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THE VALIDATION OF ICIQ-FLUTS IN TURKISH LANGUAGE

Hypothesis / aims of study:
In recent years self-completed questionnaires have been developed in urogynecology for the objective assessment of patient's symptoms and the impact of disease on quality of life.
QoL and health.The Turkish version of The International Consultation on Incontinence Questionnaire-FLUTS was developed to evaluate the lower urinary tract symptoms in Turkish speaking women.

Study design, materials and methods:
Initial translation and back translation of the ICIQ-FLUTS was completed by 3 native Turkish speakers and 1 native English speaker. Then, the psychometric properties of the Turkish version of ICIQ-FLUTS including the content/face validity, internal consistency, and test–retest reliability were evaluated.

Results:
The back translation of the questionnaire was consistent with the original English questionnaire. 64 women applying to the gynecology and urogynecology outpatient clinics filled out the Turkish version of the questionnaire. Retest was performed 2 weeks after the initial test on the same group of women. There were no missing data in any of the questionnaires. The Cronbach's alpha coefficient was 0.923-0.931. In the test–retest, the contingency coefficient was 0.763- 0.924, Pearson's R was 0.720-0.996, Spearman's correlation was 0.634-0.995, and Kappa was 0.516-0.981.The results are given in Table 1 and Table 2.

Interpretation of results:
The Turkish version of ICIQ-FLUTS questionnaire had excellent
content/face validity, high stability, and very high internal consistency, with an overall Cronbach's alpha of 0.931. Item test-retest analysis was generally high, but was lower in items 4b, 5a, and 8b. Still, because the Kappa levels were higher than 0.5, and other correlation test results are normal, it was not found necessary to remove or modify these items.

Concluding message: The Turkish version of the ICIQ-FLUTS was easily understood, and had adequate internal consistency and reliability. It can be used in the study of Turkish-speaking groups for the evaluation of female lower urinary tract symptoms.

Table 1: Cronbach's Alpha results if specific item was deleted.

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
2a	26.5938	1038.404	.691	.929
2b	25.4375	940.726	.698	.926
3a	26.4219	1028.851	.726	.928
3b	25.3906	925.766	.828	.923
4a	26.7656	1057.706	.379	.931
4b	25.8906	982.448	.573	.928
5a	27.0000	1053.905	.456	.930
5b	25.3750	929.857	.836	.923
6a	27.1563	1069.912	.243	.932
6b	26.8438	1046.674	.315	.931
7a	27.3281	1070.160	.294	.932
7b	27.0625	1046.345	.337	.931
8a	26.6563	1032.293	.645	.929
8b	25.9063	944.499	.781	.924
9a	26.8125	1017.488	.839	.927
9b	25.2969	875.228	.848	.923
10a	26.6719	1001.970	.823	.926
10b	25.2031	868.323	.840	.924
11a	26.6250	1007.476	.795	.926
11b	25.1406	893.996	.730	.927
12a	27.1563	1035.404	.713	.929
12b	26.2188	938.555	.694	.926
13a	27.4844	1074.603	.348	.932
13b	27.1406	1031.075	.386	.931

Table 2: Test-retest reliability showing contingency coefficient, Pearson's correlation, Spearman correlation, and Kappa values.

Item	Statistical Analysis
2a	
Contingency Coefficient	0.768
Pearson's R	0.745
Spearman Correlation	0.688
Kappa	0.586
2b	
Contingency Coefficient	0.894
Pearson's R	0.945
Spearman Correlation	0.826
Kappa	0.576
3a	
Contingency Coefficient	0.827
Pearson's R	0.872
Spearman Correlation	0.812
Kappa	0.565
3b	
Contingency Coefficient	0.913
Pearson's R	0.884
Spearman Correlation	0.769
Kappa	0.568
4a	
Contingency Coefficient	0.813
Pearson's R	0.874
Spearman Correlation	0.852
Kappa	0.716
4b	
Contingency Coefficient	0.880
Pearson's R	0.806
Spearman Correlation	0.771
Kappa	0.516
5a	
Contingency Coefficient	0.787
Pearson's R	0.720
Spearman Correlation	0.700
Kappa	0.517
5b	
Contingency Coefficient	0.918
Pearson's R	0.926
Spearman Correlation	0.806
Kappa	0.642
6a	
Contingency Coefficient	0.790
Pearson's R	0.752
Spearman Correlation	0.634
Kappa	0.533
6b	
Contingency Coefficient	0.851
Pearson's R	0.683
Spearman Correlation	0.567
Kappa	0.552
7a	
Contingency Coefficient	0.763
Pearson's R	0.788
Spearman Correlation	0.809
Kappa	0.822
7b	
Contingency Coefficient	0.888
Pearson's R	0.958
Spearman Correlation	0.831
Kappa	0.618
8a	
Contingency Coefficient	0.829
Pearson's R	0.904
Spearman Correlation	0.795
Kappa	0.579
8b	
Contingency Coefficient	0.906
Pearson's R	0.964
Spearman Correlation	0.866
Kappa	0.516
9a	
Contingency Coefficient	0.868
Pearson's R	0.965
Spearman Correlation	0.957
Kappa	0.829
9b	
Contingency Coefficient	0.924
Pearson's R	0.991
Spearman Correlation	0.960
Kappa	0.772
10a	
Contingency Coefficient	0.817

Pearson's R	0.904
Spearman Correlation	0.944
Kappa	0.785
10b	
Contingency Coefficient	0.885
Pearson's R	0.982
Spearman Correlation	0.936
Kappa	0.668
11a	
Contingency Coefficient	0.842
Pearson's R	0.928
Spearman Correlation	0.890
Kappa	0.754
11b	
Contingency Coefficient	0.872
Pearson's R	0.906
Spearman Correlation	0.885
Kappa	0.606
12a	
Contingency Coefficient	0.858
Pearson's R	0.937
Spearman Correlation	0.943
Kappa	0.893
12b	
Contingency Coefficient	0.894
Pearson's R	0.993
Spearman Correlation	0.923
Kappa	0.695
13a	
Contingency Coefficient	0.816
Pearson's R	0.990
Spearman Correlation	0.995
Kappa	0.981
13b	
Contingency Coefficient	0.816
Pearson's R	0.996
Spearman Correlation	0.873
Kappa	0.704

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