

Validity and Reliability of Punjabi Version of International Prostate Symptom Score

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I. Introduction

Benign Prostatic Hyperplasia (BPH) is the most common cause of Lower Urinary Tract Symptoms (LUTS) in males.¹ In 1992, the American Urological Association (AUA) designed a symptom index (AUA-7) for BPH which was widely accepted.^{2,3} 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.⁴⁻⁶ IPSS has become a cost-effective, sensitive and specific screening tool for BPH. According to Ethnologue 2021, there is 117 million Punjabi speaking people in the world, which makes it the 14th most spoken language of the world.⁷ We performed the current study to assess the reliability and validity of the Punjabi version of the IPSS in the Punjabi speaking population in Western Rajasthan.

II. Materials And Methods

Validity and reliability of the Punjabi version of IPSS were assessed through two different methods. Firstly the original questionnaire (English version) was translated into Punjabi language by our translator. Following a 3-week delay, the Punjabi version was translated back into English. No significant difference was seen between the two English questionnaires. Consequently, validity of Punjabi version of IPSS was confirmed.

To study the reliability of the questionnaire, 50 Punjabi speaking people in Western Rajasthan were asked to answer it twice at an interval of 4 weeks. Diagnosis of BPH was confirmed by a urologist and was based on medical history and physical and digital rectal examinations.

Exclusion criteria: prostate cancer, diabetes mellitus, medical history or physical examination suggesting a neurological 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 Punjabi questionnaire; 4 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 Punjabi version of IPSS was assessed by calculating Cronbach's α test. Test-retest reliability was assessed by using Intra-Class correlation coefficient (ICC).

III. Results

A total of 50 patients participated in the study. Mean Age \pm SD of patients was 66.02 ± 9.2 years. Internal consistency for the Punjabi version of IPSS was 0.78 with use of Cronbach's α test. With regard to stratification of total scores of the 50 patients, 52% (26 patients) had mild symptoms ($0 < \text{Total score} \leq 7$), 44% (22 patients) had moderate symptoms ($7 < \text{total score} \leq 20$) and 4% (2 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 4 weeks later. Test-retest reliability that was assessed using these data, showed no significant difference between the scores before and after 4 weeks (Intraclass correlation coefficient value=0.98).

Table 1: Mean \pm SD of each question and total score of two interviews 4 weeks apart

Question	Mean score	Mean score(4 weeks later)
1. Incomplete emptying	1.38 \pm 1.3	1.38 \pm 1.3
2. Frequency	1.98 \pm 1.4	1.8 \pm 1.2
3. Intermittency	1.08 \pm 1.3	0.98 \pm 1.1
4. Urgency	1.02 \pm 1.1	1.02 \pm 1.1
5. Weak stream	1.26 \pm 1.4	1.24 \pm 1.3
6. Straining	0.9 \pm 1.2	0.8 \pm 1.0
7. Nocturia	2.12 \pm 1.5	2.06 \pm 1.5
Total score	9.74 \pm 6.2	9.28 \pm 5.7

IV. Discussion

This study proves the Punjabi version of the IPSS to be valid and reliable among Punjabi speaking patients with BPH. Measurement properties of the Punjabi version of IPSS validated among Punjabi speaking population in Western Rajasthan were compared with the measurement properties of the original IPSS validated in the United States and the results correlated. A study in the same setting assessed validation and reliability of Spanish version of IPSS and showed internal consistency of 0.79.^{8,9} Test-retest reliability of that study was assessed in 57 patients and showed a Pearson's coefficient of 0.92. Therefore the Spanish version of IPSS was approved valid and reliable.¹⁰ In another study on 50 Malaysian patients, Internal consistency of the Malaysian version of IPSS came out to be 0.79. Test-retest reliability assessed in those patients after 12 weeks, demonstrated a Malaysian version of IPSS intra class correlation coefficient (ICC) of 0.77. Therefore, the validity and reliability of Malaysian version of IPSS was approved.¹¹ In another study the Arabic version of IPSS was proved to be valid and reliable for patients with BPH with Internal consistency of 0.85 and test-retest reliability of 0.88.¹² In another study for validation of Urdu-IPSS, the internal consistency was 0.72 an ICC was 0.92.¹³ Comparing these results with our study, Punjabi version of IPSS can be considered valid and reliable.

V. Conclusion

Our results confirmed that the Punjabi version of IPSS is a valid, reliable, easy to use, symptoms based instrument that can have a vast role in management of BPH in Punjabi speaking population. There is vast population of Punjabi speaking people, not only in India, but also in other countries like U.K., Canada, Australia, U.S.A. etc. who stand to benefit from Punjabi version of IPSS.

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APPENDIX 1

Original version of IPSS

Symptom	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	Your score
1. Incomplete emptying Over the past month, how often have you had a sensation of not emptying your bladder completely after you finish 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 urinated?	0	1	2	3	4	5	
4. Urgency Over the last month, how difficult have you found it 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	
	None	1 time	2 Times	3 Times	4 Times	5 Times or more	
7. Nocturia Over the past month, many times did you most typically get up to urinate from the time you went to bed until the time you got up in the morning?	0	1	2	3	4	5	
Total Score:							
Quality of life due to urinary symptoms	Delighted	Pleased	Mostly Satisfied	Mixed - Equally Satisfied and Dissatisfied	Mostly Dissatisfied	Unhappy	Terrible
If you were to spend the rest of your life with your urinary condition the way it is now, how would you feel about that?	0	1	2	3	4	5	6

APPENDIX 2

Punjabi Version of IPSS

ਲੱਛਣ	ਕਦੀ ਵੀ ਨਹੀਂ	5 ਚੋ 1 ਵਾਰ ਘੱਟ	ਅੱਧੀ ਤੋਂ ਵਾਰ	ਲਗਭਗ ਅੱਧੀ ਵਾਰ	ਅੱਧੀ ਤੋਂ ਵੱਧ ਵਾਰ	ਲਗਭਗ ਹਮੇਸ਼ਾ	ਤੁਹਾਡਾ ਸਕੋਰ
1. ਪੂਰੀ ਤਰ੍ਹਾਂ ਖਾਲੀ ਨਾ ਕਰ ਪਾਉਣਾ ਪਿਛਲੇ ਇੱਕ ਮਹੀਨੇ ਵਿੱਚ, ਤੁਹਾਨੂੰ ਕਿੰਨੀ ਵਾਰ ਇਹਦਾ ਲਗਿਆ ਕਿ ਪਿਸ਼ਾਬ ਕਰਨ ਤੋਂ ਬਾਦ ਵੀ ਮਸ਼ਾਨਾ ਪੂਰਾ ਖਾਲੀ ਨਹੀਂ ਹੋਇਆ?	0	1	2	3	4	5	
2. ਵਾਰ-ਵਾਰਤਾ ਪਿਛਲੇ ਇੱਕ ਮਹੀਨੇ ਵਿੱਚ, ਤੁਹਾਨੂੰ ਕਿੰਨੀ ਵਾਰ ਪਿਸ਼ਾਬ ਕਰਨ ਤੋਂ 2 ਘੰਟੇ ਦੇ ਵਿੱਚ ਦੁਬਾਰਾ ਪਿਸ਼ਾਬ ਕਰਨਾ ਪਿਆ?	0	1	2	3	4	5	
3. ਰੁਕ ਰੁਕ ਕੇ ਪਿਸ਼ਾਬ ਆਉਣਾ ਪਿਛਲੇ ਇੱਕ ਮਹੀਨੇ ਵਿੱਚ, ਤੁਸੀਂ ਕਿੰਨੀ ਵਾਰ ਵੇਖਿਆ ਕਿ ਪਿਸ਼ਾਬ ਕਰਦੇ ਹੋਏ ਪਿਸ਼ਾਬ ਦੀ ਧਾਰ ਰੁਕ ਰੁਕ ਕੇ ਚਲਦੀ ਹੈ?	0	1	2	3	4	5	
4. ਤਾਪ ਪਿਛਲੇ ਇੱਕ ਮਹੀਨੇ ਵਿੱਚ, ਤੁਹਾਨੂੰ ਕਿੰਨੀ ਵਾਰ ਪਿਸ਼ਾਬ ਕਰਨ ਦੀ ਇੱਛਾ ਨੂੰ ਟਾਲਣਾ ਮੁਸ਼ਕਿਲ ਲਗਿਆ ਹੈ?	0	1	2	3	4	5	
5. ਕਮਜ਼ੋਰ ਧਾਰ ਪਿਛਲੇ ਇੱਕ ਮਹੀਨੇ ਵਿੱਚ, ਤੁਹਾਨੂੰ ਕਿੰਨੀ ਵਾਰ ਪਿਸ਼ਾਬ ਦੀ ਧਾਰ ਕਮਜ਼ੋਰ ਲੱਗੀ ਹੈ?	0	1	2	3	4	5	
6. ਚੋਰ ਲਗਾਉਣਾ ਪਿਛਲੇ ਇੱਕ ਮਹੀਨੇ ਵਿੱਚ, ਤੁਹਾਨੂੰ ਕਿੰਨੀ ਵਾਰ ਪਿਸ਼ਾਬ ਕਰਨ ਲਈ ਚੋਰ ਲਗਾਉਣਾ ਪਿਆ ਹੈ?	0	1	2	3	4	5	
	ਕਦੀ ਨਹੀਂ	1 ਵਾਰ	2 ਵਾਰ	3 ਵਾਰ	4 ਵਾਰ	5 ਜਾਂ ਜ਼ਿਆਦਾ ਵਾਰ	
7. ਸੌਣ ਤੋਂ ਬਾਅਦ ਪਿਸ਼ਾਬ ਆਉਣਾ ਪਿਛਲੇ ਇੱਕ ਮਹੀਨੇ ਵਿੱਚ, ਤੁਹਾਨੂੰ ਰਾਤ ਨੂੰ ਸੌਣ ਤੋਂ ਬਾਅਦ ਅਤੇ ਸਵੇਰੇ ਜਾਗਣ ਦੇ ਵਿੱਚ ਲਗਭਗ ਕਿੰਨੀ ਵਾਰ ਪਿਸ਼ਾਬ ਕਰਨ ਲਈ ਉੱਠਣਾ ਪੈਂਦਾ ਸੀ?	0	1	2	3	4	5	
ਕੁੱਲ ਸਕੋਰ:							
ਪਿਸ਼ਾਬ ਦੇ ਲੱਛਣਾਂ ਕਾਰਨ ਜੀਵਨ ਦਾ ਢੰਗ	ਬਹੁਤ ਖੁਸ਼	ਖੁਸ਼	ਜ਼ਿਆਦਾਤਰ ਸੰਤੁਸ਼ਟ	ਮਿਲਿਆ ਜੁਲਿਆ - ਲਗਭਗ ਬਰਾਬਰ ਸੰਤੁਸ਼ਟ ਅਤੇ ਅਸੰਤੁਸ਼ਟ	ਜ਼ਿਆਦਾਤਰ ਅਸੰਤੁਸ਼ਟ	ਨਾਖੁਸ਼	ਬਹੁਤ ਨਾਖੁਸ਼
ਜੇਕਰ ਤੁਹਾਨੂੰ ਆਪਣੀ ਪਿਸ਼ਾਬ ਦੀ ਇਸ ਹਾਲਤ ਨਾਲ ਬਾਕੀ ਜੀਵਨ ਬਤੀਤ ਕਰਨਾ ਪੈਂਦਾ ਹੈ ਤਾਂ ਤੁਸੀਂ ਕਿਸ ਤਰ੍ਹਾਂ ਮਹਿਸੂਸ ਕਰੋਗੇ?	0	1	2	3	4	5	6

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