Correlation Between Patient Understanding of Health Information on Prostate Diseases and Health Status on Presentation to Hospital

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Abstract

Background: Many countries have poor patient health education and understanding of prostate diseases. The Kenyan situation has not been adequately documented.
Objective: To establish the relationship between sources of health education on prostate diseases and patient health status at presentation to hospital.
Methods: A hospital-based census study was conducted using interviewer-administered questionnaire after ethical approval. Patients who presented to a urology clinic for the first time with prostatism were recruited after they provided informed consent. Collected data were analyzed using the Statistical Package for Social Sciences version 20.0 and statistical significance was set at p≤0.05. **Results:** A total of 126 patients were recruited from July 2016 to June 2018. The three sources of information were Informal sources such as friends and relatives (81%), the Internet (8.7%), and Health Workers (10.3%). Thirty-two (25.4%) patients had health information on prostate and its diseases. The duration of symptoms ranged from 1 month to 4 years. The difference in the proportions of those who presented within the first year of symptoms was statistically significant (p<0.001) for those whose sources were Health Workers (76.7%), the Internet (72.7%), and Informal sources (43.1%).
Conclusion: Health education on prostate diseases is positively correlated with the health status at presentation.

Keywords: Health information, Prostate diseases, Health status, Prostatism, Internet, Health Workers

Introduction

An informed patient with prostate disease is likely to have a better understanding of his problem principally because he will be conversant with the basis of the problem and the need to seek medical attention early enough to preempt complications (1-3). This information might be acquired through a number of ways, including formal schooling or information from sources as the media, peers, health workers, or Internet search (4). The level of exposure to information has been found to correlate with the state of the patient at first presentation to hospital and likely outcome of instituted interventions (5).

Aging men older than 50 years often develop lower urinary tract symptoms due to the enlarging prostate. A combination of age, culture and myths may play a role in what these men know about the prostate disease they end up presenting to hospital with (6). Studies worldwide have shown that, in many countries, understanding of the prostate and its diseases is generally poor. The Kenyan situation has not been adequately documented.

This article explored the sources of health information and how these related to patient health status at

presentation to a tertiary health facility in the western region of Kenya.

Materials and methods

A census study was conducted on men aged 50 years and older presenting to the urology clinic of Moi Teaching and Referral Hospital (MTRH), Eldoret, Kenya, for the first time with prostatitis, benign prostatic hyperplasia, or prostate cancer. The age of the participants was within the scientifically known period when aging men manifest urinary symptoms due to prostate disorders. The 2-year study period was from July 2016 and June 2018. Formal approval was obtained from the Institutional Research and Ethics Committee (IREC) (approval number FAN: IREC 1643). The participants provided informed consent.

These patients were informed about the study and were requested to participate after clinical and investigative assessments revealed diagnosis of one of the three prostate diseases mentioned above. A purposive consecutive sampling was used until the end of the study period.

Data collection was by the author using an interviewer-administered questionnaire. It included the patients' demographics, chief complaints, duration of symptoms, presence of complications, comorbidities, past admission to hospital, and the source of health information on prostate diseases.

The collected data were coded and transcribed into a spreadsheet before being entered into a computer using the Statistical Package for Social Sciences version 20.0 (IBM Corp., Armonk, NY, USA). The data were analyzed by cross-tabulation, correlations, and logistic regression. Discrete data were summarized using frequencies, proportions, and percentages whereas continuous data were presented as means and standard deviations. Statistical significance was set at an alpha of p-value ≤0.05.

Results

There were 165 patients during the study period, but 39 were excluded due to concomitant bladder and urethral pathologies, and finally, 126 patients were included in the study. Their ages ranged from 51 to 88 years, with mean of 67.1±9.7 years. The duration of symptoms ranged from 1 month to 4 years.

The three main sources of health information on prostate diseases were informal sources such as relatives and friends (81%), the Internet (8.7%), and health workers (10.3%). Some (5.7%) of the respondents had multiple sources of health education, but the primary one mentioned was considered among the three sources of information.

Thirty-two (25.4%) patients were aware of prostate diseases, of which 46.7% were aware of more than one disease state. The specific conditions mentioned were enlargement (43.8%), infections (6.3%), and malignancies (3.2%). Those who relied on informal sources of health information accounted for 25% of those aware of prostate diseases. All those who were informed through the Internet or by health workers were aware of prostate diseases.

The patients who actively sought health information prior to getting symptoms of prostate disease accounted for 17.5% of the respondents. Table 1 shows the distribution of patients in terms of source of health information and active search of the information. Most (41%) of those who actively sought information used the Internet.

Patients older than 70 years wholly depended on informal sources for information and did not have any active search of health information prior to manifesting the symptoms. Those in the sixth decade led in both active search for information and Internet use. Age had strong positive correlation with both active search of information and the sources of information (p≤0.001 for both). Those 60 years and younger had modern sources of information, whereas those older had the traditional approach to information through informal sources and word of mouth.

Table 2 shows the level of understanding based on the sources of information. The knowledge on the causes of prostate diseases reflected a widespread understanding of aging and prostate enlargement across the varied sources of information. Those who had health workers as their source of information were the majority among the people who knew of aging and hormonal influence as bases for prostate diseases.

Table 1. Patient distribution in age, active search and source of information

Age Group	Source Of Information				Search Information	
	Informal	Internet	Health Workers	Total	Yes	No
51-60 years	24	10	11	45	20	25
61-70 years	37	1	2	40	2	38
71-80 years	26	0	0	26	0	26
>80 years	15	0	0	15	0	15
Total	102	11	13	126	22	104

Table 3 shows the relationship between the sources of information and the patients' clinical status at presentation to the clinic. Majority of the patients (50.8%) had had symptoms for more than 1 year. The proportions of patients presenting within the first year of symptoms were 43.1%, 72.7%, and 76. 9% for those whose source

Table 2. Patient awareness of and basis for prostate diseases.

Source of Information	Aware Of Prostate Diseases			Basis for Prostate Diseases			
	Yes	No	None	Enlargement	Aging	Hormonal	Total
Informal	8	94	94	5	2	1	102
Internet	11	0	0	6	3	2	11
Health workers	13	0	0	4	5	4	13
Total	32	94	94	15	10	7	126

were informal sources, the Internet, and health workers, respectively, and were statistically significant (p<0.001).

Table 3. Relationship between the source of information and clinical status at presentation

Source Of Information	Duration Of Symptoms				Admission		Comorbidities		Complications	
	≤12 Months	12.1–24 Months	24.1–36 Months	>36 Months	Yes	No	Yes	No	Yes	No
Informal	13	6	25	58	11	91	30	72	9	93
Internet	2	2	4	3	0	11	0	11	0	11
Health workers	6	3	1	3	0	13	0	13	0	13
Total	21	11	30	64	11	115	30	96	9	117

All patients with history of co-morbidity, complications, and a past hospital admission relied on informal sources for information and were not aware of the prostate and its diseases. The patients not aware of the prostate or its diseases accounted for 84.4% of those presenting with symptoms lasting longer than 1 year.

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Discussion

Health information is essential not only for making the patient aware but also for empowering them on health matters (1-3). An informed person would be able to preemptively avoid predisposing factors of diseases as

well as the likely complications that are attendant to delays in seeking medical attention. This is even more important in conditions that are almost always occurring, such as prostate diseases in aging men older than 50 years, who are likely to have prostatism as a

result of enlarged or inflamed prostate and the possible complications involving the urinary tract if neglected (7). According to Mafolo et al., in South Africa, the traditional approach to the aging male's urinary problems to be one of complacence and assumption that it is a part of their aging (3). Such beliefs can only be debunked by scientifically acclaimed information on prostate diseases through health education.

This study established a 25.4% rate of awareness of the prostate and its diseases by patients. It compares well with other studies done elsewhere. Apolone et al. found that Italians had poor knowledge and perception of prostate diseases and did not care about them and are thus not inclined to seek timely medical attention (1). Other studies in Turkey and the USA found that awareness of prostate diseases was low and cut across all levels of education and races (2,3,5,6). People's understanding of the prostate and its diseases is limited, even among a big proportion of health workers across the world (4). Some areas have almost complete absence of knowledge on prostate diseases, with resultant low self-care (6); thus, it is recommended that health education be incorporated into the preventive and interventional care of urological patients with or likely to develop prostate diseases.

The majority of the patients (81%) in this study relied on informal sources of health information. These were mainly the elderly men older than 70 years and those less exposed to modern technology. Mills and Davidson, in their study on sources of health information, quality, and use, found that age was the greatest predictor of the source of information, with the young going for the modern sources while the older ones depending on peers for information (4). This study had similar findings that those younger than 60 years predominantly relied on information from the Internet. Although health workers were found to be the most reliable sources of health information by Haluk et al. (2), other studies showed knowledge gaps in the shared information (8), the need by patients to augment what they had been told by health workers (9), and the use of multiple sources of information (10). This could be due to unavailability of adequate time or lack of training among the health workers in relaying health education. Kenyan public

hospitals are known for heavy workloads and crammed spaces that are not conducive for in-depth teaching on the prostate and its diseases.

There was a 17.5% active search of health information prior to onset of symptoms, principally the Internet. This was by those in the sixth and seventh decades of life. Santos et al. found that the exploitation of the Internet for health information varied from place to place and can be as low as 10% (10), whereas Wolters et al. found that seeking information from the Internet was a greater indicator of seeking healthcare than the influence of symptoms on the patient's daily life (11). Cutili found that patients check information online before consulting health workers (12). With the evolution of the world into a global village, this proportion of patients is likely to increase with time.

The information on prostate diseases that patients know varied based on the sources of information. Those who used the Internet or had multiple sources of information had a wider spectrum of information, ranging from prostate enlargement to the hormonal influence of the health problems. Dutkiewez and Jederzejewska found that the level of education influenced the extent of understanding the basis of prostate diseases (6), and this is in keeping with the study finding that those who had greater exposure knew much more than those who were wholly dependent on informal sources. The use of the Internet in this study might also be an indicator of the finding by Cutili that there is a gradual shift of sourcing information from word of mouth to the Internet (12) and that of Hesse et al.'s that up to 63.7% of people with access to the Internet in America had sought health information either for themselves or others in the preceding 12 months (13).

The effect of knowledge on prostate diseases on patient status at presentation was found to positively correlate with the source and content of information. The proportion of patients presenting within the first year of symptoms was highest in those with an understanding of the prostate and basis for disease. These patients were also free of comorbidities, complications, or past admissions, and this is similar to the findings by Agrawal et al. that the more informed patients tended to be free of comorbidities and complications (14). They

also found that the median duration of symptoms was 1 year; similar to this study's finding that the majority of the patients had had symptoms for ≥1 year. This study has established the positive relationship between sources of information and the health status at presentation to hospital, with the less informed and dependent on informal sources having delayed presentation, complications, and history of past admissions. It might suggest that the findings are influenced by the widespread low level of understanding on prostate diseases not only in Kenya but also in other countries where similar studies have been done and the need to intensify health education on the prostate and its diseases for both preventive and interventional care of urological patients.

Conclusion

There is a positive correlation between health education on prostate diseases and the health status at presentation, with those having modern sources tending to have shorter symptom duration, no complications, and no past hospital admissions.

Study limitations

As a tertiary facility, the MTRH may not have the type of patients that are a true representation of the population in the region and country. It, however, gets non-referral patients, and the referral system in the country and region is not strictly adhered to. Although there are other factors that may influence the health-seeking behavior of patients that were not considered in this study, the problem of inadequate knowledge on prostate diseases and the role of health education on the health status of the patients at presentation have been adequately addressed, and the correlations as well as predictive value of the sources of information have been established.

Recommendation

There is need to improve health education on prostate diseases in order to preempt possible complications due to patient ignorance and delays in seeking medical care.

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