
ORIGINAL ARTICLE

Factors Affecting Lower Urinary Tract Symptoms in Elderly Men above 50 years of Age

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ABSTRACT

Objectives: To find out the correlation of the lower urinary tract symptoms with age, fluid intake, economical status, education and area of residence.

Subjects and Methods: One thousand males, above 50 years of age, attending their patients at Services Hospital Lahore, were interviewed with a questionnaire. The questionnaire comprises of International prostate symptom score (IPSS) questionnaire, bothersome score chart, quality of life chart and various questions about their age, drinking habits, economical status, education and area of residence. The persons who were known case of Diabetes mellitus, Congestive cardiac failure, Neurogenic bladder, vesical stone or stone in lower ureter, urinary tract infection, urinary bladder growth or patients who were taking medicine which effect urinary system were excluded from the study.

Results: Lower urinary tract symptoms were common and increased with increase in age. Both bothersome and quality of life were effected with the severity of symptoms. The persons taking fluid before going to bed suffered more with lower urinary tract symptoms although there was no significant difference between the persons taking more or less fluid in 24 hours. There was no significant differences between the prevalence of low income group and high income group, literate and illiterate group and groups according to area of residence.

Conclusion: The high incidence of lower urinary tract symptoms may indicate high prevalence of benign prostatic enlargement, but other causes are also involved. As lower urinary tract symptoms adversely affect quality of life, improved treatment options and increased public awareness of factors affecting lower urinary tract symptoms are needed.

Key words: BPH, LUTS, Quality of life, Bothersome, Prevalence, Factors effecting LUTS.

INTRODUCTION

Lower urinary tract symptoms (such as frequency, urgency, incomplete bladder emptying, intermittency, nocturia, straining and weak stream) are a common affliction of middle-aged and older men. "The prevalence of lower urinary tract symptoms increases linearly with age".¹ Although the symptom of benign prostatic hyperplasia varies considerably amongst men, most diagnosed cases will have some degree of bladder outlet obstruction and lower urinary tract symptoms.^{2,3} However, lower urinary tract symptoms are not necessarily indication of benign prostatic hyperplasia and vice versa, as men may have lower urinary tract symptoms caused by conditions unrelated to the prostate.⁴ Despite high rates of prevalence of

benign prostatic hyperplasia, several studies have reported that urologist see only a fraction of men with clinical symptoms often associated with benign prostatic hyperplasia (for example; urgency, frequency and nocturia) and that many more men may be in need of further assessment and treatment.^{5,6,7}

Objective

To correlate the prevalence of lower urinary tract symptoms with the age, fluid intake, economic status, education and area of residence.

DESIGN OF RESEARCH WORK

Place of Study

The project was conducted and completed at Urology Department, Services Hospital Lahore.

Subject Selection

One thousand males, above 50 years of age, visiting the hospital as attendant to their patients at Services Hospital Lahore were included in this study.

Exclusion Criteria

Following subjects were excluded from the study on history bases,

1. Diabetic patients.
2. Patients of congestive cardiac failure.
3. Patients with neurological deficit.
4. Patients with urinary bladder stone or a stone in lower ureter.
5. Patients with urinary tract infection.
6. Patients with urinary bladder growth.
7. All those patients who were taking medicine which affect the urinary system.

Method

All these subjects were interviewed and a questionnaire was compiled by asking about their lower urinary tract symptoms. The questionnaire was prepared by some modification in the American Urological Association Symptom Score criteria. Moreover they were evaluated about their bother score and their quality of life in relation to these symptoms through questionnaire. The subjects were asked about their age, fluid intake, economic status, education and area of residence. To know about fluid intake the subjects were asked about their daily fluid intake especially before and after going to bed. The economic status of the subjects was evaluated by observing their apparent condition and asking about their monthly income and the family members dependent on them that is per-capita income. The economic status was graded as "low income", and "prosperous" groups. The literacy status was graded as "literate" and "illiterate" by asking whether they can read and write Urdu or not. In the literate group they were further asked about their education (Matric or under Matric, Intermediate, Degree or above). For their area of residence, the subjects were divided into two groups, one was residents of Lahore and other non residents of Lahore. The subjects who were living in Lahore since last one year were called as residents of Lahore. All the data collected was then compiled and prevalence rate was calculated. This prevalence rate was then correlated with the age, dietary habits, economical status, education and area of residence.

Statistical Analysis

Chi square test was used to correlate the lower urinary tract symptoms with fluid intake, economic status, education and area of residence. The level of statistical significance was set at $P = 0.05$, $P < 0.01$ is described as highly significant and $P > 0.05$ is described as insignificant.

RESULTS

In this study 1000 normal males over 50 years of age were evaluated for their lower urinary tract symptoms, fluid intake, economic status, education, area of residence and their trend to see treatment for their lower urinary tract symptoms. Following are the results of all the questions asked.

Fluid Intake In 24 Hours

Wide range of different answers came for this question. So for convenience a point was set on 06 glasses (1500 ml) per day. Then the answer of all the subjects were divided into two groups, persons taking 06 glasses (1500 ml) of fluid or more as "High intake Group" and others taking less than this were placed in "Low intake Group". It was found that 413 (41.3 %) subjects take 1500 ml of fluid or more in 24 hours while 587 (58.7 %) subjects take less than this. Among 413 subjects of high intake group, 217 subjects had lower urinary tract symptoms (52.54 %). Among 587 subjects of low intake group, 320 subjects were suffering from lower urinary tract symptoms (54.5 %). The value of chi square = 0.08 against 1 df from the table gives a p value between 0.9 and 0.7. Since the $p > 0.05$ it is not statistically significant.

Fluid Intake Before Going To Bed

The answer of 147 (14.7 %) subjects was "yes" which means that they take fluid before going to bed, while 853 (85.3 %) persons said that they don't take fluid before going to bed. Among 147 subjects 112 persons were symptomatic (76.19 %) . Among 853 persons 425 persons were suffering from lower urinary tract symptoms (49.82%). The value of chi square = 9.01 against 1 df from the table gives a p value between 0.005 and 0.001. Since $p < 0.01$ it is statistically significant.

Fluid Intake After Going To Bed

Among 1000 subjects, 963 (96.3 %) person said that they did not take fluid after going to bed during last week while 37 (3.7 %) subjects said that, yes

they took fluid after going to sleep during last week. Among 37 subjects, who took fluid after going to bed, 32 persons were symptomatic (86.48 %). Among rest of 963 persons, who do not take fluid after going to bed, 505 persons were suffering from lower urinary tract symptoms (52.44 %). The value of chi square = 4.19 against 1 df from the table gives a p value between 0.05 and 0.025. Since $p < 0.05$ it is significant.

Monthly Income

The subjects were divided in two groups, first having 1000 or more rupees per head per month labeled as "prosperous group", the second one taking less than this "low income group". The prosperous group comprised of 290 (29 %) persons, among them 167 persons were suffering from lower urinary tract symptoms (57.59 %) as shown in figure 13. The low income group comprised of 710 (71 %) persons, among them 370 persons were suffering from lower urinary tract symptoms (52.11 %). The value of chi square was 2.26 against 1df from the table gives a p value between 0.2 and 0.1. Since $p > 0.05$ it is not statistically significant.

Literacy Status

Among 1000 subjects 702 (70.2 %) person were found to be "Illiterate" while 298 (29.8 %) were "Literate". Among 702 illiterate persons, 381 (54.27 %) persons were suffering from lower urinary tract symptoms. Among literate group 156 (52.35 %) persons were suffering from lower urinary tract symptoms. Among these 298 literate persons the qualification of 228 (76.51 %) persons was matric or below matric, 42 (14.1 %) persons were intermediate and 28 (9.4 %) persons were graduate or above.

The value of chi square = 0.06 against 1df from the table gives a p value between 0.9 and 0.7. Since $p > 0.05$ it is not statistically significant.

Area of Residence

All the persons residing at Lahore for last one year were labeled as permanent resident of Lahore. Among all the persons 433 (43.3 %) persons were permanent resident of Lahore while 567 (56.7 %) persons came from other areas. Among the permanent residents, 223 people (51.5 %) were suffering from lower urinary tract symptoms. Among the 667 non residents of Lahore 314 (55.38 %) subjects were suffering from lower urinary tract

symptoms. The value of chi square = 0.66 against 1 df from the table gives a p value between 0.5 and 0.3. Since $p > 0.05$ it is not statistically significant.

DISCUSSION

Life-style modification and watchful waiting are first line treatment in patients suffering from mild lower urinary tract symptoms. However, in literature, there is little evidence about the factors which are affecting lower urinary tract symptoms. Before knowing these factors we cannot modify the lifestyle.^{9,10,11} After close observation some factors were isolated and tried to see their relationship with lower urinary tract symptoms.

There was a weak relationship between lower urinary tract symptoms and daily fluid intake. The number of person who were taking more fluid than their daily requirement were slightly more symptomatic. When they were further explored about their timing of fluid intake then the person who take fluid before and after going to bed were more symptomatic than others and it was statistically significant.

Poverty may be factor in some other symptoms but in, our study, there is no significant difference between the ratio of lower urinary tract symptoms of these two groups (prosperous and low income group). So we can say that the economic status of a person do not affect the lower urinary tract symptoms and the disease is almost equally common in both rich and poor people. Similar findings were observed in the affect of literacy rate and area of residence on lower urinary tract symptoms. More research work is required to explore these aspects of factors effecting lower urinary tract symptoms and to find out more factors which are affecting lower urinary tract symptoms.

REFERENCES

1. Kim JH, Shim SR, Lee WJ, Kim HJ, Kwon SS, Bae JH. Sociodemographic and lifestyle factors affecting the self-perception period of lower urinary tract symptoms of international prostate symptom score items. *Int J Clin Pract.* 2012 Dec;66(12):1216-23.
2. Mahadik P, Vaddi SP, Godala CM, Reddy VV, Sambar VK Factors affecting trial without catheter for first spontaneous acute urinary retention *Int Neurourol J.* 2013 Sep;17(3):121-6.
3. Liu N, Man LB, He F, Huang GL, Wang H, Li GZ, Wang JW, Lü YW Multiple factors related

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- to detrusor overactivity in Chinese patients with benign prostate hyperplasia *Chin Med J (Engl)*. 2012 Nov;125(21):3778-81
4. Barnard RJ, Aronson WJ Benign prostatic hyperplasia: does lifestyle play a role? *Phys Sportsmed*. 2009 Dec;37(4):141-6
 5. Quek KF Factors affecting health-related quality of life among patients with lower urinary tract symptoms *Int J Urol*. 2005 Dec;12(12):1032-6.
 6. Selo-Ojeme D, Pathak S, Aziz A, Odumosu M. Fluid and caffeine intake and urinary symptoms in the UK *Int J Gynaecol Obstet*. 2013 Aug;122(2):159-60
 7. Townsend MK, Jura YH, Curhan GC, Resnick NM, Grodstein F. Fluid intake and risk of stress, urgency, and mixed urinary incontinence *Am J Obstet Gynecol*. 2011 Jul;205(1):73.
 8. Elstad EA, Maserejian NN, McKinlay JB, Tennstedt SL Fluid manipulation among individuals with lower urinary tract symptoms: a mixed methods study. *J Clin Nurs*. 2011 Jan;20(1-2):156-65
 9. Hashim H, Al Mousa R. Management of fluid intake in patients with overactive bladder *Curr Urol Rep*. 2009 Nov;10(6):428-33
 10. Masha Khan, Abdul Latif Khan, Saadat Khan, Haq Nawaz. Benign Prostatic Hyperplasia: mode of presentation and postoperative outcome *J Pak Med Assoc Jan* 2005;55(1):20-3.
 11. Alaettin Unsal, Unal Ayranci, Mustafa Tozun. Prevalence of lower urinary tract symptoms among men in a rural district of western Turkey *Pak J Med Sci Apr - Jun* 2010;26(2):294-9.