Full length article

Translation, cultural adaptation, and validation of Australian pelvic floor questionnaire in a Turkish population

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ABSTRACT

Objectives: The aims of the study were the translation, cultural adaptation, and validation of self-administered Australian Pelvic Floor Questionnaire (APFQ) in a Turkish population.

Study design: The APFQ was translated into Turkish with forward and back translation by native speakers, and the Turkish version was tested on 15 volunteer patients. 53 patients who had at least one symptom related to pelvic floor dysfunction were included as the patient group, and 51 women who had no symptoms related to pelvic floor dysfunction were included as the control group. All of the women in the patient group were examined gynecologically in the lithotomy position, the cough stress test was performed. and prolapses was evaluated with the POP-Q (Pelvic organ Prolapse Quantification System). The Urinary Distress Inventory was answered by all symptomatic women. All women answered the questionnaire again after a three-week interval. The content/face validity, reliability, stability, and construct validity were studied.

Results: The Cronbach's alpha results were above 0.7 for all subscales of the questionnaire (bladder:0.842, bowel:0.733, prolapse:0.858, sexual function:0.750) showing adequate internal consistency (reliability). The test/retest analysis (stability) showed high reproducibility with an intraclass coefficient above 0.85 in the patient group and above 0.75 in the control group. Except for the sexual function subscale, discriminant validity showed a significant difference between the patient and control groups. A significant correlation was found between the total bladder subscale score and the UDI-6 scores (rho:0.828, p:0.000,) and a significant correlation was found between the total prolapse score and the POP-Q scores (rho:0.574, p:0.000).

Conclusion: The Turkish version of the self-administered APFQ is a reliable and valid instrument for evaluating symptom severity and impact of pelvic floor disorders on the quality of life of Turkish-speaking women.

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Introduction

Pelvic floor disorders comprise issues regarding to the pelvic floor dimensions including problems related to urination, defecation, pelvic organ prolapse (POP), sexual function, and pelvic pain [1]. It has important quality of life and social implications. The world population including the population of our country are rapidly aging. Demographic studies show that. within the next 100 years, the elderly population will increase by 10 times, and the proportion of the elderly population to the total population will reach 20% [2]. With the aging population, healthcare providers will encounter pelvic floor disorders more and more frequently. It is estimated that 25% of all women in the USA are affected with these disorders. and approximately 20% of these women will need surgery for urinary incontinence or POP at some period in their lives [3].

Validated questionnaires are essential for evaluating the effect of any disease or disorder on health-related quality of life (HRQoL). Disease-specific validated questionnaires are also needed for evaluating symptom severity and discomfort of patients before choosing an appropriate treatment plan. The Australian pelvic floor questionnaire (APFQ) was first constructed and validated as an interviewer-administered questionnaire and was later validated as a self-administered questionnaire [4,5]. It evaluates all pelvic floor areas including bladder function, bowel function, prolapse, and sexual function all together. In addition, APFQ evaluates symptom severity, discomfort, and impact on QOL.

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The aims of this study are to translate, culturally adapt, and validate the self-administered Australian pelvic floor questionnaire into Turkish, a questionnaire that evaluates all pelvic floor domains together including bladder function, bowel function, prolapse, and sexual function.

Materials and methods

Before beginning the study, permission was obtained from Dr. Caven Baessler for the use of questionnaire.

Translation and cultural adaptation

Forward translation was done by two English to Turkish translators who are native Turkish speakers. The original English version of the APFQ was translated to Turkish by one by the translators. After the Turkish draft was obtained, the questionnaire was back translated to and English version by another bilingual Turkish to English translator who was a native English speaker. The obtained English draft of the questionnaire was compared with the original English version of the questionnaire by the research team and with another gynecologist. Discrepancies related to cultural differences in the English form were checked. The back translated and checked final English version of the questionnaire was checked by the copyright holders, and then the final Turkish version was obtained. The final Turkish version of the APFQ was pilot-tested on 15 volunteer patients, misunderstood words or questions were identified, and the recommendations of patients were obtained. After that, the necessary changes were made to the questionnaire by the researchers, and the Turkish version of the APFQ was then used for validation.

Questionnaire

The APFQ, which evaluates pelvic floor function, has four domains: bladder function (questions 1–15), bowel function (questions 16–27), prolapse symptoms (questions 28–32), and sexual function (questions 33–42). A four-point scoring system is used for most of the items excluding defecation frequency (question 16), bowel consistency (question 17), sufficient lubrication (question 35), and the reason for sexual abstinence (question 34), for which such scoring was not suitable. Separate scores are calculated for each domain by adding all the scores of each question. The resulting scores are divided by the total number of questions within each domain and then multiplied by 10, resulting in a score between 0 and 10 for each of the four domains and a maximum total score of 40 for the questionnaire.

Study population and data collection

Study subjects were selected from the women who were evaluated at the H.S.U Kocaeli Derince Training and Research Hospital and the Inönu University Hospital and agreed to participate in the study. Fiftythree patients who had at least one symptom related to pelvic floor dysfunction including urinary incontinence, POP, and or fecal incontinence were included as the patient group. Fiftyone women who had no symptoms related to pelvic floor dysfunction were included as the control group. The patients in the control group were selected from patients who had no urogynecology problems who were examined in the gynecology outpatient clinic for routine reasons. All of the women in the patient group were examined gynecologically in the lithotomy position, the cough stress test was performed, and prolapses was evaluated with the POP-Q (Pelvic organ Prolapse Quantification System). A Urinary Distress Inventory was answered by all symptomatic women. All women answered the questionnaire

(APFQ) with again after a three-week interval. All of the pelvic examinations and questionnaire assessments were done by two gynecologists (BSA, IK) who had experience in the field of urogynecology. The gynecologists who performed the gynecological examinations were blinded to the questionnaire scores of the participants. All of the definitions used in the study conformed to the standards recommended by the International Continence Society [6]. All of the women in the patient group with prolapse symptom and signs had stage 2 or higher pelvic organ prolapse according to the POP-Q. All of the women in the control group not having prolapse symptom or signs had stage 1 or lower pelvic organ prolapse according to the POP-Q. Women without adequate mental capacity to fill in the questionnaire, illiterate patients, and patients who refused to participate were excluded. Ethical approval was obtained from the Inonu University ethics committee with decision no:2018/9-13. Verbal informed consent was taken from all women for use of their personal data for the current study.

Validation process

Content/face validity

Content/face validity is the evaluation of questionnaire as to whether it makes sense in terms of the subject to be measured and to experts in a clinical setting. It was assessed with a test group (15 volunteer patients). After filling in the questionnaire, each patient was individually interviewed about the questionnaire and discussed the unclear, hard to understand areas. Two gynecologists (BSA, IK) then discussed these points with each other, and the final version of the survey was developed.

Internal consistency (reliability)

Internal consistency refers to the extent to which items on the questionnaire are related to each other. Internal consistency is evaluated with Cronbach's alpha, and a value of 0.7 or higher is accepted as adequate internal consistency.

Test-retest reliability(stability)

Test-retest reliability refers to whether the questionnaire measures the same sorts of things in the same person over a period of time. It is assessed with an intraclass correlation coefficient (ICC). The questionnaire was given to all women twice with an interval of three weeks. The women did not receive any treatment during this period.

Construct validity

Construct validity of a questionnaire refers to its ability to differentiate between different patient groups. To evaluate discriminant validity, the questionnaire was answered by 53 patients with at least one symptom related to pelvic floor dysfunction and 51 women with no symptoms. In the patient group, the total prolapse score was correlated with POP-Q score, and total bladder score was correlated with the UDI-6 score.

The Turkish version of the APFQ can be obtained from the authors upon request.

Statistical analysis

Data were analyzed with the SPSS 23(IBM Corp.). The appropriateness of the data to the normal distribution was examined with the Kolmogorov Smirnov test. A paired t-test was used for data with normal distribution, and the Mann Whitney U test and the Wilxocon test were used for data with non-normal distribution. The Cronbach Alpha coefficient and intraclass

correlation (ICC) were used for scale reliability. Spearman's Correlation analysis was used for evaluating the correlation between variables. Results are presented as numbers and arithmetic mean ± standard deviation. The significance level was taken as p < 0.05.

Calculating the intra-class correlation coefficient for reliability as 0.85, the minimum sample size required for testing against 0.70 with 95% confidence level and 80%power was estimated as 43.

Results

A total of 104 women including 53 (patient group) with at least one symptom related to pelvic floor dysfunction and 51 (control group) with no symptoms related with pelvic floor dysfunction were evaluated gynecologically. The mean age of the women in the patient group was 56.33 ± 10.96, and it was 42.37 ± 4.39 in the control group. The mean parity in the patient group was 3.60 ± 1.72, and it was 2.17 ± 1.01 in the control group. The mean body mass index was 28.21 ± 3.14 in the patient group, and it was 27.62 ± 3.93 in the control group. Of the women with symptoms related to pelvic floor dysfunction, 34 (64%) had stage 2 or higher pelvic organ prolapses according to the POP-Q. Of the women in the patient group, 34 (64%) were in menopause, and for the control group, and it was 2 (3.9%). 20 (19.2%) of all the women were not sexually active because of not having a partner.

For the content/face validity, after administration of the questionnaire to all groups, the missing data was 1.1%.

Total and subscale scores of patient and control groups are shown in Table 1. Bladder function, bowel function, prolapse, and total scores of patient group were significantly higher than those of the control group (Table 1). Except for the sexual function subscale, discriminant validity showed significant difference between the patient and control groups.

Internal consistency was analyzed with Cronbach's alpha, and it was above 0.7 in all subscales (0.733–0.858) (Table 2).

When the single question and related total subscale score correlation were evaluated, we found significant correlation. For the bladder subscale, the correlation coefficient ranged between 0.312-0.749. Question 3 had a lower correlation coefficient (rho:0.312, p:0.024) than the other ones, and it was related to urinary incontinence during sleep, a rare condition in the study population. For the bowel subscale, the correlation coefficient ranged between 0.272-0.793. Question 23 had a lower correlation coefficient (rho:0.272, p:0.049) than the other questions, and it was related to leaking liquid feces involuntarily. For the prolapse subscale, the correlation coefficient ranged between 0.568-0.902, which was a significant correlation (P < 0.001). For the sexual function subscale, the correlation coefficient ranged between 0.140-0.738. Questions 38 had lower correlation coefficients (rho:0.140 p:0.438) than the other ones, and it was related to vaginal tightness.

Test-retest reliability was evaluated with an intraclass correlation coefficient, and it was above 0.75 in the patient and control groups with all dimensions (Table 3).

The total bladder subscale score was correlated to the UDI-6 scores, and a significant correlation was found (rho:0.828, p:0.000). The total prolapse subscale score was correlated with the POP-Q scores, and a significant correlation was found (rho:0.574, p:0.000), and the correlation coefficients were above 0.5 in the bladder and prolapse subscales.

Discussion

Many questionnaires are being used worldwide for urinary incontinence [7–10], for fecal incontinence [11,12], and some for pelvic organ prolapse [13,14]. However, there are few validated questionnaires available combining bladder function, bowel function, sexual function, and pelvic organ prolapse symptoms. The APFQ evaluates women's pelvic floor status by questioning bladder function, bowel function, sexual functions, and prolapse symptoms all together. Although the Pelvic Floor Distress Inventory and the Pelvic Floor Impact Questionnaire are validated for the Turkish population [15], the questionnaires do not evaluate the sexual function of women. Furthermore, these questionnaires do not evaluate the severity and frequency of symptoms (never, occasionally, frequently, etc.) which may result in inadequate questioning. The Global Pelvic Floor Bother Questionnaire, the Turkish validation of which was done by Doğan et. al. [16], is the only pelvic floor questionnaire that evaluates all of the pelvic floor domains together. It has nine items, and the only item related with sexual function is dyspareunia; this causes limited questioning about sexuality.

Linguistic validation has great importance in the validation process. Due to discrepancies resulting from differences in cultures and languages, three native speakers and three gynecologists took part in the creation of a Turkish version of the APFQ. Meanwhile, for face validity, 15 volunteer patients in the test group were

Table 1
Comparison of scale scores between groups.

		Patient	Control	p*
Bladder	Baseline	20.66 ± 9.076	5.84 ± 5190	<0.001
	Three weeks later	21.94 ± 9.191	5.22±.,182	<0.001
Bowel	Baseline	8.94 ± .,374	7.06 ± 4.115	0.017
	Three weeks later	8.81 ± 4.629	6,20 ± 4.574	0.002
Prolapse	Baseline	4.19 ± 4.216	.43 ± 1.375	<0.001
	Three weeks later	4.38 ± 4.399	.47 ± 1.255	<0.001
Sexual function	Baseline	3.26 ± 3.127	3.47 ± 2.283	0.283
	Three weeks later	3.92 ± 3.605	3.51 ± 2.493	0.903
Total	Baseline	3706 ± 14.516	16.80 ± 9.849	<0.001
	Three weeks later	39.06 ± 15.758	15.39 ± 10.589	<0.001

Arithmetic mean ± standard deviation *Mann-Whitney U test.

Table 3
Test-retest reliability.

	ICC	
Subscale	Patient*	Control*
Bladder	0.921	0.917
Bowel	0.931	0.916
Prolapse	0.896	0.870
Sexual function	0.944	0.759
Total	0.925	0.925

* Significant at 1% significance level.

Table 2
Reliability analysis.

Score	Cronbach's alpha	Alpha if item deleted	Correlation between score and questions
Bladder	0.842	0.820-0.847	0.312-0.749
Bowel	0.733	0.664-0.758	0.272-0.793
Prolapse	0.858	0.800-0.867	0.568-0.902
Sexual function	0.750	0.669-0.768	0.140-0.738

interviewed about misunderstood words or questions that might need to be modified.

Internal consistency was evaluated with Cronbach's alpha, and it was above 0.7 in all subscales of the APFQ. Our results were a bit different from the original article in that Cronbach's alpha for the subscales were as follows: bladder function, 0.82; bowel function, 0.77; sexual function, 0.65; and pelvic organ prolapse. 0.87. The test-retest analyis evaluated with an intraclass correlation coefficient were above 0.75 in all groups, and it can be accepted as good.

Except for the sexual function subscale, discriminant validity showed significant a difference between the patient and control groups. For the sexual function subscale, this could be explained by the fact that in our country women around middle-age are embarrassed about and hesitant to talk and express their problems about sexuality.

The limitation of the study is the number of women answering sexual function subscale were fewer than the other dimensions because of not having a partner. For this reason, discriminant validity could not be done for the sexual function domain because of a high number of sexual inactivity cases, which were 20(19.2%) in the whole study population, particularly sexual inactivity in elderly symptomatic women. Another limitation was that few women having prolapse or incontinence surgery came to the check up, and, for this reason, responsiveness could not be studied.

The self-administered APFQ was successfully translated and culturally adapted into the Turkish language with the protection of the original meanings of the concepts in the original English form. The Turkish version of the self-administered APFQ is a reliable and valid instrument for evaluating symptom severity and impact of pelvic floor disorders in all dimensions of the quality of life in Turkish speaking women.

References

[1] Haylen BT, Maher CFBM. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic organ prolapse (POP). Int Urogynecol J 2016;27(4):655–84.

[2] EKUKLU Galip. Is population aging? Turkiye Klin J Orthop Traumatol-Special Top 2015;8(2):1–7.

[3] Dieter AA, WilkinsMF WJ. Epidemiological trends and future care needs for pelvic floor disorders. Curr Opin Obs Gynecol 2015;27(5):380–4.

[4] Baessler K, O'Neill SM, Maher CFB. An interviewer-administered validated female pelvic floor questionnaire for community-based research. Menopause 2008;15(5):973–7.

[5] Baessler K, O'Neill SM, Maher CFBD. A validated self-administered female pelvic floor questionnaire. Int Urogynecol J 2010;21(2):163–72.

[6] Haylen BT, de Ridder D, Freeman RM, Swift SE, Berghmans B, Lee J, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. Int Urogynecol J Pelvic Floor Dysfunct 2010;21(1):5–26.

[7] Amarenco G, Arnould B, Carita P, Haab F, Labat JJRF. European psychometric validation of the CONTILIFE: a quality of life questionnaire for urinary incontinence. Eur Urol 2003;43:391–404.

[8] Shumaker SA, Wyman JF, Uebersax JS, McClish DFJ. Health-related quality of life measures for women with urinary incontinence: the incontinence impact questionnaire and the urogenital distress inventory. Continence Program in Women (CPW) Research Group. Qual Life Res 1994;3:291–306.

[9] Kelleher CJ, Cardozo LD, Khullar VSS. A new questionnaire to assess the quality of life of urinary incontinent women. Br J Obs Gynaecol 1997;104:1374–9.

[10] Jackson S, Donovan J, Brookes S, Eckford S, Swithinbank L, et al. The Bristol female lower urinary tract symptoms questionnaire: development and psychometric testing. Br J Urol 1996;77:805–12.

[11] Bug GJ, Kiff ESHG. A new condition-specific health-related quality of life questionnaire for the assessment of women with anal incontinence. Bjog 2001;108:1057–67.

[12] Reilly WT, Talley NJ, Pemberton JHZA. Validation of a questionnaire to assess fecal incontinence and associated risk factors: fecal incontinence questionnaire. Dis Colon Rectum 2000;43:146–53.

[13] Barber MD, Kuchibhatla MN, Pieper CFBR. Psychometric evaluation of 2 comprehensive condition-specific quality of life instruments for women with pelvic floor disorders. Am J Obs Gynecol 2001;185:1388–95.

[14] Lukacz ES, Lawrence JM, Buckwalter JG, Burchette RJN, CW LK. Epidemiology of prolapse and incontinence questionnaire: validation of a new epidemiologic survey. Int Urogynecol J Pelvic Floor Dysfunct 2005;16: 272–272.

[15] Petek Balkanlı Kaplan, Necdet Sut HKS. Validation, cultural adaptation and responsiveness of two pelvic-floor-specific quality-of-life questionnaires, PFDI-20 and PFIQ-7, in a Turkish population. Eur J Obstet Gynecol Reprod Biol 2012;182:229–33.

[16] Duran HD, NÖ, YB, B. Reliability and validity of a turkish version of the global pelvic floor bother questionnaire. Int Urogynecol J 2016;27(10):1577–81.