Validity and Reliability of Persian Version of International Prostate Symptom Score

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Abstract

Background: In order to use International Prostate Symptom Score (IPSS) in the Iranian population, a valid and reliable Persian version of this questionnaire is required. To date, this version of IPSS with those characteristics is not available. **Methods and Materials:** For evaluation of the validity, the original version of IPSS (English version) was translated into Persian and after 3 weeks was re-translated from Persian to English. The new English form was then compared with the original English IPSS form. Internal consistency was calculated. For measurement of reliability, the Persian version of IPSS was used to interview 50 patients with Benign Prostatic Hyperplasia (BPH). The difference between results was analyzed with a 3 week interval. **Results:** There was no significant difference between English translations and internal consistency was 0.7 using Cronbach's α test. Test-retest reliability was assessed and showed no significant difference between the scores before and after 3 weeks (P value= 0.9).

Conclusion: Persian version of IPSS was proved to be valid and reliable and can be used as a symptom-based questionnaire for BPH in Iranian population. [GMJ. 2013;2(1):18-21]

Keywords: BPH, IPSS, Validity, Reliability

Introduction

Lower urinary tract symptoms due to Benign Prostatic Hyperplasia (BPH) are common with an age specific prevalence of 50-85% in men aged more than 50 years old. The measurement committee of the American Urological Association (AUA) designed a

symptom index (AUA-7) for BPH.^{1,2} In Iranian population, BPH is also common and its prevalence increases with age, from 1.2% in men aged between 40-49 to 36% in men aged >70 years.³ The AUA-7 was recommended by the World Health Organization-sponsored International BPH Consultation, as the official worldwide symptoms assessment tool

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for patients with BPH. Together with an extra component on quality of life (QoL), the AUA-7 was then named the International Prostate Symptom Score (IPSS), which was in turn recommended by the World Health Organization-sponsored International Consultation on BPH as the instrument of choice in the quantification of BPH-related urinary symptoms in clinical trials of treatment modalities for symptomatic BPH.⁴⁻⁶ Revalidations of translated questionnaires along with retesting of reliability are parts of the process for ensuring that data can be reliably compared and aggregated.^{7,8} We performed the current study to assess the reliability and validity of the Persian version of the IPSS in the Iranian population.

Methods and Materials

Validity and reliability of the Persian version of IPSS were assessed through two different methods. First the original questionnaire (English version) was translated into Persian (Farsi) language by our licensed translation group. Following a 3-week delay, the Persian version was translated back into English by another licensed translation group. Then two English questionnaires were compared and no significant difference was seen between them. Consequently, validity of Persian version of IPSS was confirmed. Reliability of the translated questionnaire was studied in a group of patients with BPH. Diagnosis of BPH was confirmed by one urologist in all cases, and was principally based on clinical criteria, including medical history and physical and digital rectal examinations. Patients who had any of the following were excluded from the study: prostate cancer, diabetes mellitus, medical history or physical examination suggesting a neurologic disorder, current prostatitis, cystitis, urinary infection, urethral strictures, kidney stones, psychiatric disorders, previous pelvic trauma or surgery, previous surgical procedures for BPH, permanent bladder catheter, or use of drugs affecting bladder function. First, the patients were interviewed regarding the Persian questionnaire; 3 weeks later they were interviewed again by using the same questionnaires. Total scores and score of each question were recorded. Sample size

was calculated with a level of significance of 0.05 and power of 80%, according to which 50 patients were estimated to be required for the study. Internal consistency of the Persian version of IPSS was assessed by calculating Cronbach's α test. Reliability was assessed by using Student T-test and Paired T test. All statistical analyses were performed using the SPSS-13 software. A P value <0.05 was considered as statistically significant.

Results

A total of 50 patients participated in this study. Mean Age $\pm$ SD of patients was 61.5 ± 8.3 years. Internal consistency for the Persian version of IPSS was 0.7 with use of Cronbach's α test. With regard to stratification of total scores of the 50 patients, 22% (11 patients) had mild symptoms ($0 < \text{Total score} \leq 7$), 61% (30 patients) had moderate symptoms ($7 < \text{total score} \leq 20$) and 17% (9 patients) had severe symptoms ($20 < \text{total score} \leq 35$). Table-1 shows mean total score and each question score in the first interview and 3 weeks later. Test-retest reliability that was assessed using these data, showed no significant difference between the scores before and after 3 weeks (P value=0.9).

Discussion

This Persian version of the IPSS has proved to be valid and reliable among Iranian patients with BPH. Measurement properties of the Persian version of IPSS validated among Iranian

Table-1. Mean $\pm$ SD of total score and each question score in the first interview and 3 weeks later.

Question	Mean scores at first	Mean scores 3 weeks later
1. Incomplete emptying	1.65 $\pm$ 1.7	1.65 $\pm$ 1.7
2. Frequency	1.4 $\pm$ 1.8	1.5 $\pm$ 1.8
3. Intermittency	0.9 $\pm$ 1.8	1.1 $\pm$ 1.9
4. Urgency	1.5 $\pm$ 2.2	1.1 $\pm$ 2.1
5. Weak stream	1.5 $\pm$ 2	1.1 $\pm$ 2.1
6. straining	1.3 $\pm$ 3.2	1.3 $\pm$ 3.4
7. Nocturia	1.8 $\pm$ 3.5	1.6 $\pm$ 3.4
Total score	16.15 $\pm$ 10.1	16.35 $\pm$ 9.4

population were compared with the measurement properties of the original IPSS validated in the United States. The results showed that measurement performance properties of the Persian version approached that of the English version. Matched with the present study, an article in the same setting assessed validation and reliability of Spanish version of IPSS. It showed results with an internal consistency of 0.79.^{9,10} Also, test-retest reliability of that study was assessed in 57 patients and showed that IPSS had an Intra class correlation coefficient (ICC) of 0.87 (P value=0.01) and a Pearson's product moment coefficient of 0.92 (P-value=0.01). Therefore the Spanish version of IPSS was approved valid and reliable.¹¹ In another study on Malaysian population, a total of 50 respondents were enrolled in the validity and reliability study. Internal consistency of the Malaysian version of IPSS indicated a high level of homogeneity among scale items. Test-retest reliability assessed in those patients after 12 weeks, demonstrated a Malaysian version of IPSS intra class correlation coefficient (ICC) of 0.70 (P-value=0.001). Therefore, the validity and reliability of Malaysian version of IPSS was approved.¹² In another study the

Arabic version of IPSS was proved to be valid and reliable for patients with BPH.¹³ Results of their research are comparable with our confirmatory findings for validity and reliability of the Persian version of IPSS. It is important to mention that the IPSS is proven to be a cost effective, sensitive, and specific screening tool for diagnosing and controlling the prostate cancer.¹⁴

Conclusion

Our results confirmed that the IPSS is a favorable, psychometrically robust, symptoms-based instrument that has proved to be suitable for implication in Iranian population.

Limitations

We did not measure sensitivity to changes for this Persian version of IPSS; but in other articles this indicator was measured by use of IPSS before and after a procedure for BPH such as TURP.^{1,2}

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Appendix 1

“Original Version Of IPSS”

		AUA Score					
URINARY SYMPTOMS (SYMPTOM SCORE CRITERIA)		Not at all	Less than 1 time in 5	Less than half the time	About half the time	More than half the time	Almost always
1. Incomplete emptying	Over the past month, how often have you had a sensation of not emptying your bladder completely after you finished urinating?	0	1	2	3	4	5
2. Frequency	Over the past month, how often have you had to urinate again less than two hours after you finished urinating?	0	1	2	3	4	5
3. Intermittency	Over the past month, how often have you found you stopped and started again several times when you urinate?	0	1	2	3	4	5
4. Urgency	Over the past month, how often have you found it difficult to postpone urination?	0	1	2	3	4	5
5. Weak stream	Over the past month, how often have you had a weak urinary stream?	0	1	2	3	4	5
6. Straining	Over the past month, how often have you had to push or strain to begin urination?	0	1	2	3	4	5
7. Nocturia	Over the past month, how many times did you most typically get up to urinate from the time you went to bed at night until the time you got up in the morning?	None	1 time	2 times	3 times	4 times	5 or more times

AUA Symptom Score = sum of questions A1 to A7

QUALITY OF LIFE DUE TO URINARY PROBLEMS		Delighted	Pleased	Mostly satisfied	Mixed—about equally satisfied and unsatisfied	Mostly dissatisfied	Unhappy	Terrible
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?		0	1	2	3	4	5	6

Appendix 2

“Persian Version Of The IPSS”

در طی ماه گذشته:

۱. چند بار اتفاق افتاده که پس از ادرار کردن احساس کنید که مثانه را کاملاً خالی نکرده اید؟
هیچوقت □ کمتر از یک بار از ۵ بار □ کمتر از نصف موارد □ ۲ کمتر از نصف موارد □ ۳ نیمه از موارد □ ۴
۲. چند بار اتفاق افتاده که کمتر از دو ساعت پس از ادرار کردن مجبور شده باشید که دوباره ادرار کنید؟
هیچوقت □ کمتر از یک بار از ۵ بار □ کمتر از نصف موارد □ ۲ کمتر از نصف موارد □ ۳ نیمه از موارد □ ۴
۳. چند بار اتفاق افتاده که در حین ادرار کردن ادرارتان قطع و وصل شود؟
هیچوقت □ کمتر از یک بار از ۵ بار □ کمتر از نصف موارد □ ۲ کمتر از نصف موارد □ ۳ نیمه از موارد □ ۴
۴. چند بار اتفاق افتاده که نتوانید ادرار کردن را به عقب بیندازید؟
هیچوقت □ کمتر از یک بار از ۵ بار □ کمتر از نصف موارد □ ۲ کمتر از نصف موارد □ ۳ نیمه از موارد □ ۴
۵. چند بار اتفاق افتاده که جریان ادرار شما از قبل باریکتر شده باشد؟
هیچوقت □ کمتر از یک بار از ۵ بار □ کمتر از نصف موارد □ ۲ کمتر از نصف موارد □ ۳ نیمه از موارد □ ۴
۶. چند بار اتفاق افتاده که برای شروع ادرار کردن زور بزنید؟
هیچوقت □ کمتر از یک بار از ۵ بار □ کمتر از نصف موارد □ ۲ کمتر از نصف موارد □ ۳ نیمه از موارد □ ۴
۷. چند بار اتفاق افتاده که شب هنگام بخاطر ادرار کردن از خواب بیدار شوید؟
هیچوقت □ کمتر از یک بار از ۵ بار □ کمتر از نصف موارد □ ۲ کمتر از نصف موارد □ ۳ نیمه از موارد □ ۴

ارزیابی کیفیت زندگی:
اگر قرار باشد که بقیه عمرتان را مثل ماه گذشته بگذرانید، چه احساسی خواهید داشت؟
خیلی راضی □ ۱ راضی □ ۲ تقریباً راضی □ ۳ نه خوب نه بد □ ۴ تقریباً ناراضی □ ۵ ناراضی □ ۶ خیلی ناراضی □

جمع امتیازات =