Rural male health workers in Western Jamaica: Knowledge, attitudes and practices toward prostate cancer screening

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Abstract

Background: Statistics have shown that since 1988, a significant percentage of males are unwilling to seek medical care. The question is if they had the knowledge, worked in the health system and were educated, would this be any different? Aim: The current study aims to fill this void in the literature by examining the perception of rural male health workers (from the Western Region) about prostate examination, and why they are reluctant to inquire about the probability of having, or the likelihood of not having prostate cancer. Materials and Methods: The study utilized primary cross-sectional data that was collected during February and March 2008 from 170 males (ages 29 years and older), health-care workers who were employed in particular rural health institutions in Jamaica (i.e. Western Regional Health Authority). SPSS was used to analyze the data. Results: When the respondents were asked “Have you ever heard about the screening procedure for prostate?” 71.2% indicated yes, but only 27.1% had got their prostate checked by a health practitioner. When respondents were asked to state what influenced their choice of not doing a digital rectal examination, 20.6% indicated comfort level; 9.4% stated the gender of the health practitioner, 5.3% mentioned fear and others did not respond. Of those who had the examination 2 years ago, 96.5% did not state the choice of method. Conclusion: The current study is limited in terms of its generalizability to rural males or rural males in Western Jamaica, but it does provide an insight into the difficulty of men in breaking away from culture.

Keywords: Rural men, western regional health authority; prostate cancer screening; attitude, knowledge, practices.

Introduction

Public health relies on comprehensive analyses of quality data to improve the outcomes of people within a particular socio-political geographical boundary [1-3]. This assumes that public health officials can achieve their goals simply by selecting, implementing, and evaluating cost-effective intervention for preventing and controlling disease and injury among people, without the willingness of the people to change their lifestyle practices. People are not machines, which denote that they will not simply do what they are told or what an external agent states is best for them. This is among the challenges faced by public health practitioners including medical practitioners in their attempt to effectively attain the stated aims of achieving particular health outcomes. Empirical evidence shows that even when people are experiencing ill-health, some of them do not seek medical care, and that social determinants such as income, poverty, health insurance, severity of illness and others are among the reasons for people’s unwillingness to seek health care [4-11].
For decades (since 1988), the Planning Institute of Jamaica and the Statistical Institute of Jamaica have been collecting data on Jamaicans’ Living Conditions including their health conditions, health care-seeking behavior, and consumption patterns among other things, and the statistics showed that less than 20% of people have been ill in any given year and that their health care-seeking behavior has never surpassed 70% [12]. In 1990, the health care-seeking behavior of Jamaicans was 38% [12] and in 2007, it reached a height of 70%. Health care-seeking denotes the percentage points of Jamaicans who were ill that sought medical care, suggesting that despite all the investment in health by governments over the years, and the efforts of public health practitioners, there are in excess of 780,000 people who did not seek care although they indicated that they were experiencing ill-health in 2007. The unresponsiveness of Jamaicans to seek medical care is even wider between the sexes. In 2007, statistics revealed that 5.3% more females sought health care compared to males [12], and that this disparity was as much as 6.9% in 1999 [11].

A qualitative study by Ali and de Muynck [5] in Rawalpindi and Islamabad, Pakistan, revealed that street children were more willing to seek medical help based on (1) severity of illness, and (2) if the illness interfaced with their economic livelihood. Statistics for Jamaica showed that males on average spent 11 days being treated for illness compared to 9 days for females, which not only concurs with the thinking of males in Pakistan but goes to the culture of males’ unwillingness to seek medical care and higher mortality among them. Using life expectancy to substantiate the effective of males’ unwillingness to seek medical care and its influence on mortality, and to establish that this not atypical to Jamaica or Pakistan, life expectancy for females in the world is 4.2 years more than that of males [14] and 5.81 years in Jamaica [15]. This is made even worse by poverty, as a study by Bourne [16] revealed that health care-seeking behavior is even lower among the poorest 20% in Jamaica, suggesting that premature deaths are highly likely among this group. A publication by the WHO [17] opined that 80% of chronic illnesses were in low and middle income countries, and that 60% of global mortality [17, 18] is caused by chronic illness, suggesting that illness interfaces with poverty and vice versa, along with other socio-economic conditions [18-20]. Owing to their greater probability of unwillingness to seek medical care and a willingness to seek care based on severity of illness, this accounts for the greater mortality of males over females. A study of mortality in English and Dutch-speaking Caribbean nations from 1985 – 2000, by Ivory et al. [21] found that males accounted for 54% of all deaths.

Cancer of the prostate is the leading cause of mortality from malignant neoplasm of males in the English and Dutch-speaking Caribbean [21-23], yet still many men are unwilling to seek medical care or even to inquire about it, or have themselves examined by medical practitioners for the likelihood of having prostate cancer. There is a question, “Is this any different among male health workers?” Since the decentralization of the health care system in the 1990s (with the passage of the National Health Services Act of 1997), the Jamaican health care sector is now divided into four semi-autonomous regional bodies: South-East; North-East, Western and Southern. Much of the analyses on health care have focused on the South-East Region (including the University of the West Indies Hospital – the only training hospital in the country). Despite the needed information on the South East, given that it is the largest region in the nation, the Western Region is the third largest in terms of population coverage, service utilization and health expenditure allocations. The Western Region of Jamaica is the second largest utilization of pharmaceutical services from public hospitals, and represents 17% of the total population (in 2002), which suggests that this group warrants scientific examination, in particular the male health workers. For effective public health intervention, an examination of rural Western males is needed to provide an understanding of these men and how their health can be better planned for without using them to provide a benchmark for this cohort. The current study aims to fill this void in the literature by examining the perception of rural male health workers (from the Western Region) about prostate examination, and why they are reluctant to inquire about the probability of having, or the likelihood of having prostate cancer.

Ethics
The survey was submitted and approved by the University of the West Indies Medical Faculty’s Ethics Committee. All participants gave written informed consent to actively participate in the study, and they also were informed that they could discontinue the process at any time convenient to them.

Materials and Methods
The study utilized primary cross-sectional data that was collected during February and March 2008 from 170 males (ages 29 years and older), health-care workers who were employed in particular rural health institutions in Jamaica (i.e. Western Regional Health Authority). A listing of all male health workers in the Western Regional Health Authority (i.e. WRHA) was obtained from the institution. The WRHA covers four parishes – Hanover, Westmoreland, St. James and Trelawny. In keeping with a sampling error of ± 3% and a confidence interval of 95%, the calculated sample for selection was 227 males. The sample was stratified by area of work, area of residence, and a table of random numbers was used to select the actual respondents, thereby facilitating independence of response. On occasions when an individual was selected and he could not participate, no other person was used to replace the individual. In cases where the selected person was not available, a minimum of three call-back visits would be made to that person’s place of work.

A 26-item questionnaire was used to collect the data. The instrument was sub-divided into general demographic profiles of the sample; family history; health-seeking
behavior; perception of prostate examination and choice of method in prostate examination.

**Questionnaire reliability and training**

Test-retest reliability of the questionnaire was conducted about a month prior to the main study. The instrument was vetted by academics from the University of the West Indies, Mona, Jamaica. Then 30 respondents who were non-participants in the main study were interviewed on two separate occasions about 7 days apart. The reliabilities were determined by the percentage of agreement. Modifications were made to the final instrument based on the recommendations, queries and issues raised by the participants in order to attain clarity and conciseness of questions.

Members of a graduate class were employed to collect data as field workers. All field workers were trained in interviewing techniques, customer service and data collection over a four week period.

**Exclusion and inclusion criteria**

The criteria for exclusion and inclusion were based on being: (1) male, (2) 29 years and older, and (3) employed to the Western Regional Health Authority. The age of 29+ was chosen because the literature stated that this is the age at highest risk of prostate cancer.

**Data analysis**

The data were double entered using SPSS, verified and cleaned. The response rate was 76.8%, and 2% of the data was lost during cleaning. Data were stored, retrieved and analyzed, using SPSS for Windows (16.0) (SPSS Inc; Chicago, IL, USA). Percentages were used to provide background information on the demographic characteristics of the sample, knowledge of prostate and self-reported information on prostate. Chi-square tests were utilized to examine whether statistical associations existed between non-metric dependent and independent variables. A p-value of 5% (i.e. 95% confidence interval) will be used to determine statistical associations between the variables.

**Measure**

Regional Health Authorities. Decentralization shifted the central government (i.e. Ministry of Health) into four semi-autonomous regional bodies: South-East, North-East, Western, and Southern.

The South-East Region consists of three parishes: Kingston and Saint Andrew, Saint Catherine and Saint Thomas, which represents 47% of the population (in 2002).

The North-East Region comprises the parishes of Saint Ann, Saint Mary and Portland, which is 14% of the population (in 2002).

The Western Region constitutes Trelawny, Saint James, Hanover, and Westmoreland, which represents 17% of the population (in 2002). The Southern Region comprises Clarendon, Manchester and Saint Elizabeth, which represents 22% of the population (in 2002).

Digital rectal examination: This is a procedure in which an examiner inserts a gloved, lubricated finger into the rectum to determine the size, shape and texture of the prostate.

Prostate cancer screening: This is an attempt to determine undetected cancer of the prostate.

Western Health Region Authority: Professionals include doctors, administrators, nurses and public health inspectors. Skilled people mean those who are classified in any groups such as medical technologists or medical records clerks. Unskilled individuals are those in classifications such as porters, security guards and groundsmen.

**Results**

Demographic characteristic of sample

| Table 1 Demographic characteristic of sample          | n  | %   |
|------------------------------------------------------|----|-----|
| **Variable**                                         | n  | %   |
| Area of residence                                    |    |     |
| Hanover                                              | 36 | 21.3|
| Westmoreland                                         | 45 | 26.6|
| St. James                                            | 64 | 37.9|
| Trelawny                                             | 24 | 14.2|
| **Age group**                                        |    |     |
| 29 – 39 years                                        | 2  | 1.2 |
| 40 – 49 years                                        | 122| 74.8|
| 50 – 59 years                                        | 29 | 17.1|
| 60+ years                                            | 10 | 5.9 |
| **Educational level**                                |    |     |
| Primary or below                                     | 17 | 10.3|
| Secondary                                            | 90 | 54.2|
| Tertiary                                             | 59 | 35.5|
| **Occupational classification**                      |    |     |
| Professionals                                        | 72 | 44.2|
| Unskilled                                            | 16 | 9.8 |
| Skilled                                              | 60 | 36.8|
| Casual                                               | 15 | 9.2 |
| **Self-reported knowledge of prostate cancer**        |    |     |
| Yes                                                  | 161| 95.3|
| No                                                   | 8  | 4.7 |
| **Self-reported knowledge of prostate gland location**|    |     |
| Correctly state                                      | 121| 71.8|
| Incorrectly state                                    | 38 | 22.4|
| Did not respond                                      | 10 | 5.8 |
| **Knowledge medium**                                 |    |     |
| Television                                           | 19 | 11.6|
| Radio                                                | 34 | 20.7|
| Medical practitioners – doctor, nurses et cetera     | 5  | 3.0 |
| Print media                                          | 39 | 23.8|
| All the above                                        | 17 | 10.4|
| Other                                                | 50 | 30.5|
| **Reason for not screen for prostate cancer**        |    |     |
| Cost                                                 | 10 | 31.6|
| Availability of lab service                          | 2  | 6.5 |
| Fear of results                                      | 8  | 25.8|
| Other                                                | 2  | 6.5 |
| Non-response                                         | 9  | 29.6|

Digital rectal examination: This is a procedure in which an examiner inserts a gloved, lubricated finger into the rectum to determine the size, shape and texture of the prostate.

Prostate cancer screening: This is an attempt to determine undetected cancer of the prostate.

Western Health Region Authority: Professionals include doctors, administrators, nurses and public health inspectors. Skilled people mean those who are classified in any groups such as medical technologists or medical records clerks. Unskilled individuals are those in classifications such as porters, security guards and groundsmen.
Table 1 presents information on the demographic characteristics of the sample. The sample was 170 respondents: 74.8% of 40 – 49 years old; 54.2% with secondary level education; and 44.2% professionals. Three out of every 4 respondents indicated that they became aware of the prostate cancer screening through the media, as compared to 3% who indicated medical practitioners. When respondents were asked to state what influenced their choice not to have a prostate examination done on them, most of them stated cost (31.6%); availability of lab service, 6.5%; fear of results, 25.8%; other, 6.5%; non-response, 9.7%. Concurrently, when respondents were asked to state what influenced their choice of not doing a digital rectal examination, 20.6% indicated comfort level; 9.4% stated the gender of the health practitioner, 5.3% mentioned fear and others did not respond.

Table 2 highlights the information on self-reported knowledge of the place in the body where the prostate gland is located by either education or occupation. A statistical relationship was found between knowing the location of the prostate gland and education ($\chi^2 (DF = 6) = 13.907, P = 0.031$) and knowing the location of the prostate gland and occupation ($\chi^2 (DF = 6) = 25.338, P < 0.0001$). Respondents who had tertiary level education were most likely to be correct in stating the location of the prostate gland (84.2%) compared to the other educational cohorts. On the other hand, professionals (85.7%) were most likely to correctly state the place in the body in which the prostate gland is located, compared to unskilled (30.8%), skilled (63.2%) or casual workers (66.7%).

Table 3 displays percentage points of respondents’ answers to particular questions on screening practices. Of the valid sample (n=169), 93.5% responded to the question “Have you ever heard about the screening procedure for prostate?” Of those who responded, 71.2% indicated yes. Although 71% were informed about the procedure of prostate screening, only 27.1% had got their prostate checked by a health practitioner.

Table 4 presents information on the last time that an individual had, or had not done, a prostate examination. Of the sample, 15% (n=26) had done a prostate examination and/or digital examination of the prostate gland 2 years ago. Of those who had the examination 2 years ago, 96.5% did not state their choice of method.

**Discussion**

The current research had 35.5% of the sample with tertiary level education; 44.2% were professionals (including doctors, nurses and hospital administrators); 95.3% indicated that they had knowledge of prostate screening; 71.8% correctly stated where the prostate gland is located in the human body; and 27.1% had done a prostate examination. Of those who had done the examination, 56.5% did so at least 2 years ago and 15.2% less than 6 months ago. While only 30.8% of unskilled males in the Western Regional Health Authority were able to correctly classify the location of the prostate gland in the human body, this figure increased to 85.7% among professionals and 84.2% among tertiary males. This begs the question “Why are men like this?”

Limitation of study

The study is not a representation of rural males, and so cannot be generalizable as such. However it provides invaluable insights into Western males’ perceptions on cancer screening.
The issue of males’ reluctance to seek medical care is embedded in cultural explanations. A Caribbean anthropologist provided some justification of the Caribbean male’s attitude using social learning theory to examine the lifestyle practices of boys [24]. He cited that young males who are culturalized to imitate the roles of society members do so by modeling their behavior on that of older males. There is a cosmology that illness is an indicator of weakness, and males are socialized to be strong, which suggests that they are not to display weakness. Ill-health therefore goes to the crux of threatening a male’s manhood. Embedded in the anthropological explanation of males’ unhealthy life style behavior is the culture, which also extends across many other cultures [5-10]. This denotes that the gender roles of the sexes account for many of the health disparities and outcomes between the sexes in the world. Ali and de Muynck [5] found that street children in Pakistan had a similar gender stereotype about health, health care and medical care seeking-behavior based on the severity of the illness and whether the illness interfaces with their economic livelihood. Males’ perception of illness is such that a mild ailment is not severe enough to bar them from physical functioning, and it does not warrant health care-seeking behavior, as this is an indicator of weakness and not merely a question of being ill [6].

Chevannes’ anthropological explanation is embodied in socialization, but a study by Bourne [25] found there was no statistical association between health care-seeking behavior and children and their sex. It follows therefore that parents are not responsible for the males’ unwillingness to seek medical care, as both sexes utilize medical care equally, and this disparity begins after 15 years, when males will seek to establish their identity. If Chevannes’ explanation is justifiable, religion or spirituality plays a critical role in rural males’ low probability for prostate screening.

Although 9 out of every 100 rural males of the sample knew of prostate cancer, the knowledge of where the prostate gland is and the technique associated with it upon examination violate cultural practices and ideology. The inserting of the finger in the rectum is a fundamental rationale which deters many males from seeking to carry out this exercise. Jamaicans are highly homophobic, and this aids in the explanation of males’ unwillingness to have someone, in particular another male, examine or insert a finger in his anus. This is considered to be a violation of his manhood, and clearly education does not remove this cultural barrier. The current study interviewed 36% of tertiary graduates, or 44% of professionals, yet the rate of visits for prostate screening was 27%. When the respondents were asked to state the reason for their unwillingness to have prostate screening, 21% stated the discomfort and 9.4% claimed the sex of the medical practitioner, while over 30% did not respond to the question, which could indicate their strong objection to rectal examination. The present study revealed that 38% of the sample indicated that they had discussed prostate screening with their medical care provider, but only 70.9% had done the examination. The culture is deterring rural health care workers in the Western Regional Health Authority from seeking prostate screening, suggesting the power of early socialization agents such as peer groups and religion in forming people’s perception, practices and choice, and the difficulty of changing this culturalization through education.

A study by Bourne [4] found that health care-seeking behavior did not differ significantly between the sexes in Jamaica, which concurs with a study by Williams et al. [26]. With there being no difference between the percentage of males and females seeking health care in Jamaica, it can be extrapolated from the current study that the strength of culture in Jamaica is rooted in the explanation for males’ unwillingness to seek medical care; that this is across the sexes, and that it strengthens with rectal issues.

There are health behavior theories which have explained the difficulty of changing people’s health behavior. These include Health Belief Model; Theory of Reasoned Actions; Theory of Planned Behavior; Trans theoretical Model and Stages of Change; and Precaution Adoption Process Model. Although these were developed outside of the Caribbean, they provide some explanation for people’s unwillingness to seek medical care and are also applicable to Jamaica. According to Glanz et al. [27], while it is reasonable to assume that a theory such as the Health Belief Model is applicable to different cultures, it is also important to realize that constructs may have to be adapted to make them more relevant to the target culture. Those modifications may be applicable, with some generalizability, to developing nations, but this does not suggest a comprehensive understanding of Caribbean peoples or of Jamaicans.

Although the Health Belief Model did not emerge from data in Jamaica or the wider Caribbean, it has some merits which we examine in this study. This conceptual model is a framework for health behavior. The Health Belief Model (HBM) was developed in the 1950s by some social psychologists in the United States Public Health Service. It was designed to account for the failure of people to become involved in preventative and detection disease programmes [28, 29]; and then it evolved to people’s response to symptoms [30] with a later expansion that entails individuals’ behavior in response diagnosed dysfunctions [31]. Hence, embedded in the HBM are preventative actions, illness behavior, and sick-role behavior, suggesting that dysfunction is the primary focus of this model. Based on the literature and the current findings, males’ perception of health risk and illness is not marginally influencing their health care seeking behavior, suggesting that HBM is not a good fit for the rural males who are employed to the Western Health Authority.

There are many theories (i.e. reasoned action and behavioral intentions) that are applied to individual health behavior-change [27, 32], and these, King and colleagues [33] argued, are less relevant for populations in ‘traditional
communal cultures’. In addition to the limitations identified, King and colleagues opined that HBM and other theories are dominated by Western psychological theories of developed countries, and that they are based on an understanding of the individual’s cognitive process, which omits peoples of developing nations and their cultures. Cohen, Scribner and Farley [34], on the other hand, developed a model for behavior change using structural modeling, which addresses physical structures, social structures, cultural and media messages. Though Cohen and colleagues’ work had broad parameters for public health behavior-change interventions, it has two critical limitations. These models were established for developed nations, and despite modifications for developing countries, they are not developed specifically from data on developing nations or the Caribbean and in particular Jamaica. Second, the model omits to emphasize personality and cognition in public health behavior-change intervention. Elder [32] noted that health communication and learning theories are culturally specific, and are relevant for developing countries. Irrespective of the health behavior theories that have been used by public health practitioners in Jamaica, even among knowledgeable males in rural areas, prostate examination is a difficult decision for male workers of the Western Regional Health Authority. The culture dominates behavior, even among those who are aware of the health choices, which suggests that merely being knowledgeable, rational and well-educated does not indicate high responsiveness to making better health choices when this is affected by fundamental cultural practices, ideology and norms. The price of males’ reluctance to seek care and treat cancers is seen in malignant neoplasm of the prostate accounting for 7.6% of total deaths of males [13], which is the 5th leading cause of mortality for males 5 years and older. Hence, rural workers of the Western Regional Health Authority are obviously fearful of the probability of hearing that they have prostate cancer, and they would rather not know that this is the case. Prostate cancer awareness is clearly not the issue here, as the knowledge level was relatively adequate among the sample, which was the case in another study [35], and cost, fear of results and perception of prostate cancer are among the barriers, as much for rural health workers of the Western Regional Health Authority as for African American men [36].

There is a public health challenge for health practitioners in Jamaica, especially in Western areas, to have men do prostate cancer screening. A recent survey conducted on health and lifestyle behavior found that 20.8% of Jamaicans had done cancer screening [37] compared to 1.3 times more in Western areas (27.1%), indicating the dominance of the culture in deterring men from rectal examination. The present study, unlike that of Wilk et al.’s research, examines rural men in the Western Health Authority Region as well as providing information on knowledge and barriers to screening. Wilk et al.’s study had a section entitled ‘Men’s Health’ and that section only presented statistics on prostate screening. This study is on prostate screening among men in the afore-mentioned geographical areas, but it is not an indicator of men’s health. Men’s health is far wider than a single medical issue, but it provides an insight into men’s perception, attitude, knowledge and practices with regard to rectal examination, and by extension highlights the cultural challenges for public health policy makers to increase the low level of practice among Jamaican men.

Conclusion

The current study is limited in terms of its generalizability to rural males or rural males in Western Jamaica, but it does provide an insight into the difficulty men have in breaking from culture. This speaks to the challenges faced by public health workers to effectively manage human behaviors, and the difficulty of erasing the culture from the sample’s psyche which will have them take reasoned actions. One of the recommendations of this study is a similar study on Jamaicans in order to establish some of the issues that emerged from these findings, and secondly, research on the belief system of Jamaican in order to better guide intervention strategy in the future.

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