

# Mode of administration of international prostate symptom score in patients with lower urinary tract symptoms: physician *vs* self

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International prostate symptom score (IPSS) was claimed to be complicated for patients. The aim of this study was to measure differences in IPSS when introduced by a physician *vs* self-administration. Patients with lower urinary tract symptoms completed two IPSS questionnaires: one self-administrated and the other by a physician 1 week apart. Results with 75 patients in each group suggested that there was no statistically significant difference between patient and physician administration, although the mean scores of patients' administration were higher in both groups. In conclusion, when assessing IPSS before treatment, we found no difference between patient administration and physician administration.

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## Introduction

The accurate establishment of the degree of lower urinary tract symptoms carries vital importance in the diagnostic procedure of benign prostatic hyperplasia (BPH). Consequently, management algorithms have been developed for BPH based on the assessment of symptoms.<sup>1,2</sup> Patients with mild symptoms are suggested to have no treatment even without any need of further investigation. Additionally, the severity of symptoms contemporarily constitutes the most common indication for surgical treatment.<sup>3</sup> Therefore, the accuracy and reliability of symptom scores are essential. International prostate symptom score (IPSS) is currently the standard questionnaire for the objective assessment of lower urinary tract symptoms throughout the world.<sup>4</sup> On the other hand, bother instead of the symptom score related to the lower urinary symptoms should be the key point

in the management of patients. Barry *et al*<sup>5</sup> reported that a certain percent of patients with severe symptom scores had none or little bother. Therefore, most authors believe that the degree to which the patient is bothered is more important than symptom score. It is known that more than a third of all elderly men (and women) have moderate or severe lower urinary tract symptoms, and not all of them should receive treatment.<sup>6</sup> Consequently, the use of measuring bother due to lower urinary tract symptoms in treatment decisions was proposed, and some institutions have stopped routine use of symptom scores owing to restricted utility in dealing with the patient's concerns.<sup>7</sup> Nevertheless, IPSS has been extensively utilised throughout the world with different aims, including treatment algorithms and measuring the efficacy of individual treatment option. However, IPSS has also been claimed to be complex and unclear for the patients. It was observed that about one-third of the patients were unable to complete the questionnaire.<sup>8</sup> Administration of the symptom scores by the physician may be advised to overcome the complexity of IPSS.

The aim of this study was to investigate the difference between patient and physician administration in symptom scoring by IPSS on our patient population.

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## Patients and methods

### Patient selection

The study group consisted of patients over the age of 50 y admitted to our outpatient department due to lower urinary tract symptoms. Other inclusion criteria were first admission to a physician related to lower urinary tract symptoms with the confirmation of the first exposure to the IPSS questionnaire to avoid a possible effect of previous misunderstanding. Therefore, our results are relevant for patients with first exposure to the IPSS. The age, occupation, addresses (rural or urban), and educational level based on the self-report from elementary school education to higher university degree for each patient were also noted.

### Study design

The Turkish version of IPSS validated by Turkish Urological Association was utilised. Patients were prospectively randomised into two groups with respect to the order of administration. In the first group, patients completed the IPSS questionnaires by themselves under the observation of a physician, who provided no help without time limitation in a private room. In the second group, IPSS was administrated by the same physician (Dr BC) to all patients again without any time limitation in a separate room. The physician completely and clearly read in a standard way and provided assistance when needed in order to avoid discrepancy during the procedure and misunderstanding of the questions. After 1 week, IPSS was re-applied to the patients by alternating the route of administrations under the same physical conditions. In the first group, IPSS was re-administrated by the same physician (Dr BC), while the second group was asked to fill the questionnaire with no help under observation. In self-administrated cases, patients were instructed only to mark questions that they clearly understood. Subsequently, patients who completely filled the form in both groups were included in this study. In other words, the patients who did not understand the IPSS form were excluded from the study.

### Data analysis

$\chi^2$  testing to compare demographic characteristics and paired Wilcoxon test was performed to assess the differences between physician administration and patient administration. The Mann-Whitney *U* test was utilised to test the difference between the groups and the effect of the order of administration.

## Results

Patients who were able to complete the IPSS form in both groups were included in this study. Since all patients were initially instructed to mark the questionnaire when they clearly understand, a total of 178 patients who were unable to mark all questions were omitted from the study. The distribution of these patients was 126 patients (71%) from the first (initially self-administrated) group

and 52 patients (29%) from the second (initially physician administrated) group. The mean age of these 178 patients who were omitted from the study was  $61 \pm 4$  y (range 50–82 y). The effect of educational level on the completion of IPSS was remarkable. Most of these patients (87 patients, 49%) who failed to complete IPSS had a lower educational (elementary school) level, while only 28 patients (16%) had a higher educational (university degree) level.

Ultimately, 150 patients were included in this study. The overall mean age of the patients was  $58 \pm 8$  y (range 50–79 y) with the average ages for the first (initially self-administrated) and second (initially physician-administrated) groups being 59.3 and 57.5 y, respectively. The randomisation with respect to the order of administration of IPSS resulted in 75 patients in each group. Both groups were found to be similar regarding the demographic characteristics ( $P > 0.05$ ; Table 1).

The observation of identical scores was remarkably low in both groups, being 10 patients (14%) for the first group and seven patients (10%) for the second group. The median values when IPSS was initially self-administrated were 14 (range 2–34) for the patients and 13 (range 1–34) for the physicians. In the second group, the same figures were 13 (range 2–32) and 13 (range 0–35), respectively (Table 2). On the other hand, the mean total symptom scores when IPSS was initially self-administrated were  $13.4 (\pm \text{s.d. } 7.9)$  for the patients and  $11.7 (\pm \text{s.d. } 8.4)$  for the physicians. In the second group, the same figures were  $12.7 (\pm \text{s.d. } 8.6)$  and  $12.4 (\pm \text{s.d. } 9.3)$ , respectively.

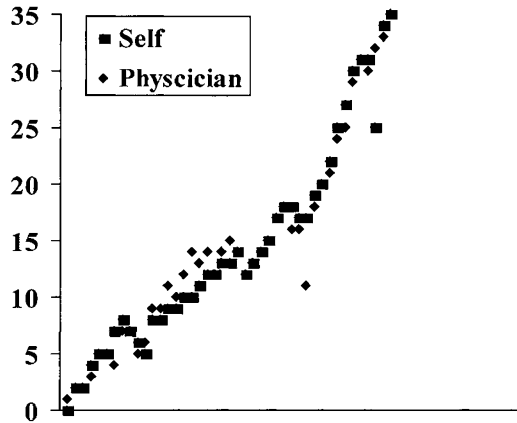
The overall results of both groups suggested that there was no statistically significant difference between patient and physician administration, although the mean scores

**Table 1** Patient characteristics

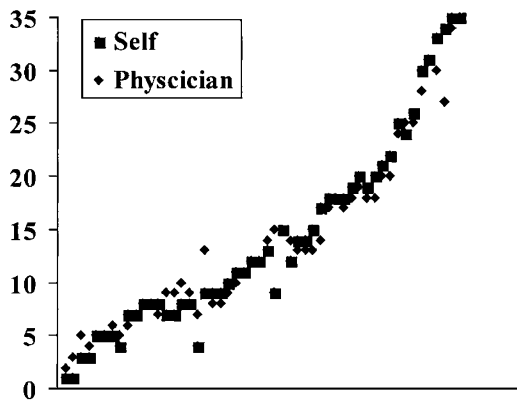
	Self first	Physician first
Age (mean $\pm$ s.d., y)	59.3 $\pm$ 9	57.5 $\pm$ 7
<i>Educational level (number)</i>		
Elementary school	29	29
Secondary school	14	14
High school	17	19
University	15	13
Total	75	75
<i>Residence (number)</i>		
Rural	28	26
Urban	47	49
Total	75	75

**Table 2** Median scores of IPSS with regard to the order of administration (self first versus physician first)

	Way of administration	
	Self Median (range)	Physician Median (range)
Total IPSS score		
Self first	14 (2–34)	13 (1–34)
Physician first	13 (2–32)	13 (0–35)



**Figure 1** Comparison of the total symptom scores according to the way of administration in the self-first group.



**Figure 2** Comparison of the total symptom scores according to the way of administration in the physician-first group.

of patients' administration were higher in both groups ( $P=0.683$  for the first-self group and  $P=0.711$  for the first-physician group; Figures 1 and 2). Additionally, there was no statistically significant difference between these two groups in terms of order of administration ( $P=0.253$ ).

## Discussion

IPSS, developed in 1992 by the Measurement Committee of the American Urological Association, has been tremendously used as the standard tool for the objective assessment of lower urinary tract symptoms all over the world.<sup>5</sup> The aim of the committee was to promote a short and practical questionnaire to assess the degree of severity of the symptoms. However, the complexity of the IPSS has been observed by several authors, which has probably lowered its popularity. It was proposed that a grade 6 reading level according to Spache and Dale-Chall readability formulas is needed to read and understand the AUA symptom score.<sup>9</sup> According to a study by the Gallup Organisation, there was a remarkable reduction in the use of symptom score.<sup>10</sup> Although in 1994, almost all the urologists disclosed being familiar with and using

the symptom score, this was reduced to 59% in 1997. In an interesting study, it was shown that when the patients had been ordered not to mark any question that they did not understand, almost half of the patients failed to complete the questionnaire.<sup>11</sup> Another study performed on 262 patients proposed that about one-third of the patients were unable to understand the questionnaire.<sup>8</sup> An Italian study also suggested that IPSS was difficult to understand, and less than half of the patients were able to fill it accurately.<sup>12</sup> Cockett<sup>13</sup> also stated the complexity of the IPSS. According to his own observation on a black population, only after the third presentation both the patient and physician were convinced about the reliability of the questionnaire. Similarly, our previous observation on 200 patients who self-administrated the questionnaire without any help clearly showed that 29% of our patients could not mark any of the items of IPSS.<sup>14</sup> Additionally, another 44% of the patients could not complete the form because of the difficulty of several questions that they did not understand at all. Nearly 70% of our patients were unable to complete the IPSS when it was self-administrated. Consequently, the educational level of the particular patient, ignorance by the patient, and several other factors may affect the result of the assessment. An incomplete questionnaire was reported to be more common among the patients with lower education in contrast to higher education as 77.5 vs 22.5%, respectively.<sup>11</sup> We also concluded that the percentages of our patients who returned the form totally unmarked were 34 and 14% in patients with lower (elementary school education) and higher (university degree) educational levels, respectively. This is very important for us, since majority (33%) of our patients were in the lower educated group. Furthermore, the ratio of patients with a lower educational level in the omitted 178 patients was more prominent. Since we included patients who could complete or understand the questionnaire by themselves, it took almost 8 months to finish the study, and 178 patients who did not understand the questionnaire were dropped from the study. The main drawback of the physician administration is the possibility of bias. Consequently, the primary objective of the current study was to assess any bias induced by physician administration of IPSS. In order to compare precisely these two different modes of administration, we omitted the patients who did not understand the IPSS. All patients were initially instructed to mark when they clearly understood the items of the questionnaire. A total number of 178 patients found the IPSS complex and could not fill it. Most of these patients had lower education. This finding was in parallel with the previous observations that the completion of IPSS was related to educational attainment.<sup>11</sup> Moreover, such a large number of patients who were not able to fill in IPSS justifies our attempt for physician administration as an alternative. On the other hand, the majority of these 178 patients who could not fill in the questionnaire belonged to the first group with first exposure to IPSS. The ratio of failure in patients of the second group who initially received a physician administration was rather low, but it was not an ignorable figure as almost 30% of the patients with previous physician administration also found IPSS complex.

As a result, all these observations led to the conclusion that IPSS is rather complicated and the results might be

inconclusive. This in turn leads to a need for standardisation in the application of IPSS, which should overcome its complexity. In this regard, the physician may administer the form by providing further information when needed, which constitutes the background of our study.

In similar studies, it was clearly demonstrated that the results were not different when the questionnaire was self-administered or administered with the help of a physician. Plante *et al*<sup>15</sup> supplied similar findings in a comparable study. They prospectively randomised patients with respect to the route of administration, but they obtained two forms in a single visit. However, they also concluded that there was no difference between patient and physician administration, and also the order of administration created no difference. Netto and de Lima<sup>16</sup> also proposed that physician administration of IPSS to illiterate patients did not alter its reliability. Consequently, it was suggested that the results obtained in underdeveloped countries by using the IPSS administered to illiterate people with the aid of professional personnel could be accepted as valuable. All studies, including ours, revealed the lack of physician influence on the information obtained from IPSS, which leads to many clinical implications. Patients can self-administer the IPSS prior to visiting their physicians if they were instructed to mark the questions that were clear to them, which is time saving for busy urologists. However, the physician should ensure the correct format of the response, and in any doubt especially in less educated patients, the physician can apply the IPSS on the basis of our observation in this study. However, it must be stated that the essential point in such questionnaires is the property of self-administration to avoid bias. It is obvious that especially the treatment effects will be exaggerated if the result regarding the symptoms is assessed by the members of the staff who treated the patient. In the light of this fact, the patient should fill the IPSS by himself. However, a physician can administer the score when other solutions are impossible without creating significant hazard as presented in this study. One of the reasonable alternatives to overcome the complexity of IPSS would be to mail the questionnaire to the patients at the time of appointment before they come to the office. Patients may have enough time to think about the questions, or get help from relatives.

In conclusion, IPSS is used throughout the world in the evaluation of BPH and included in the treatment algorithms. It is ultimately essential to use self-administered IPSS to obtain unbiased data. However, it has certain inevitable restrictions originating from its complexity. The results of the current study provided no difference between physician and self-administration of IPSS in a selected group of patients as first exposure to IPSS and exclusion of 178 patients due to the omitted questions. Therefore, the application of IPSS by the

physicians in the initial evaluation may offer a reliable tool in the assessment of lower urinary tracts in certain conditions such as for lower educated patients. However, it should be pointed out that our results are relevant for the patients with first exposure to the IPSS, and further investigations would be needed to propose other applications.

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