

Validation of the Turkish Version of the Sexual Health Outcomes in Women Questionnaire (SHOW-Q) in Turkish-Speaking Women



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ABSTRACT

Introduction: The Sexual Health Outcomes in Women Questionnaire (SHOW-Q) is designed to evaluate the sexual life of women for satisfaction, orgasm, desire, and pelvic problem interference. The SHOW-Q is important for evaluating worsening of sexual life for patients with pelvic problems and the management of these women to improve their sexual life.

Aims: To validate the Turkish versions of the SHOW-Q for Turkish-speaking women.

Methods: The Turkish version of the SHOW-Q was generated by two independent professional English-to-Turkish translators. The translated version of the SHOW-Q was reverse translated by two bilingual translators whose native language was English. Women with at least one symptom related to pelvic problems ($n = 71$) and those with no symptoms ($n = 38$) were included in the present study.

Main Outcome Measures: Test-retest reliability analysis, content-face validity, internal consistency reliability, item-total correlations, convergent validity, construct validity, and factorial validity were performed to assess the psychometric properties of the Turkish versions of the SHOW-Q.

Results: Test-retest reliability demonstrated good correlation for all subscales. Cronbach α values ranged from 0.735 to 0.892 and indicated high internal consistency. There was a strong correlation for the corresponding subscales between the SHOW-Q and the Female Sexual Function Index. The mean score of each SHOW-Q subscale showed significant differences between symptomatic and asymptomatic patients.

Conclusion: The Turkish version of the SHOW-Q is a valid and reliable instrument that can be used to evaluate the sexual life of Turkish-speaking women with different pelvic problems.

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Key Words: Sexual Health Outcomes in Women Questionnaire; Female Sexual Dysfunction; Linguistic Validation; Turkish Version

INTRODUCTION

Female sexual dysfunction (FSD) is a frequent complaint in women of all ages and the prevalence of FSD has been reported at 19% to 45% in epidemiologic studies.¹ The importance of FSD has been related to its significant effect in worsening women's quality life.^{2,3}

Despite the detrimental effect of FSD on quality of life and its high prevalence, most women who have FSD do not report their problems to their physicians.⁴ In addition, the sexual life of patients is typically investigated inadequately in busy clinical settings. The use of a validated, condition-specific questionnaire instead of direct questioning about their sexual life could allow women to be more comfortable expressing their complaints.

Physical and psychosocial factors have been the main reported causes of FSD. Physical factors consist mainly of pelvic problems that can manifest as abnormal uterine bleeding (AUB), pelvic pain, and dyspareunia related to various gynecologic pelvic disorders.⁵ The reported prevalences of dysmenorrhea, dyspareunia, and pelvic pain are 90%, 46%, and 39%, respectively. AUB is a significant factor in the deterioration of the quality of women's sexual life, with an annual prevalence rate of approximately 53.0

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per 1,000 women.^{6,7} Similarly, different studies have demonstrated the relation between pelvic pain and sexual dysfunction. More than two thirds of women with chronic pelvic pain have sexual problems related to pain symptoms.^{8,9}

The Sexual Health Outcomes in Women Questionnaire (SHOW-Q) was developed by Learman et al¹⁰ in 2008. This questionnaire is designed to assess the sexual life of women for satisfaction, orgasm, desire, and pelvic problem interference. The SHOW-Q is important for evaluating the worsening sexual life of patients from pelvic problems and the management of these women to improve their sexual life. To our knowledge, there is no specific Turkish questionnaire for evaluating the effect of various pelvic problems on women's sexual life.

AIMS

The aim of present study was to validate the Turkish version of the SHOW-Q for Turkish-speaking women.

METHODS

Patients and Study Design

This prospective case-control study included 120 women attending our outpatient clinic for different gynecologic problems or routine annual gynecologic examination. Eleven women (nine without symptoms and two with symptoms) refused to participate in the study. Therefore, 109 women were eligible for the study. The local research and ethics committee of our hospital approved the study protocol. An informed consent form was obtained from all patients. Women were evaluated for symptoms related to gynecologic pelvic disorders. Gynecologic examination and pelvic ultrasonography were performed on all patients. Women with at least one of the pelvic problems listed in Table 1 were categorized as symptomatic and women without any of those problems were categorized as asymptomatic. The pelvic problems listed in Table 1 were defined and limited according to the symptoms present in the questionnaire. Exclusion criteria were sexually inactive women, women with general or genital symptoms other than the investigated symptoms, and women who declared sexual dysfunction for their partners. All patients with SHOW-Q scores indicating worsening of their sexual function were advised to visit a psychiatrist who specialized in sexual function disorders.

Translation and Culture Adaptation

Two independent professional English-to-Turkish translators generated the Turkish version of the SHOW-Q. The translated

version of the SHOW-Q was reverse translated by two bilingual translators whose native language was English. There was no inconsistency between the original and reverse-translated versions of the SHOW-Q. The Turkish version of the SHOW-Q included several alternatives for controversial items and answer choices. Then, the independent translators and two Turkish physicians familiar with the terminology of sexual functions and quality of life produced the second Turkish version of the SHOW-Q after completing the required revisions. Fifteen women were asked to self-complete the second version of the SHOW-Q and discuss the ambiguous questions. Eventually, the Turkish version of the SHOW-Q was developed and completed.

Test-retest reliability and internal consistency analyses of the Turkish form of the SHOW-Q were assessed with a pilot study. To assess the test-retest reliability of the final Turkish version of the SHOW-Q, a 2-week test-retest analysis was used. Twenty women were asked to complete the questionnaire at the first examination and the same women completed the questionnaire 2 weeks later. Spearman correlation was used to analyze the answers of the two completed questionnaires. Women who refused to complete the questionnaire were excluded from the study.

Questionnaire

The SHOW-Q included 12 items and 4 subscales: satisfaction (2 items), orgasm (4 items), desire (3 items), and pelvic problem interference (3 items). Women were asked to answer the questions in relation to the previous 4 weeks. All items were scored on a scale from 0 to 100. For the first three subscales (satisfaction, orgasm, and desire), higher scores represent better sexual function; for the fourth subscale (pelvic problem interference), higher scores represent worse sexual function.

All patients were asked to complete the validated Turkish version of the Female Sexual Function Index (FSFI).¹¹ The FSFI is a self-report questionnaire that includes 19 items and 6 subscales that evaluate desire, subjective arousal, lubrication, orgasm, satisfaction, and pain during the previous months.¹² Each subscale is scored from 0 to 6 and higher scores in each subscale indicate better sexual function. The total score of the questionnaire ranges from 2 to 36.

MAIN OUTCOME MEASURES

Test-Retest Reliability Analysis

Spearman correlation was performed for test-retest reliability, which was used to assess the stability and reliability of the questionnaire. A Spearman ρ value higher than 0.8 denoted high reliability.¹³

Content-Face Validity

The content-face validity, which indicates whether the questionnaire makes sense to the patients and experts and whether all important and relevant domains are included, was

Table 1. Pelvic symptoms of the women in this study

Symptoms	% (n)
Abnormal uterine bleeding	28.4 (31)
Non-cyclic chronic pelvic pain	31.2 (34)
Dysmenorrhea	49.5 (54)
Dyspareunia	34.9 (38)
No symptoms	34.9 (38)

assessed by an expert panel that included two gynecologists and one psychometrician.

Internal Consistency

Cronbach α statistical analysis was used to assess the internal consistency of each subscale and a value higher than 0.70 indicated sufficient internal consistency for each subscale.¹³

Item-Total Correlations

Item-total correlations evaluated the degree of linear relation between an item and its total score (corrected for overlap). A correlation coefficient higher than 0.40 denoted good item-total consistency.¹⁴

Convergent Validity

The validated Turkish version of the FSFI was used to evaluate the convergent validity of the SHOW-Q. Significant correlations were found between the SHOW-Q satisfaction subscale and the FSFI satisfaction subscale, between the SHOW-Q orgasm subscale and the FSFI orgasm subscale, between the SHOW-Q desire subscale and the FSFI desire subscale, and between the SHOW-Q pelvic problem interference subscale and the FSFI pain subscale. The Spearman correlation coefficient (ρ) was used for all correlations between subscales.

Construct Validity

Construct validity demonstrates the value of a questionnaire in discriminating patients with from those without symptoms and it was evaluated by comparing the SHOW-Q scores of women with and without a pelvic problem listed in Table 1.¹³

Factorial Validity

To verify the factor structure of the SHOW-Q subscales, principal component factor analysis with varimax rotation was performed. Items with a value of at least 0.30 on principal components analysis were retained for factor analysis.

The Turkish version of the SHOW-Q is available by request from the first author.

Statistical Analysis

Statistical analyses were performed using SPSS 15.0 (SPSS, Inc, Chicago, IL, USA). The Mann-Whitney U-test and χ^2 test were used where appropriate. The level of significance was set at a P value equal to .05 level and all P values were two-tailed.

RESULTS

Of 109 patients included in this study, 65.1% ($n = 71$) had at least one symptom related to pelvic problems, whereas 34.9% ($n = 38$) did not have such symptoms (Table 1). The socio-demographic characteristics of all patients are listed in Table 2.

Table 2. Demographic and clinic data of the groups in this study

	Asymptomatic patients ($n = 38$)	Symptomatic patients ($n = 71$)	P value
Age (y)*			.332
Mean \pm SD	34.16 \pm 6.55	32.67 \pm 6.75	
Minimum-maximum	25-52	20-48	
Gravida*			.537
Mean \pm SD	1.63 \pm 1.64	1.39 \pm 1.38	
Minimum-maximum	0-5	0-5	
Parity*			.634
Mean \pm SD	1.24 \pm 1.36	1.07 \pm 1.71	
Minimum-maximum	0-5	0-4	
BMI (kg/m ²)*			.062
Mean \pm SD	25.52 \pm 3.08	24.60 \pm 5.69	
Minimum-maximum	19.5-33.1	16.2-44.1	
Education level, n (%) [†]			.860
Primary school	16 (42.1)	35 (50.7)	
High school	13 (34.2)	20 (29.0)	
University	9 (23.7)	14 (20.3)	
Marital status, n (%) [†]			.410
Married	33 (86.8)	64 (90.1)	
Single	5 (13.2)	7 (9.9)	
Menopause, n (%) [†]	3 (7.9)	2 (2.8)	.227

BMI = body mass index.

Significant at $P = .05$ by *Mann-Whitney U-test and [†] χ^2 test.

All patients were sexually active. There was no significant difference in sociodemographic characteristics between the symptomatic and asymptomatic groups.

In the test-retest reliability analysis, all subscales showed statistically significant correlation and Spearman ρ values ranged from 0.836 to 0.892.

Item-Total Correlation and Internal Consistency

The outcomes of corrected item-total correlation and internal consistency of the SHOW-Q are presented in Table 3. Item-total correlations of all subscales were higher than the required minimum level of 0.40 and those demonstrated good internal consistency for items. Cronbach α value for the translated form of the 12-item scale of the SHOW-Q was 0.847 and demonstrated good internal reliability. Cronbach α levels of all subscales ranged from 0.735 to 0.892 and were higher than the acceptable minimum α coefficient of 0.70.

Convergent Validity

All corresponding subscales of the SHOW-Q and the FSFI showed significant correlation. Spearman ρ values are listed in Table 4. Orgasm subscales of the SHOW-Q and the

Table 3. Corrected item-total correlation and internal consistency of Sexual Health Outcomes in Women Questionnaire

Items	Corrected item-total correlation
Satisfaction scale ($\alpha = 0.892$, $n = 109$)	
How satisfied have you been with the frequency of your sexual activity (with or without a partner)?	0.807
How satisfied in general have you been with your ability to have and enjoy sex (with or without a partner)?	0.807
Orgasm scale ($\alpha = 0.817$, $n = 109$)	
When you had sexual activity, how much of the time did you experience orgasm?	0.701
When you had sexual activity, how much of the time did you feel satisfied after sexual activity?	0.669
When you experienced orgasm, how strong or intense was the orgasm on average?	0.675
How much of a problem was difficulty in having an orgasm?	0.545
Desire scale ($\alpha = 0.735$, $n = 109$)	
How much of a problem was lack of sexual interest?	0.699
How often did you desire sex (with or without a partner)?	0.427
How much of a problem was the inability to relax and enjoy sex?	0.569
Pelvic interference scale ($\alpha = 0.848$, $n = 109$)	
To what extent has your bleeding interfered with your normal or regular sexual activity (with or without a partner)?	0.542
To what extent has your pelvic pain or discomfort interfered with your normal or regular sexual activity (with or without a partner)?	0.801
To what extent have your pelvic problems overall interfered with your normal or regular sexual activity (with or without a partner)?	0.831

FSFI showed the strongest correlation (Spearman $\rho = 0.724$, $P < .001$).

Construct Validity

Patients were grouped as symptomatic and asymptomatic. The scores of all subscales showed statistically significant differences between the two groups. The mean scores of satisfaction, orgasm, and desire subscales were significantly higher, whereas the mean scores of the pelvic problem interference subscale were significantly lower, in the asymptomatic group (Table 5). These results showed that the sexual life of patients without symptoms was better than that of symptomatic patients.

Table 4. Correlation between similar subscales of the SHOW-Q and the FSFI

SHOW-Q	FSFI	Spearman ρ^*
Satisfaction	Satisfaction	0.635 [†]
Orgasm	Orgasm	0.724 [†]
Desire	Desire	0.540 [†]
Pelvic interference	Pelvic pain	0.535 [†]

FSFI = Female Sexual Function Index; SHOW-Q = Sexual Health Outcomes in Women Questionnaire.

*Two-tailed test.

[†] $P < .001$.

Factorial Validity

Using varimax rotation, we found that the four domains of the SHOW-Q could be divided into two constructs or components (Table 6). The first construct consisted of satisfaction, orgasm, and desire. The second construct consisted of pain.

DISCUSSION

Linguistic validation studies verify the validity and reliability of the translated version of the questionnaire for culturally different populations. When a questionnaire is translated into another language, semantic shifts of some specific terms related to item assessment might occur because of cultural variability in different populations. Test-retest reliability analysis, content-face validity, internal consistency reliability, item-total correlations, convergent validity, construct validity, and factorial validity were used to assess the psychometric properties of this translated questionnaire.

In this study, Spearman ρ values of all subscales indicated high test-retest reliability. The Cronbach α value for each item and subscale (range = 0.735–0.892) demonstrated high internal consistency reliability and the results were consistent with the original study by Learman et al¹⁰ In addition, item-total correlations of all items exceeded the required minimum level of 0.40 and those showed good internal consistency for all items.

Convergent validity was performed with correlation analysis of similar subscales of the SHOW-Q and validated Turkish version of the FSFI. The FSFI was preferred because its subscales matched all subscales of the SHOW-Q, allowing a convergent validation. Each subscale of the SHOW-Q highly correlated with the corresponding subscale of the FSFI and these correlations confirmed the convergent validity of the Turkish version of the SHOW-Q.

Construct validity was assessed by comparison of the score of the each subscale between symptomatic and asymptomatic patients. Each subscale showed a significant difference between the two groups. These results demonstrated that the Turkish version of the SHOW-Q scale could discriminate women with from those without symptoms. Patients with any of these pelvic

Table 5. Sexual Health Outcomes in Women Questionnaire total score and its subscales in symptomatic and asymptomatic groups of women

	Symptomatic patients (n = 71), mean ± SD	Asymptomatic patients (n = 38), mean ± SD	P value*
Satisfaction scale	73.10 ± 20.61	82.11 ± 16.13	.022
Orgasm scale	63.54 ± 17.36	70.32 ± 19.21	.035
Desire scale	66.96 ± 19.39	76.11 ± 16.76	.013
Pelvic interference scale	49.48 ± 22.84	32.98 ± 13.24	.000
Total	67.90 ± 13.98	78.24 ± 11.71	.000

*Significant at P = .05 by Mann-Whitney U-test.

problems scored worse, indicating a lower quality in their sexual experiences than for those without pelvic problems.

Especially with sexually related questionnaires, assessing the factorial validity can be of particular importance because the perception of sexual matters can differ from the societies in which the original questionnaire was developed.¹⁵ Our results regarding the factorial validity of the Turkish version of the SHOW-Q demonstrated that its structure is consistent for Turkish-speaking women.

The SHOW-Q also can be used to evaluate the sexual life of women without a partner or in same-sex relationships. In our series, 11.1% of all women had sexual activity without a partner and no women reported same-sex relationships.

The high prevalence of pelvic problems has been reported in various studies and AUB, pelvic pain, and dyspareunia are accepted as common gynecologic disorders in women of all ages.¹⁶ In epidemiologic studies, the prevalence of AUB has been reported

Table 6. Factor loadings* of sexual function items on two components

Domain	Items	Component†	
		1	2
Satisfaction	S1	0.742	
	S2	0.792	
Orgasm	O3	0.739	
	O4	0.776	
	O5	0.751	
	O6	0.719	
Desire	D7	0.664	
	D8	0.495	
	D9	0.694	
Pain	P10		0.931
	P11		0.914
	P12		0.737

*Using principal component analysis with varimax rotation (loadings < 0.3 are omitted for simplicity).

†Two components were formed using Kaiser’s criteria.²³

as approximately 30% in reproductive-age women.¹⁷ Chronic pelvic pain is the other common gynecologic disorder and the reported prevalence of chronic pelvic pain ranges from 5.7% to 26.6%.¹⁸ The detrimental effect of pelvic problems on the sexual life of women has been reported in different studies^{16,19}; thus, symptoms of pelvic problems become a crucial issue in the assessment of women’s sexual life. In our study, the score on the pelvic problem subscale, which demonstrates the physical aspects of sexual life, was significantly higher in patients with pelvic symptoms than in those without these symptoms. Symptomatic patients had significantly worse scores for the satisfaction, orgasm, and desire subscales, which are related to the psychological domains of sexual life. These findings indicated that pelvic symptoms had a detrimental effect on the physical and psychological domains of sexual functioning. In a study by Di Donato et al,²⁰ the SHOW-Q was used for the assessment of sexual functioning of patients with endometriosis. They reported statistically significant differences in the SHOW-Q total score and each subscale score between patients with endometriosis and healthy women. It should be emphasized that pelvic symptoms can cause impairment in all aspects of sexual functioning such as satisfaction, orgasm, and desire. Physicians should be aware of the worsening effect of pelvic problems on sexual life when evaluating patients with gynecologic pelvic disorders to optimize the management of this population and improve their quality of life.

Our study has some limitations. The relatively small sample was caused by the refusal of some patients to participate in the study. Although the intimate nature of sexual questionnaires can be embarrassing in any culture, in some cultures, this attitude can be more pronounced. It has been argued that subjects in such studies are very reluctant to discuss their sexual problems, which could clearly distort the study findings even when this is good rapport.²¹ Another possible limitation is that the original SHOW-Q does not contain any item that evaluates the sexual partner of a particular patient. The importance of screening the male partner during clinical assessment of sexual problems in women is well reported.²² To avoid this inherent limitation of the SHOW-Q, women who declared sexual dysfunction for their partners were excluded from the study.

CONCLUSION

The SHOW-Q is a relatively brief questionnaire designed to assess the interference of pelvic problems in the sexual life of women with various pelvic symptoms. It has been validated in different clinical conditions. To our knowledge, this is the first linguistic validation study of the SHOW-Q. The present study showed that the Turkish version of the SHOW-Q is a valid instrument with adequate reliability for evaluating the sexual life of Turkish-speaking women with various pelvic problems.

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