

# Validity and Reliability of Turkish Version of Quality of Life Scale Specific for Partners of Patients with Benign Prostatic Hyperplasia

## Benign Prostat Hiperlazili Hasta Eşleri Yaşam Kalitesi Ölçeği Türkçe Formunun Geçerlilik ve Güvenilirlik Çalışması

Kamil ÇAM, MD,<sup>a</sup>  
Talha MÜEZZİNOĞLU, MD,<sup>b</sup>  
Ali KAYIKÇI, MD,<sup>a</sup>  
Ömer AYDEMİR, MD<sup>c</sup>

<sup>a</sup>Department of Urology,  
Düzce University Faculty of Medicine,  
Düzce

Departments of

<sup>b</sup>Urology,

<sup>c</sup>Psychiatry,

Celal Bayar University

Faculty of Medicine, Manisa

Geliş Tarihi/Received: 25.02.2009

Kabul Tarihi/Accepted: 05.05.2009

Yazışma Adresi/Correspondence:

Kamil ÇAM, MD

Düzce University Faculty of Medicine,

Department of Urology, Düzce,

TÜRKİYE/TURKEY

kamilcam@hotmail.com

**ABSTRACT Objective:** Current treatment policy in benign prostatic hyperplasia (BPH) mostly targets the symptoms usually assessed by International Prostate Symptom Score (IPSS). Therefore, it is more reasonable to determine quality of life (QoL) of a particular patient affected by these symptoms. Moreover, in such chronic diseases partners of the patients can also severely be disturbed. Consequently, the assessment of QoL of partners of BPH patients may provide valuable information. The objective of this study was to evaluate the validity and reliability of Turkish version of a specific QoL developed for partners of BPH patients. **Material and Methods:** Initially the scale was translated into Turkish. After the establishment of the equivalence of the original version and Turkish version, the reliability analysis was performed. The study group consisted of partners of 200 BPH patients who attended the urology department of two university hospitals with lower urinary tract symptoms. **Results:** Cronbach alpha coefficient of the QoL scale in partners of BPH patients was found to be 0.8718. Item-total correlation coefficients were between 0.3219 and 0.8022 ( $p < 0.0001$ ). The analyses for validity were performed with IPSS values. We performed factor analysis for construct validity, and obtained two factors. The first factor contained symptoms related to daily activities and psychological status, and the second factor was associated with symptoms of physiological status. The correlation coefficient of QoL scale was found to be 0.676 ( $p < 0.0001$ ) with the total IPSS value. **Conclusion:** Turkish version of QoL scale for partners of BPH patients was shown to be reliable and valid.

**Key Words:** Prostate; quality of life; validity; reliability

**ÖZET Amaç:** Benign prostat hiperplazisi (BPH) güncel tedavi kılavuzlarında hastaların "International Prostate Symptom Score (IPSS)" ile semptomlarının şiddetine göre sınıflandırıldığı görülmektedir. Dolayısıyla bu semptomlardan dolayı hastaların yaşam kalitelerinin ne kadar etkilendiğinin bilinmesi ve tedavinin buna yönlendirilmesi daha doğrudur. Bu bağlamda hasta eşlerinin de yaşam kalitelerinin değerlendirilmesi önemli olabilir. Bu çalışmada özel olarak BPH hasta eşleri için geliştirilen yaşam kalitesi değerlendirme ölçeğinin Türkçe formunun geçerlilik ve güvenilirliğinin araştırılması amaçlandı. **Gereç ve Yöntemler:** İlk aşamada ölçeğin Türkçe çevirisi yapıldı. İngilizce orijinali ile Türkçe çevirisi arasında eş değeri saptandı. Güvenilirlik için iki üniversitenin Tıp Fakültesi Üroloji Polikliniklerine alt üriner sistem yakınmaları ile başvuran ve BPH tanısı konulmuş eşlerine yaşam kalitesi ölçeği uygulanan 200 hasta çalışmaya alındı. **Bulgular:** BPH hasta eşlere ait yaşam kalitesi ölçeğinin güvenilirliği Cronbach alfa katsayısı 0.8718 olarak hesaplandı. Madde tüm ölçek korelasyon sayılarına bakıldığında bu değerler 0.3219 ile 0.8022 arasında saptandı. Tüm maddelerin korelasyonu istatistiksel olarak anlamlı bulundu ( $p < 0.0001$ ). Ölçeğin geçerlilik çalışması ise BPH hastalarına uygulanan IPSS sonuçları kullanılarak gerçekleştirildi. Faktör analizinde iki faktör elde edildi. Birinci faktörde gündelik aktiviteler ve psikolojik etkilene, ikinci faktörde fizyolojik etkilene belirtileri belirlendi. Öte yandan ölçeğin IPSS toplam skoru ile korelasyonu ( $r = 0.676$ ) istatistiksel olarak anlamlı bulundu ( $p < 0.0001$ ). **Sonuç:** BPH hasta eşleri yaşam kalitesi ölçeğinin Türkçe versiyonunun güvenilir ve geçerli bir biçimde kullanılabileceği saptandı.

**Anahtar Kelimeler:** Prostat, yaşam kalitesi, geçerlilik, güvenilirlik

**B**enign prostatic hyperplasia (BPH) represents an exceptionally common health issue as it affects majority of elder men. Current policy in the management of BPH targets the relief of symptoms in most situations.<sup>1,2</sup> Therefore, assessment of degree of bother, in other words the quality of life (QoL), due to the symptoms for a unique patient should be more reasonable rather than just having an idea about the symptom severity in the management of BPH.<sup>3</sup> Several studies clearly demonstrated that BPH has a negative impact on QoL.<sup>4,5</sup> It is clear that in chronic diseases partners of the patients can also severely be disturbed even requiring certain medical support.<sup>6</sup> Therefore, the impact of BPH on partners should be an important issue in order to allow physicians to introduce appropriate care strategies also for partners of the BPH patients. Up to date only two similar studies deal with this issue indicating that BPH impairs the QoL of partners.<sup>7,8</sup> The major drawback of the lack of subsequent trials to demonstrate cultural differences in the perception of BPH symptoms by the partners is the fact that there is no well-known specific tool to access QoL of partners of BPH patients.

Sells et al developed and validated a specific questionnaire with 9 items for partners of BPH patients in order to assess their QoL.<sup>7</sup> They reported presence of remarkable morbidity in the partners of patients with BPH. Moreover, they founded that the degree of partner morbidity was related to the severity of the patients' symptoms. Finally they concluded that this new form is acceptable to partners, easy to complete unaided and satisfied suitable psychometric criteria.

The objective of this study was to test the validity and reliability of Turkish version of this particular questionnaire in order to contribute subsequent attempts in assessing QoL of partners of patients with BPH in different cultures.

## **MATERIAL AND METHODS**

### **STUDY GROUP**

The local ethical committee approved the trial. The study group consisted of 200 spouses whose male partners attended the urology outpatient depart-

ments of two university hospitals (Duzce University and Celal Bayar University) due to the presence of lower urinary tract symptoms associated with BPH. Brief clear information about the study procedure and questionnaires used were given to the spouses and a signed informed concept was obtained from all spouses. Inclusion criteria included first exposure to IPSS form. Therefore patients attending a physician for the first time due to presence of BPH associated symptoms were selected. The ones with any disability (blindness, neurological or psychiatric disorder etc.) affecting the filling of questionnaires were excluded from the study. BPH patients were asked to fill out IPSS form, while the female partners were separately requested to complete the specific QoL questionnaire. In any situation, a further explanation was provided by a physician about a particular item when needed. The study was accomplished for about 8 months due to the strict inclusion criteria.

### **DEVELOPMENT OF TURKISH VERSION OF QOL QUESTIONNAIRE**

First, the original questionnaire was separately translated into Turkish by 3 distinct urologists who graduated from schools with English education programs (who had fluent English). Secondly, these 3 translations were carefully compared and each item was discussed to select the best proper item that corresponded the original one. Then, this initial Turkish version was translated into English by a different urologist and a native English speaker. Consequently the final Turkish form was developed through reassessment of these forms by 3 urologists who performed the initial translation. The original and the final Turkish version were presented as Appendix 1.

### **STATISTICAL ANALYSIS**

Factorial validation of the QoL form, its reliability and consistency analysis were carried out using the Statistical Package for the Social Sciences-SPSS for Windows, version 6.00 software. The level of statistical significance used was 5%. Reliability assessment consisted of internal consistency evaluation by the Cronbach alfa reliability test, reliability estimated by the Kappa test and the Pearson correla-

**APPENDIX 1: The original<sup>7</sup> and the final Turkish version of the QoL questionnaires specific for partners of BPH patients.**

## Questionnaire for wives of patients with prostate enlargement.

This questionnaire is designed to see how much your husband's symptoms from his enlarged prostate affect you.

Please read each question carefully and answer by ticking the appropriate answer. Please answer according to your situation at the moment.

1. How many times on average does your husband wake you up each night when he gets up to go to the toilet?

Not at all    Less than once    Once    2 ± 3 times    4 times or more

2. Do you get tired during the day because of being woken up at night?

No    A little    Somewhat    Quite a lot    A great deal

3. Your social life may include seeing friends, going on day trips and your hobbies. Are you limited in these sorts of activities by your husband's urinary symptoms?

No    A little    Somewhat    Quite a lot    A great deal

4. Do your husband's urinary symptoms make it difficult for you to do essential tasks, for example doing the shopping?

No    A little    Somewhat    Quite a lot    A great deal

5. Do you get upset by the distress that your husband suffers because of his urinary symptoms?

No    A little    Somewhat    Quite a lot    A great deal

6. Have you noticed a worsening in your sex life since your husband started having his urinary symptoms?

No    A little    Somewhat    Quite a lot    A great deal

7. Do you worry that your husband's urinary symptoms may be caused by cancer?

No    A little    Somewhat    Quite a lot    A great deal

8. Are you worried about the possibility of your husband needing an operation to make him better?

No    A little    Somewhat    Quite a lot    A great deal

9. How would you feel if you were to spend the rest of your life with your husband's symptoms the way they are now?

Perfectly happy    Pleased    Mostly Satisfied    Mixed (equally satisfied and dissatisfied)

Mostly dissatisfied    Unhappy    Terrible

tion for item-total score correlation. In construct validity, factor analysis was performed using principal components analysis with Varimax rotation. Concurrent validity was evaluated by Pearson correlation test using IPSS.

## RESULTS

### DEMOGRAPHIC PROPERTIES

The mean age of patients with BPH was  $62.9 \pm 7.4$ , and it was  $58.5 \pm 7.4$  for female partners. Almost half of partners of BPH patients were housewife (47%), and majority of these women (87%) was graduated from primary school.

### RELIABILITY TEST

The evaluation of the reliability of QoL scale in assessing partners' burden identified 9 items that correlated with one another and represented the

whole scale ( $\alpha = 0.8718$ ) (Table 1). Alpha coefficients did not change by any item deleted. The correlation coefficients were between 0.3219 and 0.8022, and the correlation coefficient of each item was significant ( $p < 0.0001$ ).

### VALIDATION TEST

In construct validity, the results of the factor analysis of the partner QoL scale yielded two factors (Table 2) representing 64.7% of the total variance. The first factor represented daily activities and psychological aspects, while the second factor was associated with symptoms of physiological status. The correlation coefficients of partner QoL questionnaire were found to be  $r = 0.676$  ( $p < 0.0001$ ) with the total IPSS score,  $r = 0.643$  ( $p < 0.0001$ ) with the irritative symptom score of IPSS,  $r = 0.583$  ( $p < 0.0001$ ) with the obstructive symptom score of

**TABLE 1:** The correlation of items with the whole scale of QoL questionnaire for partners of patients with BPH.

Item	Correlation
1	0.5677
2	0.7400
3	0.6970
4	0.6421
5	0.7057
6	0.3219
7	0.5786
8	0.5457
9	0.8022

Correlations of all items were significant ( $p < 0.0001$ ),

QoL: Quality of life,

BPH: Benign prostate hyperplasia.

**TABLE 2:** The results of factor analysis by principal components analysis with Varimax rotation.

Item	Factor 1	Factor 2
1		0.856
2		0.670
3	0.705	
4	0.746	
5		0.648
6		0.614
7	0.750	
8	0.849	
9	0.604	
Total variance (%)	52.2	12.5

Factor 1: Daily activities and psychological aspects,

Factor 2: Physiological symptoms.

IPSS, and  $r = 0.667$  ( $p < 0.0001$ ) with the QoL score of IPSS.

## DISCUSSION

The main objective in the management of BPH is the relief of symptoms to improve quality of life for each particular patient. Therefore, assessment of BPH related QoL for each case should guide the treatment policy. The evaluation of QoL of partners of BPH may also provide interesting findings. In similar chronic diseases including multiple sclerosis and prostate cancer, QoL of partners of the patients have been reported to be adversely affected.<sup>9,10</sup> The partners of patients with such

chronic diseases can even severely be disturbed, and they may require some support.<sup>6</sup> In literature Sell et al first developed a specific scale for partners of patients with BPH.<sup>7</sup> The current study provided the reliability and validation analyses of Turkish version of this questionnaire. It would be a valuable tool to evaluate the situation of partners of patients with BPH as this disease affects millions of couples. Cultural differences regarding the perception of BPH symptoms across different countries can then be assessed from the point of not only the patient but also his partner.

The results of this present validation study confirmed that the Turkish version of QoL scale developed for partners of BPH patients is reliable and valid. Briefly, the internal consistency of a group of items can be evaluated by the Cronbach alpha test. This type of analysis is a must to know whether these items could result in a measurement scale with the same domain.<sup>11</sup> This test also shows the degree of correlation of an item with a scale and an item with itself. In this study, Cronbach's value was found to be 0.8715 which confirms that this questionnaire has a strong internal consistency. Since, Cronbach's alpha coefficients between 0.621 and 0.885 can be regarded as being excellent.<sup>12</sup> Similarly, the lowest value of Cronbach's alpha coefficient used as reference in clinical studies is 0.7.<sup>13</sup> Thus, the internal consistency found in this current study was valid with an alpha index of 0.8715 which was significantly over than recommended values in clinical studies. Therefore it can be concluded that this Turkish version of partner QoL scale regarding BPH presents the same conceptual domain and its items correlate well with one another, which in turn compose in a true scale. Moreover, the factor analysis revealed two factors; the first one is the daily activities together with psychological aspects, and the second factor represents symptoms of physiological status. These two factors on the other hand correlated well. The values of the QoL scale have a satisfactory correlation with both total IPSS score and different parts of IPSS scores. These findings regarding BPH patients and their spouses confirm that this scale is valid.

This study presents that Turkish version of the specific QoL scale for partners of patients with BPH originally developed by Sells et al is a reliable and valid questionnaire in assessing the degree of burden of women caused by BPH disease affecting their partners. On the other hand, assessment of QoL should not be underestimated since QoL is currently considered for almost every health problem.<sup>14</sup>

In conclusion, contemporary approach in the management of BPH mostly involves relief of symptoms in order to improve QoL of the indivi-

dual patients. BPH was shown to impair QoL of BPH patients. In this regard assessment of QoL of partners of patients with BPH would reveal important data. This study provides the reliability and validity of the Turkish version of a specific QoL scale developed for partners of patients with BPH. This scale then can be used to evaluate QoL of partners of BPH patients on Turkish population as to contribute the attempts in exploring the perception of BPH related symptoms including alterations after treatment in different cultures.

## REFERENCES

1. Garraway WM, Collins GN, Lee RJ. High prevalence of benign prostatic hypertrophy in the community. *Lancet* 1991;338(8765):469-71.
2. Madersbacher S, Alivizatos G, Nordling J, Sanz CR, Emberton M, de la Rosette JJ. EA-U 2004 guidelines on assessment, therapy and follow-up of men with lower urinary tract symptoms suggestive of benign prostatic obstruction (BPH guidelines). *Eur Urol* 2004;46(5):547-54.
3. Chapple CR. The total approach in lower urinary tract symptoms/benign prostatic hyperplasia (LUTS/BPH) management: introduction and conclusions. *Eur Urol* 2003;2(7):1-5.
4. Ushijima S, Ukimura O, Okihara K, Mizutani Y, Kawauchi A, Miki T. Visual analog scale questionnaire to assess quality of life specific to each symptom of the International Prostate Symptom Score. *J Urol* 2006;176(2):665-71.
5. Trueman P, Hood SC, Nayak US, Mrazek MF. Prevalence of lower urinary tract symptoms and self-reported diagnosed 'benign prostatic hyperplasia', and their effect on quality of life in a community-based survey of men in the UK. *BJU Int* 1999;83(4):410-5.
6. Hodgkinson K, Butow P, Hunt GE, Wyse R, Hobbs KM, Wain G. Life after cancer: couples' and partners' psychological adjustment and supportive care needs. *Support Care Cancer* 2007;15(4):405-15.
7. Sells H, Donovan J, Ewings P, MacDonagh RP. The development and validation of a quality-of-life measure to assess partner morbidity in benign prostatic enlargement. *BJU Int* 2000;85(4):440-5.
8. Mitropoulos D, Anastasiou I, Giannopoulou C, Nikolopoulos P, Alamanis C, Zervas A, et al. Symptomatic benign prostate hyperplasia: impact on partners' quality of life. *Eur Urol* 2002;41(3):240-4.
9. Knight RG, Devereux RC, Godfrey HP. Psychosocial consequences of caring for a spouse with multiple sclerosis. *J Clin Exp Neuropsychol* 1997;19(1):7-19.
10. Kornblith AB, Herr HW, Ofman US, Scher HI, Holland JC. Quality of life of patients with prostate cancer and their spouses. The value of a data base in clinical care. *Cancer* 1994;73(11):2791-802.
11. de Lucena LB, Kosminsky M, da Costa LJ, de Góes PS. Validation of the Portuguese version of the RDC/TMD Axis II questionnaire. *Braz Oral Res* 2006;20(4):312-7.
12. Ostermann T, Büssing A, Beer AM, Matthiessen PF. The Herdecke Questionnaire on Quality of Life (HLQ): validation of factorial structure and development of a short form within a naturopathy treated in-patient collective. *Health Qual Life Outcomes* 2005;3:40.
13. Cohen J. A coefficient of agreement for nominal scales. *Educ Psychol Measurement* 1960;20(1):37-46.
14. Ozturkcan S, Aydemir O, Inanir I. [Life quality in patients with acne vulgaris]. *Turkiye Klinikleri J Dermatol* 2002;12(3):131-4.