ORIGINAL ARTICLE

Awareness of Prostatism Among Male Patients in Teluk Intan Hospital

S B Zainal, phase IIIA medical student*, K F Quek, PhD*, C Biswajit, FRCS**

*Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya, **Department of Surgery, Hospital Teluk Intan, Perak

Summary

To determine the relationship between socio-demography, knowledge and attitude regarding prostatism among male in-patients in Teluk Intan Hospital. Two hundred respondents were recruited. Questionnaires that consist of demographic data such as age, ethnicity and religion and some question that pertaining knowledge and awareness were used. The questions eliciting symptoms of prostatism were based on the International Prostate Symptom Score (IPSS). 76.0% of the respondents were symptomatic as they presented with prostatic symptoms. The prevalence of asymptomatic cases is higher (6.7%) among the adults whereas the percentage in elderly respondents is higher than the adults in moderate to severe cases ($p<0.001$). Only 10% of respondents have heard about prostatism and mass media is ranked highest as the most preferred source of information regarding this matter with 66.7% preference. About 85.7% of respondents who had a severe score and 18.5% who had a moderate score were dissatisfied with their quality of life due to prostatic symptoms. This study provides a deeper understanding on the prevalence and severity of the prostatic symptoms and its association with the quality of life. It also illustrates low awareness, poor health seeking behaviour and poor knowledge pertaining to prostatism among the study population.

Key Words: Prostatism, Lower urinary tract symptoms (LUTS), International Prostate Symptom Score (IPSS)

Introduction

Prostatism is defined as a clinical syndrome occurring mostly in older men and is usually caused by enlargement of the prostate gland and manifested by irritative (storage) and obstructive (voiding) symptoms[1], sometimes termed as lower urinary tract symptoms (LUTS). There are various conditions that can lead to prostatism such as prostate cancer and bladder calculi, the most common cause being benign prostatic hyperplasia (BPH). BPH, defined as enlargement of the prostate gland of equivalent weight of more than 20 grams in the presence of urinary dysfunction and/or urinary peak flow rate of less than 15 milliliter per second and without evidence of malignancy[2], causes problems that are perceived as being part of the normal aging process, rather than a manifestation of a disease.

Lower urinary tract symptoms can be classified as either voiding or storage symptoms. Storage symptoms include urgency, frequency, nocturia and may be seen in the absence of urinary retention. Voiding symptoms are often associated with lower flow rates and include urinary hesitancy, weak stream force, straining, intermittency, urinary retention and dribbling. In general, LUTS progress in severity over time if left without any medical or surgical intervention. LUTS is both a bothersome and potentially serious condition, which affects the quality of life of a substantial number of men who are middle aged and beyond. Aspects of

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Corresponding Author: Quek Kia Fatt, Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur

quality of life that can be affected include psychological well-being, restriction in their daily and social activities and relationships, anxiety, depression, sexual function and deterioration in general health perception. For example, the affected individuals would restrict visits to public places e.g. mosque, cinema, parks as well as avoid long distance travel and outdoor sporting activities [3].

If left untreated, prostate enlargement can lead to complications such as acute urinary retention (AUR), recurrent urinary tract infection (UTI), upper urinary tract dilatation, bladder stone formation, renal failure, bladder diverticulae, recurrent macroscopic haematuria and most importantly prostatic malignancy. AUR, a common complication of BPH, refers to a sudden inability to pass urine[4-7]. Realizing this, it is paramount to increase awareness and knowledge on prostatism to enable early diagnosis and treatment.

Symptoms of prostatism due to BPH are common with an age specific prevalence rate of 30-50% of men above 50 years of age, increasing to about 80% in men above 80 years of age [8]. From observational studies in Malaysia, BPH appears to follow a similar pattern. There is a strong suspicion among urologists that the prevalence of BPH is higher than has been reported in clinical retrospective and necropsy studies. In the local setting, many clinical studies have been done among the urban population regarding the prevalence of lower urinary tract symptoms with regards to BPH and other related issues[9]. However, until today, no studies have been done among the rural population. We report the preliminary results of a population survey carried out in a well defined rural community with the aim of measuring the prevalence and awareness level of prostatism among men above 40 years of age.

Materials and Methods

The study was conducted at Teluk Intan Hospital, Perak where the populations of male in-patients in the wards were sampled. Sample size was determined using EPI INFO program. Patients were selected by using convenient sampling (consecutive patients who fulfilled the selection criteria detailed in the study). Questionnaires that consist of demographic data such as age, ethnicity and religion and some questions pertaining to knowledge and awareness of prostatism were also included.

The International Prostatic Symptoms Score (IPSS), a measure of clinical change in men is used internationally to evaluate BPH on the basis of the patient's response to seven items- incomplete emptying of bladder, frequency of micturation, intermittency, urgency, weak stream, hesitancy and nocturia. The scale was developed using mainly using western populations and so may not be relevant for men from different ethnic origins. Researchers from the University of Malaya had previously carried out a survey to assess the sensitivity of the IPSS to prostatic changes in Malaysian man and concluded that the scores using the IPSS are reliable[10]. However, since the study population in Malaysia differs culturally and socio demographically, a Malay version of the instrument (IPSS) was created to assess this local population study[11]. The English and Malay versions of IPSS have been widely used in assessing prostatic symptoms in the various clinical settings and have been validated in this country [10, 11].

The inclusion criteria were respondent age $\geq$ 40 years, stable clinical condition and subject literacy (i.e. could understand and be able to answer questions). The respondents were grouped into two categories i.e. the elderly group aged > 55 years and the adult group aged $\leq$ 55 years.

The IPSS is a numerical symptom scoring system which grades the presence of seven symptoms on a discrete scale of 0 (symptom never present) to 5 (symptoms always present). The total IPSS score is the sum of items 1 to 7 (range 0 to 35) according to the severity of symptoms (Table I). Based upon symptom scores, three subclasses were created for the resulting total score: minor (IPSS 0-7), moderate (IPSS 8-19) and severe (IPSS 20-35) symptoms. The seven symptoms are incomplete emptying, increased frequency, intermittency, urgency, weak stream, hesitancy and nocturia. Based on the scales mentioned above, the symptoms are grouped into the following categories according to their scores: 0 – asymptomatic; 1 or 2 – mild; 3 – moderate; 4 or 5 – severe (Table I). Measurement of quality of life was based on the following question: 'If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that?', and the answering scale ranged from 0 (delighted) to 6 (terrible) (Table I).

In this study, the awareness of prostatism was assessed among in-patients in the Teluk Intan Hospital. The subjects were asked about their sources of information if they were aware of prostatism. The sources of information were divided into 4 main groups such as

health personnel, mass media, verbal communication and others. The mass media was further subdivided into television, radio, magazine, newspaper, pamphlets and internet. Assessment of health seeking behaviour for those who were already aware of prostatism was done by asking their action after knowing of having the symptoms, whether they sought for modern or traditional medicine, self-treatment or ignore the symptoms. If they refused to proceed with any action although they were bothered by the symptoms, the main hindrances to the health seeking behaviour were determined viz bashfulness, financial problem, lack of nearby health services, transportation problems or whether thoughts it to be normal aging condition or other possible causes.

The subjects then were further asked about complications of prostatism such as acute urinary retention (AUR), urinary tract infection (UTI), renal failure and prostate malignancy. Questions about the prostate were also asked to check if they knew about prostate.

Statistical analyses were conducted using the SPSS programme version 11.5. Chi square test was used in this study where $p \leq 0.05$ was taken as significant level.

Results

A total of 200 respondents were recruited from the in-patients in Teluk Intan Hospital, based on our defined criteria. Eighty respondents (40%) were grouped into the adult group and 120 respondents (60%) were grouped into the elderly group. There were 110 (55%) Malay, 48 (24%) Chinese and 42 (21%) Indians. Of the 200 respondents, 110 respondents were working whereas 90 respondents were not. As nearly 60% of the respondents are still working, it shows that the majority of our respondents worked beyond the average retirement age of 55 year old in Malaysia.

Level of education and age group

A total of 40% of adults had attained ≥ secondary levels of education compared with only 8% among the elderly ($p < 0.001$). This is in line with the expectation that as a country develops, the level of education attained by the population will increase with each subsequent generation (Table II).

Relationship between age group and IPSS classification

Based on Figure 1, 76.0% of the respondents were symptomatic as they presented with prostatism such as incomplete emptying of the bladder, frequency, intermittency, urgency, weak stream, hesitancy and nocturia. The rest of the respondents were asymptomatic. Thus, the prevalence of prostatic symptoms was high in the study population.

Symptomatology according to the IPSS

We can see from the Figure 1 above that among both the adult and elderly, the prevalence of asymptomatic cases was higher among the adults whereas the elderly respondents were more symptomatic than the adults (mild to severe cases). For those in the mild category, the elderly accounts for 28.3% while the adults, 45.0%. About 38.3% of the elderly respondents had a moderate score compared to the 10.0% patients in the adults. There was a 6.7% difference in the severe score between the two categories. Meanwhile, among those who are asymptomatic, the adults contributed 35.0% which was 18.3% higher than in the elderly category (Figure 1). There was a significant association between the age group and the IPSS score ($p<0.001$). Thus, the severity of prostatic symptoms or IPSS score is directly related with age.

All respondents who were asymptomatic and another 94.3% who had a mild IPSS score were satisfied with their urinary condition. There was no respondent who was dissatisfied in these two categories. About 85.7% of respondents who had a severe score and 18.5% who had a moderate score were dissatisfied with their quality of life due to prostatic symptoms. It is also noted that 40.7% and 5.7% of respondents who had a moderate and mild score respectively had mixed feelings about their current urinary condition (Table III).

Out of the 200 respondents interviewed, only 20 of them (10.0%) were aware of prostatic symptoms. From this dismal result, we discovered that 10.0% each were from both the adults and the elderly category respectively (Table IV).

Sources of information on prostatic symptoms

Most of the respondents obtained their information from the mass media (66.7%) followed by health staff who accounted for 34.0%. Approximately, 25% acquired the information verbally. There were no other sources of information for the respondents in this village.

As sources of information, magazines (50.0%) and newspapers (41.7%) played the most important role in educating the respondents. This was followed by

pamphlets (25.0%). None of the respondents obtained any of their prostate-related information from the radio, television and internet.

Of the 152 respondents who were symptomatic, 60.5% of them sought treatment in which 51.3% preferred modern medications compared to only 7.9% who went for traditional treatment and another 1.3% who self-medicated. The rest of the respondents (39.5%) did nothing with their symptoms for various reasons. This shows that modern medicine was the preferred option for those who sought treatment (Table V).

Figure 2 shows the reasons for non-action by those who did not seek help. These include physiological excuses, lack of health facilities and transportation problems. Other reasons for not doing anything about their symptoms viz lack of time, social stigma, mild symptoms and so on.

Of the 20 respondents who had some knowledge of prostatism, only 20.0% respondents from adult age group gave 2 or more correct answers regarding complications of prostatism (Table VI).

Out of the 200 respondents, only 2% claimed that they knew about the prostate gland and were able to give at least two or more correct answers regarding the prostate gland. It was found that this 2% were all adults.

Table I: The classification of the International Prostate Symptom Score (IPSS)

	Not at all	Less than in 5 times	Less than half the time	Half the time	More than half the time	Almost always
Incomplete Emptying	0	1	2	3	4	5
Frequency	0	1	2	3	4	5
Intermittency	0	1	2	3	4	5
Urgency	0	1	2	3	4	5
Weak stream	0	1	2	3	4	5
Hesitancy	0	1	2	3	4	5
Nocturia	0	1	2	3	4	5
Total score						Max=35

	0	1	2	3	4	5	6
QoL	Delighted	Pleased	Mostly satisfied	Mixed/Neutral	Mostly Dissatisfied	Unhappy	Terrible

Table II: Relationship between level of education and age group among the respondents (n=200)

		Education category				
		No formal education n(%)	Primary education n(%)	Secondary education n(%)	Tertiary education n(%)	Total n(%)
Age group	Adult	4 (5.0)	44(55.0)	28(35.0)	4(5.0)	80(100.0)
	Elderly	40(33.3)	70(58.3)	6 (5.0)	4(3.3)	120(100.0)
		44(22.0)	114(57.0)	32(17.0)	8(4.0)	200(100.0)

χ^2 test, $p<0.001$

Table III: Relationship between IPSS and quality of life (n=200)

		Quality of life			
		Satisfied n(%)	Mix/neutral n(%)	Dissatisfied n(%)	Total n(%)
IPSS	Asymptomatic (0)	48(100.0)	0 (0.0)	0 (0.0)	48(100.0)
	Mild (1-7)	66 (94.3)	4 (5.7)	0 (0.0)	70(100.0)
	Moderate (8-19)	22 (40.7)	22(40.7)	10(18.5)	54(100.0)
	Severe (20-35)	0 (0.0)	4 (14.3)	24(85.7)	28(100.0)
	Total	124 (62.0)	30(15.0)	46(23.0)	200(100.0)

χ^2 tests, $p<0.001$

Table IV: The awareness of prostatic symptoms among the respondents (n=200)

		Awareness		
		Knowledgeable n(%)	Do not know n(%)	Total n(%)
Category	Adult	8(10.0)	72(90.0)	80(100.0)
	Elderly	12(10.0)	108(90.0)	120(100.0)
	Total	20(10.0)	180(90.0)	200(100.0)

χ^2 tests, $p<0.001$

Table V: Health Seeking Behaviour of the respondents (n=152)

	Frequency	Percent
Seek modern treatment	78	51.3
Do nothing	60	39.5
Traditional medication	12	7.9
Self medication	2	1.3
Total	152	100.0

Table VI: Knowledge regarding complications of prostatism (n=20)

		Complication of prostatism		
		2 or more correct answers n(%)	Less than 2 correct answer n(%)	Total n(%)
Category	Adult	4(50.0)	4 (50.0)	8 (100.0)
	Elderly	0 (0.0)	12(100.0)	12 (100.0)
	Total	4(20.0)	16 (80.0)	20 (100.0)

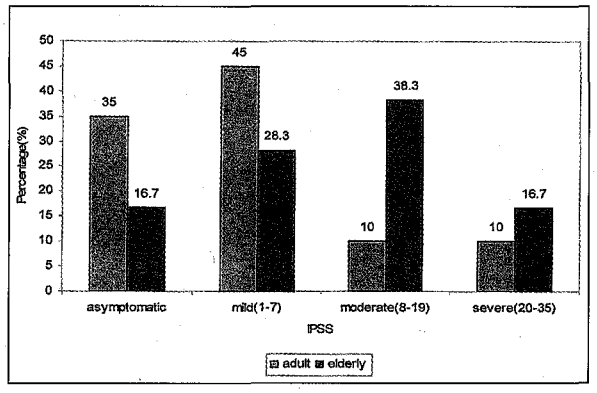

Fig. 1: Relationship between age group and IPSS score (P<0.001)

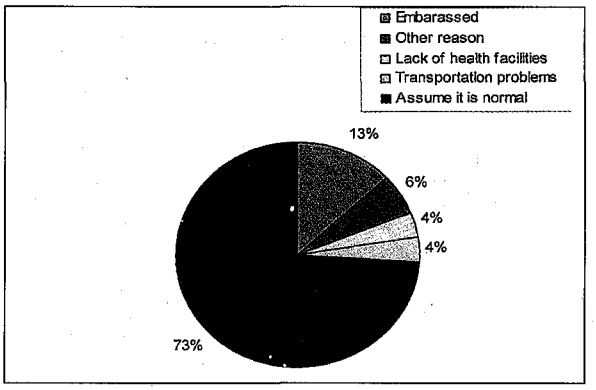

Fig. 2: Reasons for taking no actions regarding prostatism (n=152)

Discussion

More than half of the respondents to the IPSS questionnaire on prostatism were symptomatic, showing that the majority of the 200 men are affected by lower urinary tract symptoms (LUTS). Our results concur with those reported by Quek et al., in the other Malaysian study [12].

We found that prevalence and severity of symptoms correlated directly with age. These are probably due to anatomical, psychological, social and behavioural reasons. As men get older, the size of their prostate glands also increase (benign prostatic hyperplasia, BPH), causing compression of the urethra. Among the elderly, psychological and behavioural factors play an important role as well and these include anxiety, distress, depression, loneliness and attention-seeking behaviour.

The assessment of quality of life has recently been recognized as an important component history in BPH. This study shows that prostatic symptoms appear to have an effect on the quality of life of the respondents. This coincides with the findings obtained from previous studies. Aspects of quality of life that were affected include psychological well-being, restriction in their daily and social activities and relationship, bothersomeness, anxiety, depression, sexual function and deterioration in general health perception. This was also noted in other studies[8]. However, there was a very small percentage of respondents with severe prostatism who were satisfied with their quality of life. The possible explanation for this finding could be that they have adjusted well to their chronic condition. A fairly large percentage of respondents with mild prostatism reported to be satisfied with their quality of life, as expected. With regard to occupation, we found that the symptomatic respondents who were not working seemed to be more dissatisfied with their quality of life.

Despite the fact that BPH is a common condition among elderly men worldwide, the awareness level regarding prostatism among our study population was alarmingly low. This lack of awareness is mainly due to ignorance and lack of information available to this relatively population. As BPH is a condition that is non-acute, non-contagious and non-life threatening, many men tend to regard it as a normal process of aging and do not attempt to seek more information on the matter. Currently, in our country, there is little emphasis placed on male-specific medical health problems such as BPH and prostate cancer. Thus, the amount of information available is scarce and not easily accessed, especially in rural areas.

The main source of information for those who were aware about prostatism appeared to be through the mass media, of which newspapers and magazines were ranked the most popular, followed by pamphlets, internet and lastly television. Newspapers and magazines were most widely read due to their easy availability and relatively inexpensive cost. Furthermore, most health information regarding BPH is distributed via the printed media, as compared to electronic media such as television and radio. The internet, despite being a rich source of information, is not popular in the rural setting since it is new, expensive and still highly inaccessible. Even health

care personnel only contributed to just above one third of the source of information possibly due to the benign nature of this condition which has merited little importance.

The issue of BPH appears to be a grey area, not openly discussed even in schools and among health personnel. On the whole, there is little importance placed on BPH, as can be seen by the limited number of articles, campaigns and health talks. As the Malaysian aging population increases with time, BPH in elderly males will become an emerging healthcare problem. The Ministry of Health should utilize whatever means available to reach out to the public and educate them on this topic.

We had expected the severity of symptoms and the awareness of prostatism to directly influence the decision to seek treatment. As the level of awareness on prostatism is very low overall, we were unable to determine its role in influencing the decision to seek treatment. Furthermore, there was no association between severity of symptoms and the health-seeking behaviour (p=0.574).

Most of our symptomatic respondents chose to not take any actions towards ameliorating their symptoms. The most cited reason was that they believed the condition to be part of the normal process of aging rather than a manifestation of disease. Other reasons cited included the perception that an open discussion of urinary problems, taboo and embarrassing since prostatism did not even hazardous. As for those suffering from mild symptoms, it is likely that they opted to leave the matters alone as the symptoms were not too bothersome. In general, the level of knowledge of prostatism was very low in our respondents. This may due to lack of education especially in the elderly.

Although many regard BPH as a common and harmless condition, it may lead to many serious conditions if left untreated. Complications associated with BPH include acute urinary retention (AUR), recurrent urinary tract infection (UTI), upper urinary tract dilatation, bladder stone formation, acute or chronic progressive renal failure, bladder diverticulae, recurrent macroscopic haematuria and most importantly prostate malignancy. AUR, a common complication of BPH, refers to a sudden inability to pass urine[8,11,12]. For those of us who realize the magnitude of the situation, proactive measures should be taken to combat the lack of awareness and the delay in seeking treatment among the symptomatic population.

Our study has limitations. The respondents may not have given honest answers to questions which they deemed to be rather private or personal. Some might have been afraid to be labeled as ignorant. Apart from that, the sample size surveyed was rather small.

Respondents with a medical history that presents of symptoms suggestive of prostatism were not excluded from the study. Past medical history such as diabetes mellitus, hypertension with usage of diuretics, bladder stones, urinary tract infection and other prostatic problems can present with symptoms that mimic those of prostatism. For instance, presence of bladder stones can cause intermittency; diabetes mellitus can cause nocturia where else hypertension with usage of diuretics can lead to frequency. From this study, the exclusion of lower urinary tract symptoms related to other medical conditions was not performed clinically since the main purpose of this study was to assess the awareness of prostatism.

Since IPSS inventory has been widely used and validated as screening for prostatism, the results in this study probably reflects the true situation. This study did not exclude patients with symptoms related to other associated medical condition. Nevertheless, these respondents need to seek treatment for their condition whether due to actual prostatism or other medically related conditions prostatism.

Conclusion

In conclusion, this study provides a deeper understanding on the prevalence and severity of prostatism and its association with the quality of life in a rural population. It also illustrates low awareness and poor health seeking behaviour among the study population. Thus, the results of this study should spur further research in this area. With an increasingly aging population in Malaysia, proactive measures to disseminate information on BPH and prostatism are priorities in our Public Health Planning

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