

Reliability of Arabic ICIQ-UI short form in Saudi Arabia

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Abstract

Context: The International Consultation on Incontinence Questionnaire-Urinary Incontinence Short Form (ICIQ-UI SF) provides a brief measure of symptoms and impact of urinary incontinence on quality of life. It is suitable for use in clinical practice and research. An Arabic version of the ICIQ-UI SF was translated and validated in Egypt and Syria.

Aims: The objective was to assess the reliability of the Arabic version of the ICIQ-UI SF in women from Saudi Arabia.

Settings and Design: A study at the Urogynecology Clinic was conducted from November 2010 until August 2011.

Materials and Methods: Thirty-seven consecutive Saudi women attending urogynecologic clinic were recruited. Questionnaires were distributed for self-completion and then redistributed to the same set of respondents two to four weeks later as part of a test-retest analysis for assessing questionnaire's stability.

Statistical Analysis Used: Agreement between two measurements was determined by weighted Kappa. Internal consistency was assessed using Cronbach's alpha coefficient.

Results: Participants had a mean (SD) age of 39 (9.9), median parity of 4, and mean BMI (SD) of 30.9 kg/m² (4.6). There were no differences in the frequency and amount of urine leaks or the impact of UI on quality of life observed between the two visits. Assessment of internal consistency was excellent with the Cronbach's alpha coefficient of 0.97 (95% CI: 0.88-0.98). Participants agreed that the questionnaire was clear, appropriate, and easy to understand.

Conclusions: The Arabic ICIQ-UI SF is a stable and clear questionnaire that can be used for UI assessment in clinical practice and research among Saudi women.

Key Words: ICIQ-UI short form, quality of life, questionnaire, reliability, Saudi Arabia, urinary incontinence

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INTRODUCTION

The International Consultation on Incontinence Questionnaire Short Form (ICIQ-UI SF) is a brief assessment tool used for measuring the symptoms and impact of urinary incontinence (UI) on quality of life (QoL).^[1] It was first validated in the UK and translated into 35 languages. An Arabic version of the ICIQ-UI SF [Figure 1] was translated and validated in

Egypt and Syria. The author expressed the need to further test its validity in other Arab nations citing dialect differences between them as the primary reason.^[2] Our objective is to assess its reliability in women from Saudi Arabia.

MATERIALS AND METHODS

Once institutional ethical approval to conduct the study was obtained, Saudi women who were newly referred to the Urogynecology Specialized Clinic at the Women’s Specialized Hospital (King Fahad Medical City, Riyadh, KSA) were invited to participate in the study. We recruited patients consecutively in order to avoid biases in the results; the participants presented to the clinic with different urogynecologic symptoms. Illiterate women who are unable to comprehend the questionnaire and those who are incapacitated were excluded from the study. The investigators explained the purpose of the study to eligible patients as well as the voluntary nature of their participation, stressing that answers and results of the study would remain confidential. Participants received the pre-validated Arabic ICIQ-UI SF questionnaire for self-completion once they had consented to participate in the study. A separate set of questions was distributed to participants alongside the questionnaire to evaluate their level of education and parity. Measured weight, height and calculated BMI were recorded for all participants. The researchers interviewed participants individually upon completion of their questionnaire to address issues regarding understanding (questions and responses), appropriateness, and clarity of the questions.

Patients’ ages and parities were documented as means and their

level of education recorded in percentages. Questionnaire’s stability was assessed by a test-retest reliability analysis where the same set of respondents filled out the questionnaire for a second time two to four weeks after the initial assessment. We chose this interval with the expectation that symptoms would remain stable and respondents would not likely remember their first responses. Interpreting the stability was aided by graphical presentation and analyses of paired differences for individual items in the questionnaire. Weighted Kappa was used to determine agreement between two measurements. Internal consistency was assessed using Cronbach’s alpha coefficient. A Cronbach’s alpha in excess of 0.70 was considered as adequate internal consistency. A P value less than 0.05 was considered statistically significant.

RESULTS

A total of 37 women agreed to participate in the study, which was conducted from November 2010 until August 2011. Three women (8%) did not return for follow-up within eight weeks and the questionnaire was re-administered to three more participants. Participants had a mean (SD) age of 39 years (9.9), median parity of 4, and mean BMI (SD) of 30.9 kg/m² (4.6). With regards to level of education, 23 (62%) of participants held a university degree, 11 (30%) had graduated from high school, and three others (8%) had completed primary education. All participants agreed that the questionnaire was clear, appropriate, and easy to understand when interviewed at the end of their first visit.

Responses to the question addressing frequency of urine leaks remained stable from the first to follow-up visit (SD) [2.4 (1.2) vs 2.5 (1.2), P = 0.738]. Likewise, there were no difference noted between the test and retest analyses concerning responses for the amount (SD) of urine leaked [3.1 (1.4) vs 3.2 (1.5) respectively, P = 0.849]. The reported score for QoL measure question remained stable between the two visits [5.9 (3.3) vs 5.9 (3.4), P = 0.977] [Figure 2].

Figure 1: Arabic version of the ICIQ-UI short form

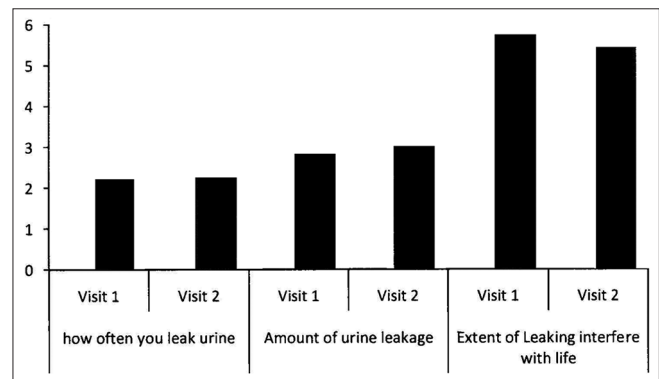


Figure 2: Difference in scores of urine leak frequency, amount of urine leak and changes in QOL between visits

The frequency and percentage of responses to each question are shown in Table 1. Agreement between measurements for questions 3 to 5 were all significant ($P < 0.05$) with good to excellent Kappa values of 0.72, 0.72, and 0.81 for questions 3, 4, and 5, respectively [Table 2]. The ICIQ-UI-SF Total Score (SD) was 11.3 (5.3) for the first visit and 11.5 (5.3) for the second visit and total agreement percentage of 80.2% and kappa value of 0.75.

Assessment of internal consistency for the three questions was excellent with the Cronbach's alpha coefficient of 0.97 (95% CI: 0.88-0.98).

DISCUSSION

Widespread under-reporting and under-diagnosis of UI imposes major economic and psychosocial effects. Among reported epidemiology figures, prevalence of UI varies considerably depending on the age of the study population, the study methods used, and the definition of the problem at

hand.^[3] Urinary incontinence commonly occurs among Saudi women, with a prevalence of around 42%, but the problem is not frequently accounted for due to social attitudes and cultural misconceptions.^[4] Also, the impact UI has on a person's QoL has not yet been measured for this population.

Most cases of UI become classified into one of the following three major subtypes: Stress UI, urgency UI, and mixed UI.^[5] Making an accurate diagnosis of UI depends intimately on considering all of the possible causes during the initial assessment. Furthermore, because UI is a common condition, affected patients may mention episodes of UI when visiting their healthcare provider for other problems. For instance, patients presenting with cold symptoms may remark that they leak urine every time they cough.

Evaluating patients with a formal, validated, and reliable questionnaire is still the method of choice for assessing UI impact on QoL, despite the time involved to complete the task.^[4] However, availability of a simple screening tool could help

Table 1: Frequency and percentage of responses to questions in the ICIQ-UI short form

Question	Response	Score	No. of responses-visit 1 (%)	No. of responses-visit 2 (%)	P-value
How often do you leak urine?	Never	0	0 (0)	0 (0)	0.738
	About once a week or less often	1	11 (30)	11 (30)	
	2 or 3 times a week	2	8 (22)	8 (22)	
	About once a day	3	8 (22)	6 (16.2)	
	Several times a day	4	10 (27)	12 (32.4)	
How much urine do you usually leak?	All the time	5	0 (0)	0 (0)	0.849
	None	0	0 (0)	0 (0)	
	A small amount	2	21 (56.8)	21 (56.8)	
	A moderate amount	4	12 (32.4)	10 (27)	
Overall, how much does leaking urine interfere with your everyday life?	A large amount	6	4 (10.8)	6 (16.2)	0.977
	0	0	0 (0)	0 (0)	
	1	1	4 (10.8)	5 (13.3)	
	2	2	2 (5.4)	2 (5.4)	
	3	3	6 (16.2)	2 (5.4)	
	4	4	2 (5.4)	2 (5.4)	
	5	5	7 (18.9)	10 (27.0)	
	6	6	3 (8.1)	3 (8.1)	
	7	7	0 (0)	0 (5)	
	8	8	0 (0)	0 (0)	
9	9	7 (18.9)	4 (10.8)		
10	10	9 (24.3)	9 (24.3)		
When does urine leak?					
a) Never: Urine does not leak	No		37 (100)	37 (100)	0.897
	Yes		0 (0)	0 (0)	
b) Before you can get to the toilet	No		19 (51)	17 (49)	0.781
	Yes		18 (49)	20 (51)	
c) When you cough or sneeze	No		4 (11)	6 (14)	0.337
	Yes		33 (89)	31 (86)	
d) When you are asleep	No		35 (95)	35 (92)	
	Yes		2 (5)	2 (8)	
e) When you are physically active/exercising	No		19 (51)	19 (51)	
	Yes		18 (49)	18 (49)	
f) When you have finished urinating and are dressed.	No		35 (95)	34 (92)	
	Yes		2 (5)	3 (8)	
g) For no obvious reason	No		37 (100)	37 (100)	
	Yes		0 (0)	0 (0)	
k) All the time	No		37 (100)	37 (100)	
	Yes		0 (0)	0 (0)	

Table 2: Agreement between test and retest responses for the three-scored ICIQ-UI short form questions

Questions	Agreement (%)	Kappa	Level of movement	No. of responses (%)
How often do you leak urine?	73.0	0.72	-1	9 (24.3)
			0	27 (73.0)
			1	1 (2.7)
How much urine do you usually leak?	83.8	0.72	-2	4 (10.8)
			0	31 (83.8)
			2	2 (5.4)
Overall, how much does leaking urine interfere with your everyday life?	83.8	0.81	-2	3 (8.1)
			-1	1 (2.7)
			0	31 (83.8)
			1	1 (2.7)
			2	1 (2.7)
Total	80.2	0.75		

physicians identify patients with a significant UI problem during routine visits and avoid them having to perform a complete evaluation for UI each time.^[3] The Arabic version of the Urogenital Distress Inventory short form-6 (UDI-6) is the only validated tool currently available in KSA, which on its own is not enough to adequately serve different aspects of incontinence and pelvic floor dysfunction in the patient population.^[6] The ICIQ-UI SF is a brief and robust questionnaire that can be used in clinical and epidemiological research as well as routine clinical practice. The questionnaire contains five main sections designed to collect data concerning demographics, frequency of urination, amount of urine leak, and impact of UI on QoL. A separate section distinct from the scored part of the questionnaire includes eight sub-questions aimed at assessing the timing of urine leaks (self diagnostic items).^[1]

The author Hashim *et al.* validated this questionnaire in Egypt and Syria and despite this, he expressed the need to further test its reliability in other Arab nations citing differences in dialect between Arab nations as the primary reason; in other words to what degree persons of Arabic descent understand, the questionnaire may differ from one population to the next because of dialect differences existing between Arabic countries.^[2] The WHO has further commented on the importance of respecting culturally driven differences in the perception of questionnaires that evaluate chronic conditions among countries of similar language.^[7] This study assesses the reliability (test-retest) of the Arabic version of the ICIQ-UI SF in the Kingdom of Saudi Arabia (KSA) to evaluate whether Saudi women fully understand the questions presented.

The stability of the Arabic version of the ICIQ-UI SF appeared sound when tested in our study group. Reported frequency of leaks, amount of urinary leakage and impact on QoL remained consistent between initial and follow-up visits. The internal consistency was high indicating good reliability. Furthermore, the study participants stated that the questionnaire was clear and easy to fill. Answers to questions contained within the

completed forms provided informative insight into the UI prevalence, frequency of leaks, and perceived cause of UI in addition to simple estimate "Likert scale" the impact of UI on QoL among Saudi women. Our findings further support the utility of this questionnaire as demonstrated already through similar validation and reliability studies carried out in Turkish, Portuguese, and Spanish speaking populations.^[8-10]

The small sample size of 37 women may appear as a limitation to our study. However, the sample size was considered sufficient because no changes were made or no questions were added to the questionnaire. An ICIQ expert was consulted on the matter, who confirmed that 37 subjects in such reliability study is reasonable in view of no changes made to the document. A sample size of this magnitude can be effective when using weighted Kappa analysis provided a good level of agreement that exists between ratings. The relatively high Kappa values determined here suggest that 37 participants is a reasonable sample size for reaching statistical significance.^[11]

Nevertheless, when analyzing the data, we noticed that our study population is skewed toward well-educated women, though we recruited consecutive patients to reduce this type of bias.

CONCLUSION

The Arabic ICIQ-UI SF is a stable and clear questionnaire that can be used for UI assessment in clinical practice and research among Saudi women.

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