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Original Research Article

Determinants of prostate cancer screening uptake among men aged 40 years and above in Ruiru sub county, Kenya

Margaret Mureithi[1]*, Maurice Onditi K'Odhiambo[2], James Mureithi[3], Mary Murigi[4]

[1]Department of Population, Reproductive Health and Community Resource Management, Kenyatta University, Kenya
[2]Department of Pharmacy and Complementary and Alternative Medicine, Kenyatta University, Kenya
[3]Department of Pathology, Kenyatta University, Kenya
[4]Department of Nursing, Kirinyaga University, Kenya

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***Correspondence:**
Dr. Margaret Mureithi,
E-mail: mureithimargaret18@yahoo.com

ABSTRACT

Background: The Kenya demographic and health survey in the year 2014 indicated that only two-thirds of Kenyan men age 15-49 have heard of prostate cancer. In addition, only three percent of males aged 40 years and above have ever had a prostate cancer screening. This signifies that prostate cancer screening is still uncommon among Kenyan men despite prostate cancer being ranked third among commonly diagnosed cancers globally.
Methods: The study adopted a descriptive cross-sectional design. Quantitative data was collected using a semi-structured questionnaire. Collected data was analysed using Statistical package for data analysis (SPSS). Thereafter, descriptive statistics were presented by the use of mean, percentages and proportions while inferential statistics that is standard deviation and Chi square values were used to determine the statistical significance ($p \leq 0.05$).
Results: This study shows that most men (87%) were aware of prostate cancer. Marital status p=0.007, occupation p=0.019, fear p=0.005, shyness/embarrassment p=0.034 and the level of education p=0.005 significantly influenced the uptake of cervical cancer screening among males aged 40 years and above. Noteworthy, education about prostate cancer screening did not significantly influence the males under this age brackets decision to get the prostate cancer screening.
Conclusions: More efforts are needed to encourage adult male who are highly at risk of prostate cancer to go for voluntary screening as early detection have been shown to improve the disease outcome. In addition, a dire need for increased awareness of prostate cancer screening to demystify fear by the stakeholders that is, the healthcare system, Ministry of Health, faith-based organizations, family as well as friends.

Keywords: Prostate cancer, Cancer screening, Cancer screening uptake

INTRODUCTION

Globally, occurrence and death rates of cancer continue to increase. Majority of cancers occur in third and second world countries.[1] Globally, among males, Prostate cancer (PC) is second in incidence and mortality.[1] It is the main cancer afflicting men and is ranked second among all diagnosed cancers.[2] PC is also classified as the number six top cause of cancer related deaths globally with statistics showing 1.1 million new PC patients diagnosed.[3] Late presentation and diagnosis have been linked with increasing mortality among PC patients, likewise, diagnosis at more advanced ages negatively impacts treatment outcomes.[3]

The primary PC risk factors include lineage and age.[4] PC has also been associated with lifestyle, environmental factors, hormonal imbalances, diet, health seeking behaviour, exposure to casinogens, and sexual transmitted diseases.[5] PC is not common among men aged less than 40

years of age however, these changes once one attains the age of 40 and above.[6]

PC disease presents with, difficulty in micturition, weak urine flow, increased frequency in micturition especially at night, trickling of urine even after finishing passing urine and incontinence. In more advanced stages, PC may present with other symptoms, such as hip pain, pelvic pain, libido problems and mysterious significant weight loss.[1] There is also assumption some symptoms of lower urinary tract being part of the ageing process.[4] There are several methods used in screening and diagnosis PC. Despite this, biopsy is solely used as a confirmatory test for PC.[4] Nevertheless, most men are oblivious of their PC status. Inadequate diagnosis, absence of screening, ignorance, and financial status is also factoring that affect mortality and morbidity.[4]

In Kenya, cancer is ranked 3rd in mortality rates after infectious diseases and cardiovascular diseases.[5] In the year 2018, Kenya reported an estimated annual incidence of 47,887 new cancer cases, and an annual mortality of 32,987 males.[6] According to KDHS (2014), only two-thirds of Kenyan men ages between 15-49 years have heard of PC.[7] In addition, only 3% of men aged 40 years and above ever had a PC screening.[7] This shows that uptake of PC screening levels in Kenya are still very low despite the fact that early screening and detection are the most crucial and effective intervention tool for disease management.

Poor perception of PC screening has shown fuel the rising cancer burden. In Kenya, most cases of reported PC are hospital-based due to dilapidated levels of information on PC and subsequent screening methods in Kenyan communities.[8] In spite of high incidence of PC, knowledge level, awareness and uptake of screening remain undetermined among men.[8] Early diagnosis in cancer cases has been shown to greatly influence treatment outcomes of which the key components are education (knowledge) and pressure put on the target population to participate in early screening and diagnostic procedures.[9]

The National Reproductive Health Policy (2007) and the National Reproductive Health Strategy, (2009-2015), Kenya, has put in place clear guidelines and policies pertaining to cancer with more emphasis laid on reproductive system cancers.[10] Despite the favourable policies being put up and increasing efforts in improvement of PC screening, new data collected still indicates that late diagnosis is rampant in Kenyan men

METHODS

A descriptive cross-sectional study design was used in this study, carried out between August 2019 to April 2021. This study was undertaken in Ruiru sub-County, Kiambu County, Kenya. Ruiru Sub-County in Kiambu County is one of the most populous areas in Kenya, according to data from the 2019 census.[11] The target population were men aged 40 years and above in Ruiru sub-county. A purposive method of sampling was used to select Ruiru sub-county which has no data available regarding uptake of PC screening care services. Thereafter, simple random sampling was used to identify and select 4 wards from the seven wards in the county. Consequently, a simple random sampling method was used to identify the subject who met the criteria for participation until the desired representative sample size of 384 was attained.

Quantitative data was collected from the respondents by use of semi structured questionnaire. The researcher then analysed the data using the SPSS data entry program with the assistance of a statistician. The study applied both univariate and bivariate analysis. In univariate analysis, frequency distributions shown the distribution of the study population by background characteristics. In bivariate analysis, Chi-square values were used to determine the relationship between the dependent (uptake PC screening) and the independent variables. A confidence interval of 95% and a p value<0.05 was considered significant for all statistical analysis.

RESULTS

A total 383 participants responded to the questions. Majority of the respondents that is 49.3% were between 40-49 years, 34.5% were aged 50-59 years, 12.5% were between 60-69 years and 3.7% were between 70-79 years. Majority 82.3% were married, 40.6% were employed, and 42.5% had at least secondary education.

There was a significant association (X^2=15.331, p=0.007) between marital status and uptake of PC screening. Men who were single, widowed, separated, and divorced were less likely to be screened (OR=0.045, 0.198, 0.469 and 0.530 respectively. There was a significant association (X^2=13.135, p=0.011) between the level of education and uptake of PC screening. There was high probability of uptake of PC screening services (OR=5.319, 4.926 and 2.273) times for those men who had secondary, college and university education respectively.

Since awareness level of a condition or about the services offered may influence an individual to utilize the service, the study sought to find out the awareness level of the study participants on PC and PC screening. Majority of the respondents, that is, 64% were aware of PC screening. Print and electronic media was cited as the main source of information. There was a significant low probability of uptake of PC screening (X^2=8.019, p=0.005, OR=0.899) for those men who were not aware of PC. Despite the awareness, most of the respondents, that is, 83%, had not been screened for PC in this area (Figure 1).

Majority of the respondents, 71.3% stated it was embarrassing to go for PC screening according to their religion and culture. Similarly, there was a significant association (X^2=8.014, p=0.005) between fear towards PC screening and uptake of PC screening. There was a significant high probability of uptake of PC screening

services (OR=3.333) for those men who are not afraid of being tested for PC. Noteworthy, unlike popular belief, there was an insignificant association (X^2=2.109, p=0.146) between family members or friends' casualties of cancer and uptake of PC screening. There was a low probability of uptake of PC screening services (0.988) times for those men relatives or friends have never succumbed to PC (Table 1).

Table 1: Family members or friends casualties of cancer.

Family members or friends' casualties of cancer	Have you undergone PC screening			Odd ratio (OR)	Chi square	
	Yes	No	Total		X^2	P (X^2)
Yes	33 (52.4%)	125 (42.4%)	158	1	2.109	0.146
No	30 (47.6%)	170 (57.6%)	200	0.988		
Total	63	295	358			

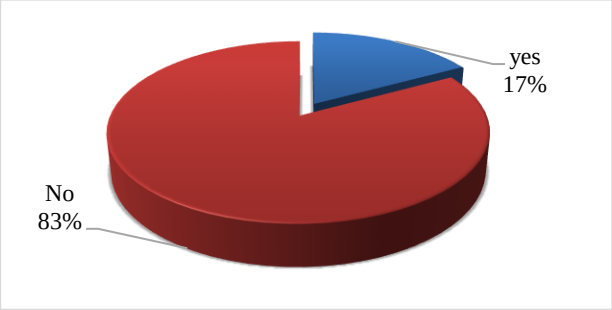

Figure 1: Screening of PC.

DISCUSSION

Findings from the study should that majority of the respondent were between of 40 to 49 years. Age of the respondents was found to be an insignificant factor in the uptake of PC screening. These findings were contrarily to those of research done by Makori, 2015 at Kenyatta National Hospital, Kenya that showed PC screening was associated with advancing age.[12] The prevalence of PC screening in Ruiru was low 17% despite high levels of awareness. These findings were consistent with those of a study in Kenyatta national hospital that reported a low uptake of PC screening at 23.7%.[12] Similarly, a study done in Nigeria reported low uptake of PC screening at 22.5%.[13]

There was a statistically significant low probability of uptake of PC screening services for those men who do not have education compared to those who had at least primary school education. These findings correspond with those of Anita et al that showed education level is one of the determining factors in the screening uptake of PC.[14,15] Men with tertiary education are able to find additional and relevant information from good sources about PC screening and therefore, higher rates of screening.

In regard to marital status and uptake of screening, there was a high probability of uptake of PC screening services for those men who are married compared to those who were single, widowed, separated or divorced. These findings are consistent with the study by Mutuma et al which found that marital status have significant influence when it comes to uptake of the screening in Kenya.[16] In a related study Gomez et al also found that married couples were more likely to go for screening test compared to those who were single.[17]

CONCLUSION

In conclusion, the study shows that there is a high likelihood of uptake of PC screening services for male individuals who perceive the screening as beneficial to them. The study specifically concludes that there is high probability of uptake of PC screening services for those male individuals whose occupations allow time for the screening; those who have some formal education; those who are not afraid and embarrassed of the screening; and those whose spouses encourage them to taking the test. Having a family member or a friend who had cancer was not an important determinant is uptake of PC screening. This study therefore recommends more research and exploration in this area. Also, more efforts are needed to encourage adult's male who are at risk to go for voluntary screening as early detection have been shown to improve the disease outcome as well as prognosis.

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