RESEARCH ARTICLE

The Indonesian linguistic validation of the urinary stent related health questionnaire

Dikes Simanjuntak*

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ABSTRACT

Background: Double J Ureteral Stent (DJUS), also known as double pigtail stent, is now the most often utilized stent type in urology. Double J Stenting (DJS) is a common intervention in endourology. However, complaints due to stenting are still felt and experienced by patients who are stented. UriSteRH is claimed to be a very simple tool with 11 questions in 7 domains and highly effective. This tool is still new and rarely used, so it needed to be translated and validated into Indonesian.

Purpose: To validate the Indonesian version of the Urinary Stent Related Health (UriSteRH) questionnaire.

Methods: The Indonesian version of the UriSteRH was developed with multistep process by two nursing lecturer and two independent translators. A total 13 patients with indwelling DJ Stent completed the Indonesian UriSteRH questionnaires on the 30th day after stenting. The reliability of the Indonesian version was evaluated using Cronbach's alpha test. Domain structures were examined by using Pearson correlation coefficient (R).

Results: Urinary pain, body pain, physical activity, social life, mental health, sexual activity and quality of life showed good internal consistency. There were strong correlations of physical activity (r=0.851) and social life (r=0.815) with the quality of life (r=0.736). In addition, there were moderate correlation of mental health general (r=0.676) related to urinary pain (r=0.612) and body pain (r=0.567). However, sexual activity had a lower correlation (r=0.456).

Conclusions: The Indonesian version of UriSteRH is a reliable and valid instrument to evaluate health and quality of life in patients with indwelling DJ stent.

Keywords: DJ stent; Indonesian validation; Questionnaire; Urinary stent related health questionnaire; Physical activity

INTRODUCTION

The insertion of a DJ stent in the ureter is a collaborative management in nursing and medical care that aims to prevent ureteral adhesions and maintain a smooth flow of urine from the kidney. Ureteral obstruction due to stones can cause kidney failure and eventually lead to death [1]. Ureteral stents are a simple and effective drainage method in maintaining kidney function, treating pain caused by stone obstruction in the ureter.

The insertion of a DJ stent is a common intervention in endourology. In the last four decades, the design, materials and use of urinary stents have continued to evolve until the present day. However, complaints due to the installation of the stent are still felt and experienced by patients who have had the stent implanted [2]. The measurement tool that is often used to evaluate symptoms that result in the placement of ureteral stents generally utilized the Ureteral Stent Symptom Questionnaire (USSQ) made by Joshi et al in 2003 which has now been translated and validated in various languages around the world including Indonesian.

The measuring tool that is developed in February of 2022 by Glavinov, et al. in the form of a questionnaire is made to evaluate health and quality of life after DJ stent insertion which is called the Urinary Stent Related Health (UriSteRH) questionnaire. The UriSteRH is claimed to be a tool that is very simple (consist of 11 questions with 6 domains), highly effective (covers all dimensions of health and quality of life), and easy to use compared to the USSQ in evaluating health and quality of life related to ureteral stents. However, this questionnaire is still new and rarely used unlike USSQ that was already known and validated into many languages [3]. Furthermore, this questionnaire will be used in Indonesia after the translation and validation into Indonesian linguistic.

MATERIALS AND METHODS

Design: The original UriSteRH was formulated according to the World Health Organization's definition of health and quality of life. It was a multistep process that was started by translation to Indonesian by a professional translator. Hereafter, the draft was reviewed by two lecturers (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 UriSteRH. Any disagreements were discussed with the end result of preliminary Indonesian UriSteRH.

Indonesian UriSteRH 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 Indonesian UriSteRH was finalised and used in the study [4]. Study was conducted prospectively with the approval of ethic committee.

Sample and setting: The inclusion criteria for this study were patients who underwent ureteroscopy surgery and had a unilateral DJ stent installed at adventist hospital, Bandung. While the exclusion criteria were patients who had severe UTI, prostate enlargement and obstruction due to malignancy.

Instruments: The Indonesian UriSteRH questionnaire.

Data collection: The Indonesian UriSteRH will be shared in a form of paper or E based questionnaire. And then it will be answered by respondents in 30th day after stent insertion. All questionnaires that was filled by respondent will be collected and analyzed.

Data analysis: Patient's characteristics were assessed using descriptive statistics. Statistics analysis was used to perform and significancy level was set at $p<0.05$. Reliability was tested by internal consistency (Cronbach's alpha test) for each domain. Interdomain association was examined using Pearson's correlation coefficient (r) after normality test using Shapiro wilk (N=<50).

Department of Nephrology, University of Indonesia, Hamburg, West Java, Indonesia

Correspondence: *Dikes Simanjuntak, Department of Nephrology, University of Indonesia, Hamburg, West Java, Indonesia, Tel: 6282115029627; Email: dikessimanjuntaknamoratano16@gmail.com*

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RESULTS

This study included 13 patients with indwelling DJ stent. Table 1 presents the characteristics of patients with stent insertion. The mean of patient age was 51.15 (± 11.231) years old [5]. The proportion of male was 8 (61.5%) and the proportion of females was 5 (38.5%). The job profiles of patients in this study were 9 patients (employed) and 4 patients (30.8%) unemployed.

Table 1: Characteristics of study subjects.

Variable	N=13
Age	
Mean ± Std	51.15 ± 11.231
Median	50.00
Range (min-max)	35-67
Gender	
Male	8 (61.5%)
Female	5 (38.5%)
Job profile	
Employed	9 (69.2%)
Unemployed	4 (30.8%)

Cronbach's alpha internal consistency reliability test (Table 2) showed excellent results in most domains, which were above the value of 0.6 (Table 3).

Table 2: Cronbach's alpha internal consistency test.

Domain	Cronbach's alpha*
Bodily pain	0.751
Urinary pain	0.766
Mental health general	0.698
Social life	0.728
Sexual life	0.802
Physical activity	0.676
Quality of life	0.712
Note: *Internal consistency CI 95%	

Table 3: Reliability statistics.

Cronbach's alpha	No. of items
0,764	7
Chronbach's alpha >0,6; the internal consistency is "reliable".	

Inter domain association with Pearson's test showed that limitation of physical activities were strongly and significantly correlated with social life and quality of life, but not significantly correlated with sexual life. In addition, the mental health dimension and psychology alterations were moderately correlated with urinary pain and bodily pain (Table 4).

Table 4: Pearson's correlation test.

Variable	Bodily pain	Urinary pain	Social life	Mental health and psychology	Sexual life	Physical function	Quality of life
Bodily pain							
R count	0,567*	0,612*	0,815**	0,676*	0,456	0,851**	0,736**
Sig.	0,043	0,026	0,001	0,011	0,117	0,000	0,004
Urinary pain							

R count	0,612*	0,612*	0,815**	0,676*	0,456	0,851**	0,736**
Sig.	0,026	0,026	0,001	0,011	0,117	0,000	0,004
Social life							
R count	0,815**	0,612*	0,815**	0,676*	0,456	0,851**	0,736**
Sig.	0,001	0,026	0,001	0,011	0,117	0,000	0,004
Mental health and psychology							
R count	0,676*	0,612*	0,815**	0,676*	0,456	0,851**	0,736**
Sig.	0,011	0,026	0,001	0,011	0,117	0,000	0,004
Sexual life							
R count	0,456	0,612*	0,815**	0,676*	0,456	0,851**	0,736**
Sig.	0,117	0,026	0,001	0,011	0,117	0,000	0,004
Physical function							
R count	0,851**	0,612*	0,815**	0,676*	0,456	0,851**	0,736**
Sig.	0,000	0,026	0,001	0,011	0,117	0,000	0,004
Quality of life							
R count	0,736**	0,612*	0,815**	0,676*	0,456	0,851**	0,736**
Sig.	0,004	0,026	0,001	0,011	0,117	0,000	0,004

Note: Correlation is significant at the 0.05; R tabel=0,553; r count>r tabel=Valid

DISCUSSION

The UriSteRH questionnaire, is constructed in accordance with the World Health Organization's definition of health related quality of life, which refers to the general conditions of the quality of life or healthy individuals in accordance with the domains regarding physical pain, limitations in physical activities due to health problems, limitations in social activities, general mental health, vitality (expressed throughout sexual life), and general health perceptions of an individual or a group measured in terms of feelings of satisfaction or dissatisfaction.

The WHO definitions are used to provide a brief summary of each of the seven health related quality of life factors evaluated by the questionnaire as following:

Bodily pain (fank and/or abdominal): The scores on this dimension indicate to what extent the respondents' experience of bodily pain hinders their performance of daily activities, including work related duties in the public domain and tasks within the home environment.

Related pain to voiding: The scores on this dimension indicate to what extent the respondents' experience the micturition pain that affects their satisfaction and disturb their daily activities and overnight rest.

Physical functioning and physical roles limitation: The scores on the physical functioning domain scale indicate the extent to which the respondents' perceptions of their quality of life are influenced by their physical condition. This dimension also refers to the extent to which respondents' performance of their roles in daily activities is impeded by their physical state of health.

Social functioning refers to social activities and interaction with significant others such as family members, friends, neighbors, and other social relations.

The mental health dimension and psychology alterations of the respondent is measured in terms of the extent to which he/she is inter alia feeling full of pep, is happy, is feeling calm and peaceful, is very nervous, or is feeling worn out and tired.

The vitality dimension relates to the respondent's experience of feeling energetic and sexually active.

The perception of an individuals' general health is measured in terms of concepts such as excellent, very good, good, fair or poor, getting ill easier than other people, and just as healthy as anyone he/she knows.

The results of the validity test conducted on 7 question/statement items using the Pearson correlation coefficient as following:

- Bodily pain has R count=0,567 with level of significancy=0,043.
- Urinary pain has R count=0,612 with level of significancy=0,026.
- Physical functioning has R count=0,851 with level of significancy=0,000.
- Social functioning has R count=0,815 with level of significancy=0,001.
- The mental health has R count=0,676 with level of significancy=0,011.
- Sexual life has R count=0,456 with level of significancy=0,117.
- Quality of life has R count=0,736 with level of significancy=0,004.

All items above concluded that all of these items are valid, except for the item with the statement related to sexual activity with invalid result. The invalidity occured due to the experience of a loss of sexual drive among the respondents in this pilot study who preferred filling N/A (No Answer) when filling out the questionnaire [6].

On the other hand, the results of the reliability test performed on all statement items using Cronbach's Alpha concluded that all items are reliable with a value of 0.764 (>0.6) as following:

- Bodily pain has Cronbach's alpha value=0,751.
- Urinary pain has Cronbach's alpha value=0,766.
- Mental health general has Cronbach's alpha value=0,698.
- Social life has Cronbach's alpha value=0,728.
- Sexual life has Cronbach's alpha value=0,802.
- Physical activity has Cronbach's alpha value=0,676.
- Quality of life has Cronbach's alpha value=0,712.

Level of education that was relatively low compared to other countries performing UriSteRH validation test could contribute in different results from several benchmark studies.

CONCLUSION

The Indonesian version of UriSteRH is a reliable and valid instrument to evaluate health and quality of life in patients with indwelling DJ Stent. However, our sample size was limited, therefore future studies are needed to confirm the reliability of the UriSteRH.

ETHICAL CONSIDERATION

Study was conducted with approval of ethic committee at adventist hospital, Bandung.

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