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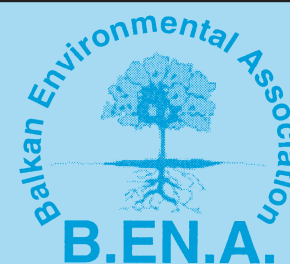
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The decision for the editing and publishing of the current journal was taken on the 1st Balkan Conference ‘Education and Research within the Frame of Sustainable Development’, 19–21 November, 1998, Thessaloniki, Greece, and 2nd Balkan Conference on Industrial Pollution, 19–21 November, 1999, Sofia, Bulgaria, of the representatives of the Balkan countries: Albania, Bulgaria, Greece, Former Yugoslavian Republic of Macedonia, Romania, Turkey and Serbia and Montenegro.

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The Impact Factor for 2020 is 0.577, and the 5-year Impact Factor - 0.598.

Compiled by S. K. Ivanov, Zh. D. Kalitchin, M. I. Boneva, J. P. Ivanova, N. Evtimova, and V. Shishkova.

Journal of Environmental Protection and Ecology (ISSN 1311-5065), Volume 23 (2022) will be published in eight separate books.

Regular subscription rate for 2022 is: EUR 1190/Europe and US\$ 1418/rest, 10% agency discount, plus extra postage charges:

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IMPACT OF SOCIAL STATUS ON THE SEVERITY OF LOWER URINARY TRACT SYMPTOMS IN PATIENTS WITH BENIGN PROSTATIC HYPERPLASIA

M. S. GLAVINOV^{a*}, M. KOCHUBOVSKI^b

^a*University Surgical Clinic “St. Naum Ohridski”, University Ss Cyril and Methodius, Skopje, Republic of North Macedonia*

E-mail: msofronievaska@yahoo.com

^b*Institute of Public Health of the Republic of North Macedonia, University Ss Cyril and Methodius, Skopje, Republic of North Macedonia*

Abstract. Benign prostatic hyperplasia (BPH) is most common chronic disease among male population. Symptoms that appear due to benign prostate enlargement significantly influence patients' quality of life, activities, and psychosocial behaviour. The aim of this study is to evaluate the affection of psychosocial factors on diagnosis and treatment of the patients with benign prostatic hyperplasia (BPH) so a new insight on morbidity and treatment can be reached. The expression of the lower urinary tract symptoms caused by BPH is scored through International Prostate Scoring System (IPSS). We have made a prospective analysis of patients who are looking for urologist opinion for the first time; we quantified their symptoms with IPSS questionnaire and gathered information about patients' social status. Out of 89 patients with BPH symptoms, 47 come from rural areas and lower social status, although other 42 come from bigger cities. Patients from rural areas expressed more severe symptoms due to the longer time from the beginning of the symptoms to the time they seek for specialist opinion. Reasons are patients' habits, more expressed prejudices in accepting the disease and patients' lower education. Organising campaigns for raising the awareness of the patients with BPH symptoms will result with lower morbidity of these patients living in the smaller municipalities.

Keywords: Benign prostatic hyperplasia (BPH), environment, social status.

AIMS AND BACKGROUND

Psychosocial factors, health behaviours, and health care are affected by socioeconomic status¹. In general, persons of higher socioeconomic status are less exposed to health-threatening conditions and have more resources to buffer health threats. Variation in this ability may involve other factors in addition to education, however. In general, the intervening mechanisms that have been studied through which socioeconomic status affects health, such as behaviour risk factors do not entirely account for the effects of socioeconomic status, leaving much of these effects still to be explained². Understanding the various factors that produce socioeconomic health differences in late life is important in the development of health policy. The

* For correspondence.

aim of this study is to evaluate the affection of psychosocial factors on diagnosis and treatment of the patients with benign prostatic hyperplasia (BPH) so a new insight on morbidity and treatment can be reached.

Lower urinary tract symptoms (LUTS) caused by benign prostatic enlargement (BPO) are present in 70% of patients with BPH (Ref. 3). BPH is the most common benign prostate disease that occurs in the adult male population⁴. The prevalence of BPH in the fourth decade of life is only 8%, while 50% of men develop symptoms of the disease between the ages of 51 and 60. Men aged 70 to 79 are 4.6 times more likely to seek medical attention for BPH-related symptoms than men aged 40 to 49 (Ref. 5).

This “male disorder” is the biggest public health concern because it has a high morbidity rate with consequent deterioration in the quality of life of patients suffering from this disease⁶. Progression of BPH is manifested by an increase in prostate volume and a decrease in maximal urethral flow (Q_{\max}). Simultaneously with the progression of symptoms, the risk of acute urinary retention increases, and with it the need for surgical treatment of BPH (Ref. 7). The determination of the progression of the disease in clinical practice, in addition to the above measurements, is also done with the International Prostate Symptoms Score questionnaire (IPSS) (Ref. 6). Early recognition of symptoms and early treatment of BPH patients is of particular importance for maintaining the quality of life of BPH patients⁷⁻⁹.

EXPERIMENTAL

A prospective study was conducted on 89 patients who present for the first time for examination due to symptoms of BPH. We emphasised the time from the onset of symptoms to calling the urologist. The severity of lower urinary tract symptoms (UTIs) was quantified with an IPSS questionnaire and prostate size, and PSA serum level were measured as well. Demographic data (age, living environment, employment status) were collected in the same period. Out of a total of 89 respondents, 47 were from rural areas, while the remaining 42 were from urban areas.

A comparative analysis between groups was performed by Pearson Chi square test, Fischer exact test, Mann Whitney U test in Statistica for Windows 7.0 and SPSS 17.0. As statistically significant we valued $p < 0.05$.

RESULTS AND DISCUSSION

Most of the patients from rural areas sought help only after the symptoms of the disease had significantly worsened as shown in Table 1. As many as 28 of the 47 patients in this environment, or 48.5%, had severe lower urinary tract symptoms such as nocturia, frequent and painful urination, and a feeling of inadequacy. Sixteen patients or 34.1% of the patients from rural areas were found to have

moderate complaints according to the IPSS, and only three (6.4%) called for help due to mild symptoms.

Table 1. Severity of BPH symptoms according to living environment

Severity of LUTS according IPSS	Living environment				<i>p</i> value*
	Rural		City		
	<i>n</i>	%	<i>n</i>	%	
Mild (7–15)	3	6.4	20	47.6	< 0.05
Moderate (16–23)	16	34.1	17	40.5	0.78
Severe (24–35)	28	48.5	5	11.9	<0.05
Total	47		42		

As shown in Table 1, the comparative analysis regarding the severity of LUTS according IPSS, showed significantly higher frequency of patients with severe symptoms in the rural group rather than city group ($p < 0.05$).

In the second group of 42 patients with lower urinary tract symptoms who sought specialist opinion for the first time, the majority, i.e. 37 patients or 81% had mild to moderate discomfort. Of these, 47% had mild symptoms while the remaining 17 patients or 40% had moderate symptoms. Only 5 patients living in urban areas reported severe symptoms according to IPSS.

Comparative analysis regarding the severity of LUTS showed significantly higher frequency of patients with severe symptoms in the rural group rather than city group ($p < 0.05$).

Most patients who had first onset of lower urinary tract symptoms and originating from urban areas, sought specialist opinion in the first three months after the onset of symptoms. In contrast, patients living in rural areas for the most part (59%) waited up to 12 months to seek help and expert opinion ($p < 0.05$) (Table 2).

Table 2. Time passed from the onset of symptoms according to living environment

Time from the onset of symptoms (months)	Living environment				<i>p</i> value*
	Rural		City		
	<i>n</i>	%	<i>n</i>	%	
3	11	26.2	40	85.1	<0.05
6	16	38.2	4	8.5	<0.05
12	25	59.6	3	6.4	<0.05
Total	42		47		

Most of the patients who seek opinion and have more severe symptoms live in rural areas ($p < 0.05$). More severe symptoms of BPH were seen in patients from rural areas with a significantly longer time from onset of symptoms to contacting a specialist. The reasons probably are in the life habits of the patients, the more

pronounced prejudices regarding the acceptance of the disease and the level of education.

Regarding the relationship between the severity of BPH symptoms and social status as shown in Table 3, a total of 37 patients were employed and sought help immediately at the onset of the first symptoms (43%) and intermediate symptoms (32%). Unemployed patients who sought specialist help were 17 or 19% of the total patients analysed and most of them 64% had severe symptoms. Retirees make up the third category of analysed patients and are deaf with 39% in the analysed group. The most common reason for seeking specialist opinion were moderate (45%) and severe (42%) symptoms ($p < 0.05$) (Table 3).

Table 3. Severity of BPH symptoms according to the social status

Severity of LUTS (IPSS)	Employment						<i>p</i> value*
	Employed		Unemployed		Retired		
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Mild (7–15)	16	45.7	1	5.9	4	11.4	<0.05
Moderate (16–23)	12	34.3	5	29.4	16	45.7	0.088
Severe (24–35)	7	20.0	11	64.7	15	42.9	<0.05
Total	35		17		35		

In terms of social status, the largest number of patients with mild symptoms who are employed reported to a specialist more quickly. This is due to the regular annual systematic reviews that are conducted in working organisations. The unemployed, who make up a small part of the examined group, most often call for specialist opinion when they have severe symptoms because they do not have regulated health insurance, and they have a material status that does not allow them private treatment.

In the group of retirees, the predominant were patients who have moderate and severe symptoms of BPH due to the many comorbidities that these patients have and which put them in place before the discomfort of urination ($p < 0.005$). Many of them attribute the discomfort associated with urination to medication taken for other diseases.

When analysing patients with lower urinary tract symptoms who first sought specialist opinion, we found that most patients who seek opinion and have more severe symptoms live in rural areas. More severe symptoms of BPH are seen in patients in rural areas with a significantly longer time from onset of symptoms to contacting a specialist. The reasons probably lie in the patients' life habits, the more pronounced prejudices regarding the acceptance of the disease and the level of education.

Patients' satisfaction is becoming more valuable so do the studies that deliver indirect information for each patient regarding additional factors that influence each illness¹⁰. The recent one regarding socio-economic status related to BPH where

authors expect improvement of quality of life among persons with BPH while increasing information on the possibilities for treating and improving help for workers of industrial and rural production residing in rural areas delivers similar conclusion as our study. The authors as well concluded that among persons with a BPH, the strongest relationship was discovered between profession, level of education, place of residence and quality of life¹¹.

As climate change and global warming have been reported to increase spread of foodborne pathogens, the same changes in human living make changes in disease symptoms, individual perception, and treatment respond¹². The knowledge of environmental influence on diseases appearances and progression is becoming more valuable as in other studies regarding urological pathologic entities¹³. Understanding the various factors that produce psychosocial health differences in late life is important in the development of health policy.

CONCLUSIONS

The living environment of BPH patients, their social status and level of education significantly affect the recognition of the symptoms of the disease. The same factors affect the length of time from the onset of symptoms to seeking specialist opinion and help treating benign prostatic hyperplasia. For these reasons there is a necessity of organising awareness raising campaigns for patients with BPH symptoms in rural municipalities will reduce the morbidity of these patients. Also, routine referral of elderly patients for urological examination will shorten the delay time in these patients, and thus the degree of expression of lower urinary tract complaints.

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Received 23 June 2021

Revised 16 July 2021