

SECTION D: Attitude

29. Prostate cancer affects only men of advanced age Yes () No ()

30. Prostate cancer screening good Yes () No ()

APPENDIX B: Interview questions



Nursing Department, Bellville Campus

P. O. Box 1906, Bellville 7535

Cape Town, South Africa

Website: www.cput.ac.za

Section A: Demographic Characteristics

Instruction: Please, tick as appropriate [√]

1.1 Age range in years () years. 18-25() 26-30() 31-35()

1.2 Marital status: Single () Married () Divorced () Separated ()

1.3 Religion: Christian () Muslim () Traditional Beliefs ()

1.4 Faculty: Social Science and management science

KNOWLEDGE

1. Are you aware of prostate cancer? Yes No

If yes, is it common?

If no, why are you not aware? -----

2. Do you think is a deadly disease? Yes No

If yes, why do you think is a deadly disease-----

3. Do you think prostate cancer is a sexually transmitted disease? Yes No

If yes, why do you think it is sexually transmitted-----

How did you get the knowledge that it is a sexually transmitted disease? -----

4. Are you aware of prostate cancer screening? Yes No

If yes, do you think been aware affects male sense of life? Yes No

5. Do you know any one that has had prostate cancer screening done? Yes No

6. Are you aware of prostate cancer screening? Yes No

ATTITUDES

7. Does your ethnic group encourage prostate cancer screening?

If yes, how often do they screen-----

Is it helpful? -----

To what extent? -----

If no, why is it not encouraged? -----

8. Not been aware of prostate cancer reduces one chance of having prostate cancer Yes
No

If yes, why?

9. Do you think going for prostate cancer screening is a waste of time? Yes No

If yes, please give reasons-----

BELIEFS

10. Prostate cancer is a disease of men with many wives? Yes No

11. Do you think prostate cancer can be prevented? Yes No

12. Does your culture see prostate cancer as a taboo? Yes No

If yes, why-----

If no, please give reasons-----

13. How does the Benin culture see any male who had prostate cancer screening done? ----

14. What is your cultural belief about prostate cancer and screening?

15. Do you think screening for prostate cancer is embarrassing to manhood? Yes No

If yes, please give reasons

APPENDIX C: Letter of approval from ethics committee, Cape Peninsula University of Technology



HEALTH AND WELLNESS SCIENCES RESEARCH ETHICS COMMITTEE (HW-REC)

Registration Number NHREC: REC- 230408-014

P.O. Box 1906 • Bellville 7535 South Africa
Symphony Road Bellville 7535
•Tel: +27 21 959 6352 • Fax +27 21 953 8490
Email: danielso@cput.ac.za

03 October 2013
CPUT/HW-REC 2013/H33

Faculty of Health and Wellness Sciences – Nursing and Radiography Department

Dear Ms Joyce Ifeanyi Egbera

APPLICATION TO THE HW-REC FOR ETHICAL CLEARANCE

Approval was granted on 20 September 2013 by the Health and Wellness Sciences-REC to Joyce Ifeanyi Egbera for your application. This approval is for research activities related to a MTech: Nursing at this institution. This ethics approval is subject to the student supplying the supervisor with a letter of consent from the research facility. The student may not start the research before this approval letter has been received.

Title: Male University students' knowledge and attitude towards screening for prostate cancer.

Internal Supervisor: Prof D Khalil

Internal Co-supervisor: Ms F Kajee

Comment:

Approval will not extend beyond 03 October 2014. An extension should be applied for 6 weeks before this expiry date should data collection and use/analysis of data, information and/or samples for this study continue beyond this date.

Note:

The investigator(s) should understand the conditions under which they are authorized to carry out this study and they should be compliant to these conditions. **It is required that the investigator(s) complete an annual progress report that should be submitted to the HW-REC in December of that particular year, for the HW-REC to be kept informed of the progress and of any problems you may encounter.**

Kind Regards



Zuleika Nortjé
CHAIRPERSON – ETHICS RESEARCH COMMITTEE
FACULTY OF HEALTH AND WELLNESS SCIENCES

APPENDIX D: Letter of support from the Dean, Faculty of Social and Management Science, Benson Idahosa University, Benin-city, Nigeria



BENSON IDAHOSA UNIVERSITY

University Way, Off Upper Adesuwa Grammar School Road,
P. M. B. 1100, Benin City

FACULTY OF SOCIAL AND MANAGEMENT SCIENCE

22nd November, 2013

Miss Joyce Ifeanyi Egbera
Nursing Department
Cape Peninsula University of Technology
Cape Town
South Africa.

LETTER OF SUPPORT FOR RESEARCH STUDY

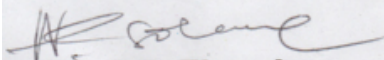
Calvary greetings in Jesus name.

We have received your letter on the request to conduct research in our Faculty and hereby invite you formally to carry on with the exercise.

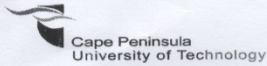
We shall render all necessary support in respect of administering questionnaire and interview and others as requested.

You are expected to contact the Dean of Faculty of social and Management Sciences when you come to the University.

Greetings.


Dr. O.F. Eboreime
(Ag. Dean, FSMS)

APPENDIX E: Letter of approval from the Vice Chancellor, Benson Idahosa University, Benin-city, Nigeria



Nursing Department, Bellville Campus

P. O. Box 1906, Bellville 753

Cape Town, South Africa

Website: www.cput.ac.za.

18th October, 2013

The Vice Chancellor,
Benson Idahosa University (BIU) GRA,
Benin City, Nigeria

APPLICATION FOR PERMISSION TO USE THE FACULTY OF SOCIAL SCIENCE AND MANAGEMENT
STUDENT AS RESEARCH PARTICIPANT

Study Title: "Male university student's knowledge, beliefs and attitude towards screening for Prostate Cancer in Benin, Nigeria.

Investigator: Joyce Ifeanyi Egbera, Oncology Nurse. Email: joyce4k7@yahoo.com.

Cell No +27839556935

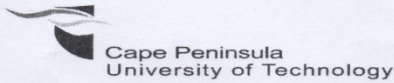
Supervisor: Emeritus prof. D. Khalil. Email: profdkhalil@gmail.com.

Co-Supervisor: Mrs Faiza Kajee. Email: kajeef@cput.ac.za.
The researcher is a master's student in oncology nursing at the above mentioned university and wishes to seek your permission to carry out research study in this noble university using the male student of age between 18-35 years as my study participant. The study is aimed to gather important information about the prostate cancer screening. There are no costs for participation and there is no financial compensation for participating, as study is self-sponsored and will be of benefit to researcher, participant and the universities at large following findings. Questionnaire and interview will be used as method of data collection. The questions will focus majorly on knowledge, attitude and cultural beliefs towards screening for prostate cancer. Participant for questionnaire will be 100-150 male university students. Minimum of 10 and maximum of 20 participants will be used for interview. 10-15 minutes will be used to finish individual questionnaire. For the interview minimum of one hour will be used for an individual to finish the questions. The following ethical principles to be observed are Autonomy, Confidentiality, Beneficence, Non maleficence, Justice, Right to withdrawal, Informed consent and possible referral if need be. Results from the study will be sent to the dean of faculty BIU. Because of the sensitivity and cultural issues around the topic of the study, it is anticipated that copy of the report to the Dean will be posted on students' notice board for information.

Look forward to your positive response. Yours Sincerely VC/Registrar BIU Sign _____
Date _____

*Approval is granted
for 2 weeks
Dec-04, 2013/Dec 16, 2013
9/00 4/12/2013*

APPENDIX G: Research information sheet signed by Head of Departments



Nursing Department
P. O. Box 1906, Bellville 7535
Cape Town, South Africa.
Website: www.cput.ac.za

APPENDIX D: Research information sheet

Study title: 'Male university student's knowledge, beliefs and attitude towards screening for Prostate Cancer in Benin City, Nigeria'.

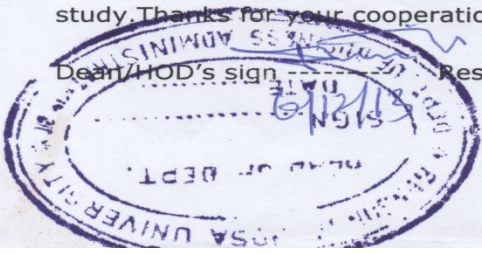
Investigator: Joyce Ifeanyi Egbera, Oncology Nurse. Email: joyce4k7@yahoo.com.

Supervisor: Emeritus prof. D.Khalil. Email: profdkhalil@gmail.com.

Co-Supervisor: Ms F. Kajee. Email: kajeef@cput.ac.za.

The researcher is a master's degree student in oncology nursing at the above mentioned university. This questionnaire and interview is aimed to gather important information about the prostate cancer screening. The main aim behind this survey to identify group responses, and their names will not be written anywhere on the questionnaire as this is to keep individual identity confidential. The risk of this study is minimal which they may come across in some questions/answers that may be upsetting, unpleasant, objectionable or causing emotional stress due to sensitive nature of topic as it calls for disclosing personal health issues, adding to the researcher been a female. Every effort will be made to minimize the risk. Should the study cause any stress, they may decline to any or all question and even withdraw from participation at any time they wish. Benefits of this study are to promote awareness level of prostate cancer, screening and change of negative attitudes towards screening.

Their participation in this study is very important as it would help the researcher identify and have better understanding of the health behavior process especially prostate cancer in our country Nigeria. There are no rights or wrong answers to the questions asked or the statements made, rather what are requested of you are sincere responses. The time required to complete individual questionnaire is within 10-15 minutes, while interview will be conducted with 10-15 persons and will take minimum of one hour per individual. Data will be collected by researcher alone and kept in a sealed and secured bag. Participation and completion of this study is entirely voluntary and they have right to withdraw from participation. If there be any question or contribution to this study, you may call this number +27839556935. All information gathered as a result of participation in this study will be treated with utmost confidentiality. Approval and signature simply means you have given researcher consent to carry out this study. Thanks for your cooperation.



Dean/HOD's sign -----

Researcher sign -----

Date -----

APPENDIX H: Letter of approval to use questionnaire

From: Sonny Nodi Atulomah <nnodatulomah@hotmail.com>

To: joyce egbera <joyce4k7@yahoo.com>

Sent: Friday, May 10, 2013 2:21 PM

Subject: Re: **LETTER OF PERMISSION (CONSENT) TO USE QUESTIONNAIRE**

Thank you for the request to use my questionnaire in your study. The terms are acceptable to me. I therefore give you permission to use the questionnaire in full or in part as long as you reference the paper from which the questionnaire was used.

Best regards

Professor Nnodimele Atulomah

10th May, 2013.



APPENDIX I: Letter to Vice Chancellor, Benson Idahosa University, Benin-city, Nigeria

Nursing Department
P. O. Box 1906, Bellville7535
Cape Town, South Africa.
Website: www.cput.ac.za

18th, October, 2013

The Vice Chancellor,
Benson Idahosa University (BIU) GRA,

Benin City, Nigeria

APPLICATION FOR PERMISSION TO USE THE FACULTY OF SOCIAL SCIENCE AND MANAGEMENT
STUDENT AS RESEARCH PARTICIPANT

Study Title: "Male university student's knowledge, beliefs and attitude towards screening for Prostate Cancer in Benin, Nigeria.

Investigator: Joyce Ifeanyi Egbera, Oncology Nurse. Email: joyce4k7@yahoo.com.

Cell No +27839556935

Supervisor: Emeritus prof. D. Khalil. Email: khalild@cput.ac.za

Co-Supervisor: Mrs Faiza Kajee. Email: kajeef@cput.ac.za.

The researcher is a master's student in oncology nursing at the above mentioned university and wishes to seek your permission to carry out research study in this noble university using the male student of age between 18-35 years as my study participant. The study is aimed to gather important information about the prostate cancer screening. There are no costs for participation and there is no financial compensation for participating, as study is self-sponsored and will be of benefit to researcher, participant and the universities at large following findings. Questionnaire and interview will be used as method of data collection. The questions will focus majorly on knowledge, attitude and cultural beliefs towards screening for prostate cancer. Participant for questionnaire will be 100-150 male university students. Minimum of 10 and maximum of 20 participants will be used for interview. 10-15 minutes will be used to finish individual questionnaire. For the interview minimum of one hour will be used for an individual to finish the questions. The following ethical principles to be observed are Autonomy, Confidentiality, Beneficence, Non maleficence, Justice, Right to withdrawal, Informed consent and possible referral if need be. Results from the study will be sent to the dean of faculty BIU. Because of the sensitivity and cultural issues around the topic of the study, it is anticipated that copy of the report to the Dean will be posted on students' notice board for information. Look forward to your positive response.

Yours Sincerely

VC, BIU Sign_____ Date_____

APPENDIX J: Research information sheet

Study title: 'Male university student's knowledge, beliefs and attitude towards screening for Prostate Cancer in Benin City, Nigeria'.

Investigator: Joyce Ifeanyi Egbera, Oncology Nurse. Email: joyce4k7@yahoo.com.

Supervisor: Emeritus Prof. D.Khalil. Email: khalild@cput.ac.za

Co-Supervisor: Ms F. Kajeef. Email: kajeef@cput.ac.za.

The researcher is a master's student in oncology nursing at the above mentioned university. This questionnaire is aimed to gather important information about the prostate cancer screening. The main aim behind this survey to identify group responses, your name will not be written anywhere on the questionnaire as this is to keep individual identity confidential. The risk of this study is minimal which you may come across in some questions/answers that may be upsetting, unpleasant, objectionable or causing emotional stress due to sensitive nature of topic as it calls for disclosing personal health issues, adding to the researcher been a female. Every effort will be made to minimize the risk. Should the study cause any stress, you may decline to any or all question and even withdraw from participation at any time you wish. Benefits of this study are to promote awareness level of prostate cancer, screening and change of negative attitudes towards screening.

Your participation in this study is very important as it would help the researcher identify and have better understanding of the health behavior process especially prostate cancer in our country Nigeria. There are no rights or wrong answers to the questions asked or the statements made, rather what are requested of you are sincere responses. The time required to complete individual questionnaire is within 10-15 minutes and data collected will be collected by researcher alone and kept in a sealed and secured bag. Please note that participation and completion of this study is entirely voluntary and you have right to withdraw from participation. If there be any question or contribution to this study, you may call this number **+27839556935**. All information gathered as a result of your participation in this study will be treated with utmost confidentiality. Your willingness to complete the questionnaire simply means you have given consent to participate.

Thanks for your cooperation. Researcher sign----- Participant sign---Date-----

APPENDIX K: Informed consent form for research participant

Principal investigator: Joyce Ifeanyi Egbera, Oncology Nurse.

Email: joyce4k7@yahoo.com

Cell No: +27839556935.

Title: "Male university student knowledge, beliefs and attitude towards screening for prostate cancer in Benin City, Nigeria".

Study description: This is research study session in which knowledge, beliefs and attitude towards screening for prostate cancer of male student within the age range of 18-35 years will be assessed.

Nature of participation: You will participate in either questionnaire or interview session and participation is voluntary. Questionnaire will be distributed to 100-220 participants and 10-15 minutes will be used by individual participant to finish their question.

Purpose of the study: Is to assess general knowledge, beliefs and attitude towards screening for prostate cancer and not individual evaluation.

Possible risk: You may come across some questions/answers that may be upsetting, unpleasant, objectionable or causing emotional stress due to sensitive nature of topic as it calls for disclosing personal issues, adding to the researcher been a female. The risk of this study is minimal but every effort will be made to minimize the risk. Should the study cause any stress, you may decline to any or all question and even withdraw from participation at any time you wish.

Possible benefits of the study: There may be little benefits, but some participant will gain informed knowledge about cancer in general, prostate cancer, and screening thereby modifying attitudes and beliefs, promoting more knowledge and minimizing risks. For the

University of Benin, the benefit will be that they will have much more informed students who can take preventative measures in reducing the risk of prostate cancer.

Compensation: There are no costs to you for participation and there is no financial compensation for participating, as study is self-sponsored.

Confidentiality: Please ensure you do not write or fill any personal information for identification on your questionnaire. Your response will be kept anonymous. Individual response will be coded with number and not name. Data will be analyzed as group and not individual. Researcher, supervisors and if need be the research committee are the one that will have access to data collected. Data collected will be destroyed at the end of study if findings have been made and after subsequent publications.

Request for results of study: Results from the study will be sent to the dean of faculty at the University of Benin. Because of the sensitivity and cultural issues around the topic of the study, it is anticipated that copy of the report to the Dean will be posted on students' notice board for information.

Opportunities to question: Should you wish to read result of this study, you be directed to the website of publication. Therefore any question as regards this study should be directed to the principal investor on contacts mentioned above and supervisors of the study listed here below:

- (1). Supervisor: Emeritus Prof. D. Khalil Email: khalild@cput.ac.za
- (2). Co-Supervisor: Ms F. Kajee. Email: Kajee@cput.ac.za.

I am 18 years older and have read and understand all the terms/condition. I hereby give permission to participate in this research study

Dated this-----day of month-----2013---

Signature of participant-----

Signature of person obtaining consent-----

Signature of principal investigator-----

APPENDIX L: Letter of consent to record interview

Principal investigator: Joyce Ifeanyi Egbera, Oncology Nurse.

Email: joyce4k7@yahoo.com

Cell No: +27839556935.

Title: "Male university student knowledge, beliefs and attitude towards screening for prostate cancer in Benin City, Nigeria".

Nature of participation: You will participate in interview session and participation is voluntary. Interview will be conducted with 10-20 participants who agree and consent to participate. This will be done in a private room within the university to ensure confidentiality of information and minimum of one hour will be used per individual participant to finish the interview question.

Purpose of the study: Is to assess or identify level of general knowledge, beliefs and attitude towards screening for prostate cancer and not individual evaluation.

Possible benefits of the study: There may be little benefits, but some participant will gain informed knowledge about cancer in general, prostate cancer, and screening thereby modifying attitudes and beliefs, promoting more knowledge and minimizing risks. For the University of Benin, the benefit will be that they will have much more informed students who can take preventative measures in reducing the risk of prostate cancer. The study is a self-sponsored program and will be of benefit to researcher.

Possible risk: Participants may come across some questions/answers that may be upsetting, unpleasant, objectionable or causing emotional stress due to sensitive nature of topic as it calls for disclosing personal issues, adding to the researcher been a female. The risks of this study are minimal, but every effort will be made to minimize the risk. Should the study cause any stress, they have right decline to any or all question and even withdraw from participation at any time they wish. There is no financial reward to participant as the study is self-sponsored. Participation is voluntary. Should any question distress you or upset

you, you have right to decline from answering that question and also withdrawal from participation.

Request for results of study: Results from the study will be sent to the dean of faculty at the University of Benin. Because of the sensitivity and cultural issues around the topic of the study, it is anticipated that copy of the report will be sent to the Dean of faculty of social and management science to be posted on students' notice board for information.

Opportunities to question: Should you wish to read result of this study, you be directed to the website of publication. Therefore any question as regards this study should be directed to the principal investor on contacts mentioned above and supervisors of the study listed here below:

1). Supervisor: Emeritus Prof. D. Khalil Email: khalild@cput.ac.za

(2). Co-Supervisor: Ms F. Kajeef. Email: kajeef@cput.ac.za.

I am 18 years older; I hereby give permission to have my interview with researcher recorded for the purpose of facilitating the creation of a transcript or word of the interview for analysis of data.

Dated this-----day of month-----2013

Signature of participant-----

Signature of person obtaining consent-----

Signature of principal investigator-----

APPENDIX M: Letter of counseling for potential risk participant

Student counseling department

Benson Idahosa University,

Benin City, Nigeria

APPLICATION LETTER FOR COUNSELING

Study Title: "Male university student's knowledge, beliefs and attitude towards screening for prostate cancer in Benin City, Nigeria".

Principal investigator: Joyce Ifeanyi Egbera, Oncology Nurse.

Email: joyce4k7@yahoo.com Cell No: +27839556935.

I am a masters' student at the above mentioned university studying for post graduate degree in oncology nursing. I have been granted permission to carry out a research study in this University using the male students within age between 18-35 years in the Faculty of Social Science as my research participant. The study is aimed to gather important information about prostate cancer screening.

Possible benefits of the study: There may be little benefits, but some participant will gain informed knowledge about cancer in general, prostate cancer, and screening thereby modifying attitudes and beliefs, promoting more knowledge and minimizing risks. For the University of Benin, the benefit will be that they will have much more informed students who can take preventative measures in reducing the risk of prostate cancer. The study is a self-sponsored program and will be of benefit to researcher.

Possible risk: Participant come across some questions/answers that may be upsetting, unpleasant, objectionable or causing emotional stress due to sensitive nature of topic as it calls for disclosing personal issues, adding to the researcher been a female. The risks of this study are minimal, but every effort will be made to minimize the risk. Should the study cause any stress, they have right decline to any or all question and even withdraw from participation at any time they wish. The following ethical principles to be observed also are

autonomy, Confidentiality, beneficence, non-maleficence, justice, right to withdrawal, informed consent and possible referral if need be. Due to sensitive nature of topic, there might be risk to participant such as psychological trauma, invasion of privacy and dignity of participant, and even identification of participant to be a potential risk to prostate cancer as a result informed knowledge gained during the study. Therefore i wish to seek your support in counseling and referral of any student who may identify himself as potential risk for prostate cancer during course of study.

Any further enquiry can be directed to principal investigator on contacts mentioned above and to Supervisors of this study:

Supervisor: Emeritus Prof. D. Khalil. Email: khalild@cput.ac.za

Co-Supervisor: Ms F. Kajeef, Email: kajeef@cput.ac.za.



APPENDIX N: Referral Letter to University Hospital

Student name: _____ Age: _____

Dear -----

History -----

Vital signs: Temp----, Pulse-----, Respiration-----, Blood pressure-----

Examinations-----

Investigations-----

Potential diagnosis-----

Treatment/advice given-----

Request-----

Thank you.

Signature----- Print name-----

N: B. This possible referral is made as a result of client participation on research study topic "male university student knowledge, beliefs and attitude towards screening for prostate cancer in Benin City, Nigeria. It would be appreciated if the reply form be completed for the institution records

Dear-----Institution-----

Re: Patient----- DOB----- Folder number-----

Thank you for the referral, client has been:

1. Admitted for further investigation-----
2. Investigated and referred-----
3. Investigated and discharge-----

Diagnosis-----Treatment-----Investigations-----

Signature----- Date-----

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