

THE INDONESIAN LINGUISTIC VALIDATION OF THE URETERAL STENT SYMPTOMS QUESTIONNAIRE

¹Christiano Tansol, ¹Bambang S. Noegroho, ¹Ferry Safriadi, ²Wildan Sani.

¹Department of Urology, Faculty of Medicine/Padjajaran University, Hasan Sadikin General Hospital, Bandung.

²Department of Urology, Dustira Hospital, Bandung.

ABSTRACT

Objective: To validate the Indonesian version of the ureteral stent symptoms questionnaire (USSQ) for patients with indwelling ureteral stents. **Material & Methods:** The Indonesian version of the USSQ was developed following a well-established multistep process by two urologists and two independent translators. A total of 38 patients with indwelling temporary unilateral ureteral stents completed the Indonesian USSQ. Patients completed questionnaires at 1 week after stent insertion and 1 week after stent removal. The reliability of the Indonesian version was evaluated for internal consistency using Cronbach's alpha test. Domain structures were examined by interdomain (section) associations using Spearman's correlation coefficient (r). Sensitivity to change of each domain was assessed using Wilcoxon test. **Results:** Urinary, pain, general health, work performance and additional problem showed good internal consistency whereas sexual problem and global quality of life displayed low consistency. There were strong correlations of urinary symptoms with body pain ($r=0.633$) and general health ($r=0.686$), moderate correlation with work performance. In addition there was also strong correlation between body pain and general health ($r=0.723$). Sensitivity to change were significant to all domain except sexual matters domain. ($p<0.001$). **Conclusion:** The Indonesian USSQ is reliable and can be utilize as a tool to investigate symptoms and to assess quality of life related issues due to ureteral stents in Indonesian patient.

Keywords: Ureteral stent symptoms questionnaire, ureteral stent, Indonesian validation, questionnaire.

ABSTRAK

Tujuan: Untuk validasi ureteral stent symptoms questionnaire (USSQ) versi bahasa Indonesia pada pasien-pasien yang memakai stent ureter. **Bahan & Cara:** Ureteral stent symptoms questionnaire (USSQ) versi Indonesia dikembangkan oleh dua orang ahli urologi dan dua orang penerjemah independen. Sebanyak 38 pasien dengan stent ureter unilateral telah mengisi kuesioner USSQ versi Indonesia. Kuesioner diisi 1 minggu setelah stent dipasang dan 1 minggu setelah stent dilepas. Tingkat kepercayaan versi Indonesia diuji konsistensi internal dengan menggunakan uji Cronbach's alpha. Struktur domain diuji hubungannya dengan interdomain dengan uji koefisien korelasi Spearman. Sensitivitas perubahan tiap domain diuji dengan uji Wilcoxon. **Hasil:** Proses berkemih, nyeri, keadaan umum, aktifitas kerja, dan permasalahan tambahan menunjukkan konsistensi internal yang baik, sedangkan masalah seksual dan kualitas hidup global menunjukkan konsistensi yang buruk. Terdapat korelasi yang kuat antara keluhan berkemih dengan nyeri tubuh ($r=0.633$) dan keadaan umum ($r=0.686$), untuk aktifitas kerja menunjukkan korelasi sedang. Sebagai tambahan, didapatkan pula korelasi kuat antara nyeri tubuh dan keadaan umum ($r=0.723$). Sensitivitas perubahan didapatkan signifikan pada setiap domain kecuali pada domain masalah seksual ($p<0.001$). **Simpulan:** Kuesioner USSQ versi Indonesia sudah teruji dan dapat digunakan sebagai alat untuk memeriksa gejala-gejala dan menilai kualitas hidup pada pasien-pasien yang terpasang stent ureter di Indonesia.

Kata Kunci: Ureteral stent symptoms questionnaire, stent ureter, validasi Indonesia, kuesioner.

Correspondence: Christiano Tansol; c/o: Department of urology, Faculty of Medicine/Padjajaran University, Hasan Sadikin General Hospital, Bandung. Jl. Pasteur No. 38 Bandung. Phone :+62222039141. Mobile phone: +6282111698101. Email: tansol@gmail.com.

INTRODUCTION

Indwelling ureteral stent placement has been a common endourology intervention.¹ Since its

first description four decades ago, indications and usage have evolved tremendously.² However adverse effects of the procedure are cumbersome.³ Evaluation of stent symptom related problems have

been made possible by the formulation of Ureteral Stent Symptom Questionnaire (USSQ) in 2003. This self-report questionnaire is well developed and reliable, moreover has been translated and validated to several languages.^{2,4,5}

Indonesia is the fourth most populous country with estimated 260 million population and annual population growth of 1.17%,⁶ improvement in health care coverage contributes to the increase of urology patient and the need of baseline information of stent related symptoms.

OBJECTIVE

This study was conducted to validate the Indonesian version of the Ureteral Stent Symptoms Questionnaire (USSQ) for patients with indwelling ureteral stents subsequently as a landmark study for further research regarding stent related symptom in Indonesia.

MATERIAL & METHODS

Following the guidelines for cross-cultural adaptation of health-related quality of life measures, the original USSQ was formulated.⁷ It was a multi-step process that was started by translation to Indonesian by a professional translator. Hereafter, the draft was reviewed by two urologists (second draft). Finally the second draft will be back-translated into the original native language by different professional translator and was compared to the original USSQ. Any disagreement were discussed with the end result of preliminary Indonesian USSQ.

Indonesian USSQ would be pilot tested to 5 patients with aim to inquire its clarity, appropriateness and ambiguity. No difficulty was observed during the pilot test, therefore the Indonesia USSQ was finalized and used in the study.

Study was conducted prospectively with approval of ethic committee. Patients with unilateral indwelling ureteral stent (Indovasive™ 4.7F) of variable length according to patient's height. Exclusion criteria were urinary tract infection associated with the procedure, consumption of alpha blocker for enlargement of benign prostatic enlargement, overactive bladder with antimuscarinic medication treatment, obstruction due to malignancy complicated ureterorenoscopy, chronic use of analgesic and insufficient language skill.

The Indonesian USSQ was answered one week after ureteral stent placement and 1 week after stent removal. Ureteral stent was indwelled 30 days.

Statistics analysis was used to perform and significance level was set at $p < 0.05$.

Patient's characteristic were assessed using descriptive statistics. Reliability was tested by internal consistency (Cronbach α test) for each domain. Interdomain association was examined using Spearman's correlation coefficient (r) and lastly sensitivity to change was analyzed by comparing scores indwelling with after removal stent using Wilcoxon's test.

RESULT

This study included 38 patients with indwelling ureteral stents. Table 1 presents the characteristics of patients with indwelling ureteral stents. The mean of patient age was 45.23 (± 10.097) years old. The proportion of males was 21 (55.3%) and the proportion of females was 17 (44.7%). The educational level of majority patient comprised of high school with 32 patients in total (82.4%). The job profiles of patients in this study were 21 patients (55.26%) employed (14 patients (36.8%) were full time employers and 7 patients (18.42%) were part time employers), and 17 patients unemployed. Meanwhile, from the history of sex life, 15 patients (39.4%) were found to have active sex life.

Table 1. Characteristics of study subjects.

Variable	N=38
Age	
Mean \pm Std	45.23 \pm 10.097
Median	46.000
Range (min-max)	23.00-65.00
Sex	
Male	21 (55.3%)
Female	17 (44.7%)
Level of education	
Primary school	4 (10.5%)
Middle school	2 (5.3%)
High school	32 (84.2%)
Job Profile	
Employed	21 (55.26%)
Unemployed	17 (44.74%)
Sex Life	
Active	15 (39.47%)
Not active	23 (60.52%)

Cronbach's Alpha internal consistency reliability test (Table 2) showed excellent results in most domains, which were above the value of 0.7 except for sexual and quality of life domains (GQ).

Table 2. Cronbach's alpha internal consistency test.

Domain	Cronbach's alpha *
Urinary tract symptoms	0.872
Bodily pain	0.882
General health	0.902
Job performance	0.834
Sexual problems	0.015
Additional problems	0.813
GQ	0.162

*) Internal consistency CI 95%

Inter-domain association (Table 3) with Spearman's test showed that urinary tract symptoms were positively and significantly correlated with bodily pain, general health, job performance and GQ, but not significantly correlated with sexual problems. Bodily pain was positively and significantly correlated with urinary tract symptoms, general health and GQ. Whereas sexual problems were positively but not significantly correlated with urinary tract symptoms, bodily pain and general health.

In situ and post removal USSQ domains score change test (Table 4) showed that there was a significant difference between groups in urinary tract symptoms, bodily pain, general health, job performance, and GQ domains.

Meanwhile, sexual problems domain did not point out any significant difference, with mean not far different between in situ and post removal.

Table 3. Correlation test between domains (Inter-domain correlation).

Variable	Urinary tract symptoms	Bodily pain	General health	Job performance	Sexual problems	GQ
Urinary tract symptoms	1	0.633 (<0.001)	0.686 (<0.001)	0.458 (<0.001)	0.216 (0.061)	0.608 (<0.001)
Bodily pain	0.633 (<0.001)	1	0.723 (<0.001)	0.146 (0.209)	0.055 (0.639)	0.355 (0.002)
General health	0.686 (<0.001)	0.723 (<0.001)	1	0.064 (0.581)	0.030 (0.800)	0.506 (<0.001)
Job performance	0.458 (<0.001)	0.146 (0.209)	0.064 (0.581)	1	0.374 (0.001)	0.274 (0.017)
Sexual problems	0.216 (0.061)	0.055 (0.639)	0.030 (0.800)	0.374 (0.001)	1	0.118 (0.308)
GQ	0.608 (<0.001)	0.355 (0.002)	0.506 (<0.001)	0.274 (0.017)	0.118 (0.308)	1

Pearson's correlation CI 95%

Table 4. Sensitivity to change.

Variable	Group		p-value*
	DJ stent In situ (Pre)	Post Aff stent (Post)	
N of subjects	38	38	
Urinary tract symptoms	24.28 \pm 7.475	15.94 \pm 6.448	0.000**
Bodily pain	14.94 \pm 5.234	10.21 \pm 6.308	0.001**
General health	13.18 \pm 4.848	7.84 \pm 4.233	0.000**
Job performance	4.10 \pm 3.875	2.31 \pm 2.761	0.003**
Sexual problems	2.89 \pm 3.711	1.86 \pm 2.268	0.113
GQ	4.65 \pm 1.632	2.81 \pm 1.291	0.000**

*) Wilcoxon test CI 95%

DISCUSSION

Indwelling ureteral stent insertion was a procedure which has been done for over four decades. This procedure also became more popular and was one of the armamentaria in urology field. Knowledge and technological development also implicated in the development of indwelling ureteral stent technology. Nevertheless, symptoms resulted from indwelling ureteral stents were still complained by a lot of patients.

Joshi et al., published Ureteral Stent Symptom Questionnaire (USSQ) in 2003 purposed for evaluating symptoms and impacts of ureteral stent insertion on patient's quality of life.² This questionnaire has become a gold standard for the evaluation of symptoms caused by indwelling ureteral stents. This questionnaire consisted of 38 questions divided into six domains. Those six domains were urinary tract symptoms, pain, general health, additional problems, job performance, sex life and quality of life. Urinary tract symptoms, pain, general health and additional problems domains were thought to be problems resulted from the stent.⁵

Internal consistency was assessed using Cronbach's α test. The test results showed good results in urinary tract symptoms, bodily pain, general health, job performance and additional problems domains. Similar results were also obtained in the study of USSQ validation in Italian, Korean, Spanish and Arabic languages. This might be a contribution of high discriminative force and good psychometry from the English version of USSQ. The other factors that might also contribute were good translation process, multistage, and involvement of forward and backward translations.⁵ However, the consistency result in sex life was low. This could be resulted from low total of patients who were sexually active in this study.

Correlation test between domains gave a good reflection in almost all domains with some exceptions that were related with sexual problems and job performance domains. This might be caused by the proportion of unemployed patients and the inactive sex life. Similar results were found in the study of Arabic version of USSQ validation.⁵ In situ and post removal USSQ domain score change test also supported significant correlation, although significant change in sexual problems score was not found. This could be resulted from sexual problems

which took longer to function normally compared to the other functions and physiological activities.⁸

Level of education that was relatively low compared to other countries performing USSQ validation test could contribute in different results from several benchmark studies. Moreover, no tool for assessing Indonesia language fluency has been found so that some sensitive domains like sex life might contribute in different results.

CONCLUSION

The Indonesian version of USSQ is a reliable and valid instrument to measure stent related symptoms. Indonesian version USSQ will be encouraged to be used to assess the impact of indwelling ureteral stent in future studies.

REFERENCES

1. Chew BH, Knudsen BE, Denstedt JD. The use of stents in contemporary urology. *Curr Opin Urol*. 2004; 14: 111-5.
2. Joshi HB, Newns N, Stainthorpe A, MacDonagh RP, FX Keeley Jr, Timoney AG. Ureteral stent symptom questionnaire: Development and validation of a multidimensional quality of life measure. *J Urol*. 2003; 1060-4.
3. Joshi HB, Stainthorpe A, Mac Donagh RP. Indwelling ureteral stents: Evaluation of symptoms, quality of life and utility. *J Urol*. 2003; 1065.
4. Olvera-Posada D, rez-Santos MS, Castillejos-Molina R, Gabilondo-Navarro F, Me'ndez-Probst CE. Validation of the Spanish version of ureteral stent symptom questionnaire: Prevalence of symptoms in a tertiary care center in Mexico. *Journal of Endourology*. 2013; 28: 377-82.
5. El-Nahas AR, Elsaadany MM, Tharwat M. Validation of the Arabic linguistic version of the ureteral stent symptoms questionnaire. *Arab Journal of Urology*. 2014; 12: 290-3.
6. BPS - Badan Pusat Statistik; 2017. Available from <https://www.bps.go.id/>. Accessed 10th September 2017.
7. Guillemin F, Bombardier C, Beaton D. Cross-cultural adaptation of health-related quality of life measures: Literature review and proposed guidelines. *J Clin Epidemiol*. 1993; 46: 1417-32.
8. Giannarini G, Keeley FX Jr, Valent F. Predictors of morbidity in patients with indwelling ureteric stents: Results of a prospective study using the validated ureteric stent symptoms questionnaire. *BJU Int*. 2011; 107: 648-54.