



Cervantes Menopoz Ölçeği'nin Türkçe Geçerliliği ve Güvenilirliği

Validity and Reliability of the Cervantes Menopause Scale in Turkish

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Abstract: This study aimed to adapt the 10-item Cervantes Scale for Turkish women. The study was designed as a methodological research that included 307 postmenopausal women living in X. Data were collected using the Participant Information Form and the 10-item Cervantes Scale. After the Scale was translated into Turkish, the content and construct validity were assessed. Exploratory factor analysis and confirmatory factor analysis were conducted to determine construct validity. Item analyses were conducted to evaluate the contribution of each item to the overall scale structure, and internal consistency was assessed to determine the reliability of the scale. As a result of the evaluation and analysis, the content validity index of the scale was found to be 0.92. As a result of the exploratory factor analysis, a single factor explained 63.81% of the total variance. The factor loadings of all items were found to be between 0.69 and 0.83. The Cronbach α internal consistency coefficient of the Cervantes Scale was 0.923. The results of Exploratory Factor Analysis and Confirmatory Factor Analysis confirmed the single factor structure of the scale. Good fit indices were found as a result of Confirmatory Factor Analysis. As a result of the evaluations, two items were determined to be unsuitable for Turkish culture and were removed from the scale, reducing the Turkish version to 8 items. The study demonstrated that the 8-item Cervantes Scale is a valid and reliable tool to evaluate menopause symptoms among Turkish women.

Keywords: Cervantes scale, Menopause symptoms, Postmenopausal women, Quality of life, Reliability, Validity

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Öz: Bu çalışma, 10 maddelik Cervantes Ölçeği'nin Türk kadınları için uyarlanmasını amaçlamıştır. Araştırma, X ilinde yaşayan 307 postmenopozal kadını kapsayan metodolojik bir çalışma olarak tasarlanmıştır. Veriler, Katılımcı Bilgi Formu ve 10 maddelik Cervantes Ölçeği kullanılarak toplanmıştır. Ölçeğin Türkçeye çevrilmesinin ardından kapsam geçerliliği ve yapı geçerliliği değerlendirilmiştir. Yapı geçerliliğini belirlemek amacıyla Açıklayıcı Faktör Analizi (AFA) ve Doğrulamalı Faktör Analizi (DFA) uygulanmıştır. Her bir maddenin ölçeğin genel yapısına katkısını değerlendirmek için madde analizleri yapıldı ve ölçeğin güvenilirliğini belirlemek için iç tutarlılık değerlendirildi. Değerlendirme ve analizler sonucunda, ölçeğin kapsam geçerlilik indeksi (CVI) 0,92 olarak bulunmuştur. Açıklayıcı Faktör Analizi sonucunda, tek bir faktör toplam varyansın %63,81'ini açıklamıştır. Tüm maddelerin faktör yükleri 0,69 ile 0,83 arasında değişmiştir. Ölçeğin Cronbach α iç tutarlılık katsayısı 0,923 olarak hesaplanmıştır. Açıklayıcı ve Doğrulamalı Faktör Analizi sonuçları, ölçeğin tek faktörlü yapısını doğrulamıştır. Doğrulamalı Faktör Analizi sonucunda iyi uyum indeksleri elde edilmiştir. Yapılan değerlendirmeler sonucunda iki maddenin Türk kültürüne uygun olmadığı belirlenmiş ve bu maddeler ölçekten çıkarılarak Türkçe form 8 maddeye düşürülmüştür. Bu çalışma, 10 maddelik Cervantes Ölçeği'nin Türk kadınları arasında menopoz semptomlarını değerlendirmede geçerli ve güvenilir bir araç olduğunu ortaya koymuştur.

Anahtar Kelimeler: Cervantes ölçeği, Menopoz belirtileri, Postmenopozal kadınlar, Yaşam kalitesi, Güvenilirlik, Geçerlilik

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Introduction

Menopause is a natural biological female process resulting from hormonal changes. It is defined as the absence of menstruation for 12 months (1). Although menopause is not a pathological condition but a natural process in a woman's life that may face physical, psychological, and social issues during this period (2). Physically issues such as hair loss, skin dryness, joint pain, insomnia, vaginal dryness, dyspareunia, and urinary incontinence can arise (3). Psychologically, conditions such as irritability, concentration difficulties, anxiety, and depression may occur (4). The physical and psychological changes experienced during menopause can also lead to issues such as loneliness, hopelessness, isolation, and family problems in the social sphere (5, 6). All these challenges faced by women during menopause ultimately reduce their quality of life and are considered a significant public health problem (2, 7, 8). The menopausal experience is not merely a product of biological changes; it is a multifaceted life process shaped by sociocultural factors, including cultural norms, gender roles, family structures, and health beliefs (9, 10). Indeed, the prevalence of symptoms varies considerably from individual to individual (3, 11, 12). Research conducted in Türkiye also reveals this situation, showing that menopausal symptoms are not homogeneously distributed among women. While some women experience this process with severe symptoms, others experience moderate or mild symptoms (13-17). Therefore, developing approaches to address the symptoms experienced during menopause and creating individualized care plans require the accurate and reliable assessment of menopausal symptoms using appropriate measurement tools.

In this context, a review of the Turkish literature reveals that studies on the assessment of quality of life and symptoms related to menopause are ongoing, and it is believed that increasing the number of culturally adapted measurement tools in this field could contribute to the quality of research (18). Healthcare professionals need more measurement tools to assess menopausal symptoms using a standardized approach and to effectively develop individualized care plans.

One of the scales used for evaluating menopausal symptoms is the 31-items Cervantes Scale (19), which was later developed as a 10-items short form. This scale allows for the assessment of menopause's effects on physical, psychological, and social areas with a limited number of items. The low number of items and the validity and reliability of this scale as a tool for identifying menopausal symptoms provide a significant advantage for clinical evaluation (20). Despite the availability of several instruments assessing menopause-related symptoms and quality of life, a culturally adapted and psychometrically validated version of the Cervantes Scale is not currently available for Turkish women. Given the multidimensional impact of menopause on women's physical, psychological, and social well-being, there is a need for a valid and reliable assessment tool specific to this population. Therefore, this study aimed to evaluate the validity and reliability of the Turkish version of the Cervantes Scale and to provide a scientifically sound instrument for assessing menopause-related symptoms and quality of life among Turkish women.

Materials and Methods

Study design and inclusion criteria

This methodological research was conducted in Elazığ. The study protocol was approved by the Firat University Non-Interventional Research Ethics Board (Document Date and Number: 11.08.2024-26272). The study population consisted of postmenopausal women living in the province of Elazığ, where the study was conducted between September 2024 and November 2024. For the factor analysis to be reliable when adapting a scale to a different culture, the sample size (number of participants) should be 5-10 times the number of items in the scale. Accordingly, it was necessary to include 100 women in the study (21). The sample was constructed using a convenience sampling method. Data were collected from who met the inclusion criteria and agreed to participate during the data collection period. Since data was collected face-to-face, women who did not meet the criteria were not included in the study, so no data was lost.

Women who have not had menstruation for the past year and do not have a diagnosed psychological disorder or chronic illness were included in the study. The data collection information was included in a Personal Information Form prepared by the researcher and the 10-item Cervantes Scale was used to assess

menopausal symptoms. The personal information form is a 10-item form inquiring about age, education level, income level, employment status, marital status, and the duration of menopause (20, 22-24).

The 10-item Cervantes Scale

After obtaining permission from the scale authors, the ethical approval was acquired from the Firat University Non-Interventional Research Ethics Board. The scale was translated by two translators who specialize in the scientific area, and feedback was obtained from two experts in Turkish Language and Literature to assess the clarity and appropriateness of the translated expressions. This tool measures the extent to which women are disturbed by their menopause-related symptoms (e.g., "Pain in the muscles and/or joints"). Each item is rated on a 6-point Likert scale from 0 ("no symptoms") to 5 ("very severe"). The total score can range from 0 to 50 and is obtained by summing the scores of each item (20, 22, 23). In this study, the Cronbach α internal consistency coefficient of the scale was calculated as 0.923.

Data Collection Process of the Study

The study was deemed ethically appropriate. Data for the study were collected face-to-face from women who agreed to participate.

Translation and Cultural Adaptation Process

Permission was first obtained from the scale owner. The scale was translated into Turkish by two independent translators with expertise in the field.

Content Validity Index

A form was prepared to determine the compatibility between the English items of the scale and their Turkish equivalents, as well as to evaluate the comprehensibility of the Turkish expressions. The items were submitted to 10 experts for evaluation. Experts were asked to rate each item on a scale of 1 to 4. The scoring was defined as follows: "1 point; not suitable, 2 points; somewhat suitable (revision of the item/expression needed), 3 points; quite suitable (suitable but minor changes needed), 4 points; extremely suitable." Necessary corrections were made to the scale based on the feedback received. A back-translation of the Turkish version of the scale was performed, and the original version was compared again with the Turkish form and the back-translation to evaluate the consistency between the items. The content validity index (CVI) was found to be 0.92.

Pilot Study

A pilot study was conducted with 50 women to assess the clarity, comprehensibility, and clarity of the expressions of the scale, as well as to calculate its internal consistency and test its reliability.

Statistical Analysis

The analysis of the research data was conducted using IBM® SPSS® Statistics 30 and IBM® SPSS® Amos™ 30 software. Continuous variable data were reported using mean ($\bar{x}$) and standard deviation (SD) values. For categorical variables, frequency (n) and percentage (%) were used. Both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were applied to evaluate construct validity. The suitability of the data for factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO), Sample Adequacy Measure, and the results of the Bartlett Test of Sphericity. In determining the factors, only those with an eigenvalue of 1 or above were considered, and the loading values of the items as well as the explained variance ratios were taken into account. In the CFA, the goodness of fit of the model was analyzed based on its compliance with the proposed theoretical structure. Various fit indices: χ^2 /degree of freedom, Adjusted Goodness of Fit Index (AGFI), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), Non-Normed Fit Index [NNFI (TLI)], Incremental Fit Index (IFI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residual (RMR), and Standardized Root Mean Square Residual (SRMR). Statistical tests were used to evaluate the model's fit with the data. Item analyses, including item-total correlations, were conducted to examine how well each item contributed to the overall

scale. The internal consistency reliability of the scale was evaluated using Cronbach's α . In addition, the Average Variance Extracted (AVE) and Composite Reliability (CR) values were also calculated.

Results

Table 1 displays the sociodemographic characteristics of the studied population. The average age of women was 57.84 ± 7.18 years. The majority of women (72.3%) had an education level classified as illiterate/literate/primary school, and more than half (53.1%) reported that their income equals their expenses. Only 26.7% of them were employed. Most of the women (73.9%) were married. Nearly all the women (93.5%) had entered menopause naturally and had been menopausal for an average of 8.11 ± 6.19 years.

Table 1. Distribution of women's sociodemographic characteristics (n=307).

Descriptive characteristics	n (%) or mean $\pm$ standard deviation
Age	57.84 $\pm$ 7.18
Level of education	
Illiterate/Literate/Primary school	222 (72.3)
Secondary school	36 (11.7)
High school	34 (11.1)
University and above	15 (4.9)
Income level	
Income less than expenses	71 (23.1)
Income equal to expenses	163 (53.1)
Income more than expenses	73 (23.8)
Employment status	
Yes	82 (26.7)
No	225 (73.3)
Marital status	
Married	227 (73.9)
Single	80 (26.1)
Menopause type	
Natural	287 (93.5)
Surgical	20 (6.5)
Menopause duration (years)	8.11 $\pm$ 6.19

The suitability of the data for factor analysis was supported by a KMO value of 0.889 and a significant Bartlett's test ($\chi^2(45)=1142.444$, $p<0.001$). Communality values ranged between 0.552 and 0.669, and no items were below the acceptable threshold. Exploratory Factor Analysis (EFA) was conducted to assess the construct validity of the Cervantes Scale by identifying its underlying factor structure. The analysis revealed a single-factor structure with an eigenvalue of 6.382, exceeding the Kaiser criterion of 1. This factor explained 63.818% of the total variance, with factor loadings ranging from 0.743 to 0.818.

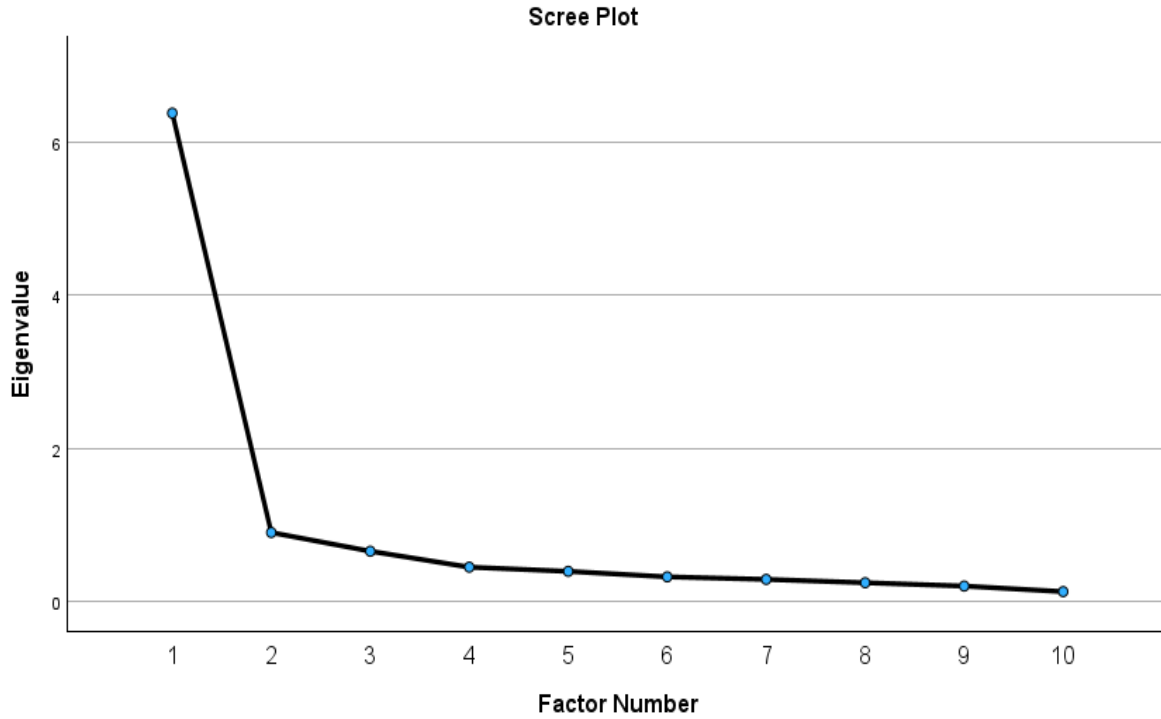


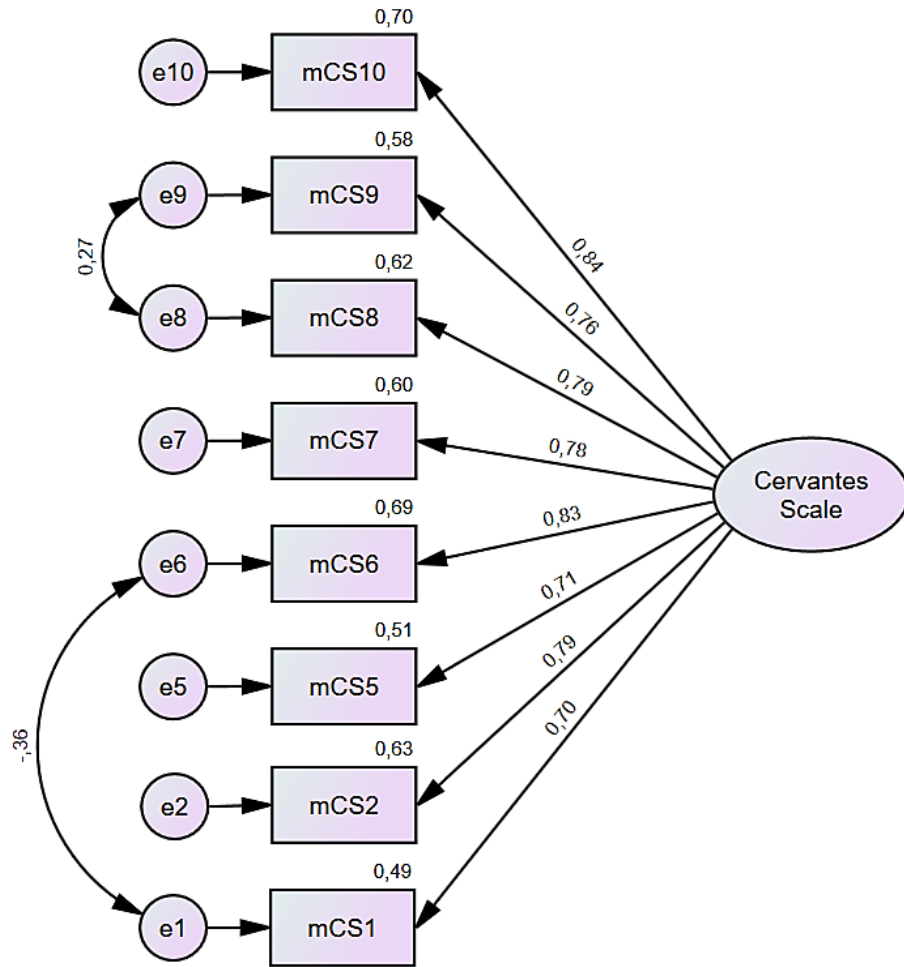
Figure 1. Slope deposit graph showing the factors of Cervantes Scale items (10 items). The plot illustrates the factor structure, with the elbow point indicating the number of factors to retain. Factor loadings were considered in determining the scale's validity and reliability.

Table 2. Cervantes scale exploratory factor analysis communalities and component loadings results.

Item No	Cervantes Scale items	Communalities	Component loadings
		Extraction	Component Matrix
1	I have hot flashes (and/or night sweats).	0.654	0.809
2	I feel my heart beating quickly and out of control.	0.641	0.800
3	I cannot get sufficient sleep (difficulty in sleeping).	0.663	0.814
4	Aching in muscles and/or joints.	0.552	0.743
5	I feel tired since i get up (feeling a lack of energy).	0.613	0.783
6	I have the perception of being useless.	0.658	0.811
7	I feel anxious or nervous.	0.669	0.818
8	I am afraid of performing physical efforts because my urine leaks.	0.603	0.776
9	I have vaginal discomfort and dryness	0.668	0.817
10	I have noticed skin dryness (changes in skin appearance, texture or tone).	0.660	0.813
Eigenvalues			6.382
Total variance explained (%)			63.818
Cumulative variance explained (%)			63.818

Kaiser Meyer Olkin and Bartlett Test Results

Bartlett test	KMO	0.889
	χ^2	1142.444
	degrees of freedom	45
	p	<0.001



CMIN/DF:1,722; AGFI:;909; GFI:;954; NFI:;961; CFI:;983; IFI:;983; TLI:;974; RMSEA:;069

Figure 2. Confirmatory factor analysis fit indices, factor loadings, and model view.

Confirmatory factor analysis (CFA) results indicated that the model had acceptable fit indices. The fit indices of the 10-item version of the scale were found to be CMIN/DF = 3.461, GFI = 0.846, CFI = 0.915, TLI = 0.916, and RMSEA = 0.103. In order to achieve acceptable levels of model fit, items 3 and 4 were removed based on error covariances and modification indices.

To achieve and improve acceptable fit indices, items 3 (“I do not get enough sleep [I have difficulty sleeping].”) and 4 (“I feel pain in my muscles and/or joints.”) were removed from the model based on the results of the Confirmatory Factor Analysis (CFA). In addition, modifications were applied between items

1–6 and items 8–9 to improve model fit. With its single-factor structure, the factor loadings of the remaining items ranged between 0.70 and 0.84 (Figure 2). Consequently, the 10-item Cervantes Scale was reduced to 8 items in order to ensure its cultural appropriateness for the Turkish population.

The fit indices of the 8-item version of the scale CMIN/DF ($\chi^2 = 30.988 / df = 18, p = 0.029$) = 1.722 (Chi-square/degrees of freedom), RMSEA = 0.069 (Root Mean Square Error of Approximation), GFI = 0.954 (Goodness of Fit Index), AGFI = 0.909 (Adjusted Goodness of Fit Index), NFI = 0.961 (Normed Fit Index), NNFI (TLI) = 0.974 (Non-Normed Fit Index), CFI = 0.983 (Comparative Fit Index), and IFI = 0.983 (Incremental Fit Index), RMR=0.066 (Root Mean Square Residual), SRMR = 0.029 (standardized Root Mean Square Residual) indicate that the model exhibits good fit (Table 3, Figure 2).

Table 3. Perfect and acceptable fit criteria for fit indexes used in structural equation model research.

Fit Indexes	Fit Indices of the Study	Perfect Fit Criteria	Acceptable Compliance Criteria
χ^2/df	1.722	$0 \leq \chi^2/df \leq 2.00$	$2.00 \leq \chi^2/df \leq 5.00$
AGFI	0.909	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq 0.90$
GFI	0.954	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$
CFI	0.983	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$
NFI	0.961	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$
NNFI (TLI)	0.974	$0.95 \leq NNFI \leq 1.00$	$0.90 \leq NNFI \leq 0.95$
IFI	0.983	$0.95 \leq IFI \leq 1.00$	$0.90 \leq IFI \leq 0.95$
RMSEA	0.069	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$

AGFI: Adjusted Goodness of Fit Index; CFI: Comparative Fit Index; df: degree of freedom; GFI: Goodness of Fit Index; IFI: Incremental Fit Index; NFI: Normed Fit Index; NNFI (TLI): Non-Normed Fit Index; RMSEA: Root Mean Square Error of Approximation.

The Cronbach's alpha coefficient of the scale was 0.923. The standardized factor loadings ranged between 0.697 and 0.838. The AVE value was calculated as 0.603, and the composite reliability (CR) value was 0.924 (Table 4). The total score ranged between 0 and 40. The mean score was 20.60 ± 9.56 , and the median was 20 (interquartile range: 12–29). The skewness value was 0.023 and the kurtosis value was -1.089.

Table 4. Item-Total score correlation, Cronbach's alpha coefficient, average variance extracted, and composite reliability Values Regarding the Reliability of the Cervantes Scale.

Items	Item-Total Correlation	Standardized Factor Loadings	average variance extracted	Composite reliability
Item1	0.677	0.70		
Item 2	0.757	0.79		
Item 5	0.676	0.71		
Item 6	0.771	0.83		
Item 7	0.750	0.78	0.603	0.924
Item 8	0.754	0.79		
Item 9	0.765	0.76		
Item 10	0.781	0.84		

α : Cronbach's Alpha coefficient, AVE: Average variance extracted, CR: Composite reliability.

Discussion

We demonstrate the validity and reliability of the Turkish version of the 10-item Cervantes Scale. The scale has good psychometric properties for the Turkish society and can be used as a valid and reliable measurement tool.

The first step in adapting the measurement tool to the target language and culture was to adapt the scale to language and cultural conceptual terms (25). There are four steps to follow when adapting the scale to language: translation of the scale by at least two people, translation of the scale back to its original language (at least by two people independent of those who made the first translation), obtaining expert opinion, and a pilot study (26). Based on this procedure, the translation-back translation method was used. The scale was first translated into Turkish, then back into English, and the final English translation was compared with the original scale to ensure linguistic compatibility. The final Turkish version was sent to five experts for linguistic evaluation, and items were adjusted according to their recommendations. A pilot study with 50 participants confirmed the comprehensibility of the items, and no further changes were needed.

For the content validity study, the scale items were sent to 10 researchers with a doctorate in the field. The Davis technique was used to assess the views of the experts on the content validity (27). The content validity index of the scale was found to be 0.92. It was calculated that each item in the scale had a content validity score ranging from 0.88 to 1.00.

The KMO and Bartlett's Sphericity tests were used to evaluate the suitability and adequacy of the data for factor analysis. The KMO value was 0.889, and the Bartlett test was statistically significant ($\chi^2(45)=1142.444$, $p<0.001$), indicating that the sample and dataset were adequate for factor analysis (28). Exploratory Factor Analysis confirmed a unidimensional structure, with factor loadings ranging from 0.55 to 0.66. (29).

Confirmatory Factor Analysis was applied to evaluate the goodness of fit and structural validity of the one-factor structure (30). In the literature, it is reported that acceptable values for RMSEA < 0.08, RMR and SRMR < 0.05, $\chi^2/df < 5$, and IFI, CFI, TLI, GFI, AGFI, and NFI > 0.90 are acceptable for the model (31-34). To improve the fit indices, items 3 ("I am not getting enough sleep") and 4 ("I feel pain in my muscles and/or joints") were removed. This change may reflect cultural differences in the perception of menopausal symptoms in Turkish women, influenced by societal norms, women's roles, and values attributed to aging (35). After removing items 3 and 4 from the scale, the indices obtained were as follows: RMSEA = 0.069, RMR = 0.066, SRMR = 0.029, $\chi^2/df = 1.722$, IFI = 0.983, CFI = 0.983, TLI = 0.974, GFI = 0.954, AGFI = 0.909, and NFI = 0.961. These results indicate that the model demonstrates excellent fit. It is considered that the acceptable value for item-total correlation coefficients should be ≥ 0.30 (36). In the study, item-total score correlation values for all items in the scale ranged between 0.676 and 0.781. This finding indicates that the scale is reliable.

The Cronbach alpha value is stated to range from 0.00 to 1.00, with reliability increasing as the value approaches 1.00, and values above 0.70 are considered good and acceptable (37). In this study, the Cronbach alpha value was found to be 0.923, indicating that the scale internal consistency is high.

Some limitations to this study should be taken into account. The population studied is in the traditionally patriarchal region of Türkiye. The population lives in the eastern region, approximately 732 kilometers from the country's capital. The education rate of women in the region is low. Therefore, women may have been reluctant to answer some questions. Due to the methodology of this research, it was not possible to carry out a test-retest as part of the validation process. Therefore, women from other Türkiye regions may display other characteristics. Despite those limitations, the strength of this study is that the 10-item Cervantes Scale is a simple test to evaluate menopause-related clinical complaints related to menopause. Further studies are needed to compare if there are geographical factors or lifestyle factors among women living in Turkey.

Conclusion and Suggestions

According to our findings, the Turkish adaptation of the 10-item Cervantes Scale was reduced to 8 items following validity and reliability analyses, as items related to sleep difficulties and musculoskeletal pain were not found to be culturally appropriate within the Turkish context. The scale demonstrated a unidimensional structure after these modifications. The Cronbach's alpha coefficient of the Turkish version was high and comparable to that of the original scale, indicating strong internal consistency.

These findings suggest that the 8-item Turkish version of the Cervantes Scale is a valid and reliable tool for assessing menopausal symptoms among postmenopausal women in Türkiye. However, this study has some limitations, including being conducted in a single region and including only postmenopausal women, which may limit the generalizability of the results.

From a clinical perspective, the adapted scale provides a practical and culturally appropriate assessment tool that can be used by nurses and other healthcare professionals to evaluate menopausal symptoms, guide individualized care, and monitor symptom changes over time. Future studies should examine the applicability of the scale among perimenopausal women and in individuals receiving menopause-related treatments, as well as in more diverse populations.

Ethical Statement: Ethical approval for this study was obtained from the Non-Interventional Research Ethics Committee of Firat University (Date: August 11, 2024, Decision No: 26272). This study was prepared in accordance with scientific and ethical principles, as well as the research principles outlined in the Helsinki Declaration. All referenced studies are listed in the bibliography.

Authors Contributions: Manuscript concept/design: N.Ş.Ç, F.P.L, G.N- Data collecting: N.Ş.Ç- Data analysis/review: N.Ş.Ç, F.P.L,S.H., G.N- Writing the manuscript: N.Ş.Ç, F.P.L,S.H., G.N- Critical review of content: N.Ş.Ç, F.P.L,S.H., G.N- Final approval and responsibility: N.Ş.Ç, F.P.L- Material and technical support: N.Ş.Ç, F.P.L,S.H., G.N- Supervision: N.Ş.Ç, F.P.L,S.H., G.N.

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References

1. (WHO) WHO. Menopause 2024 [Available from: <https://www.who.int/news-room/fact-sheets/detail/menopause>.
2. Kirchengast S. Menopause in a globalized world—A systematic literature review focussing on the challenge of health problems associated with menopausal transition among women with a migration background. *Maturitas*. 2024;187:108045.
3. Monteleone P, Mascagni G, Giannini A, Genazzani AR, Simoncini T. Symptoms of menopause - global prevalence, physiology and implications. *Nature Reviews Endocrinology*. 2018;14(4):199-215.
4. Talaulikar V. Menopause transition: Physiology and symptoms. *Best Practice & Research Clinical Obstetrics & Gynaecology*. 2022;81:3-7.
5. Namazi M, Sadeghi R, Behboodi Moghadam Z. Social determinants of health in menopause: An integrative review. *International Journal of Women's Health*. 2019;11(null):637-47.
6. Sathiyaseelan A, Patangia B, Hainary P. Meaning in life in menopause: A narrative literature review on how menopausal women make sense of their life? *Indian Journal of Psychiatric Nursing*. 2024;21(1):66-73.
7. Yerra AK, Bala S, Yalamanchili RK, Bandaru RK, Mavoori A. Menopause-related quality of life among urban women of Hyderabad, India. *Journal of Mid-life Health*. 2021;12(2):161-167.
8. Kang HK, Kaur A, Dhiman A. Menopause-specific quality of life of rural women. *Indian Journal of Community Medicine*. 2021;46(2):273-276.
9. AlSwayied G, Frost R, Hamilton FL. Menopause knowledge, attitudes and experiences of women in Saudi Arabia: a qualitative study. *BMC Womens Health*. 2024;24(1):624.
10. Anto A, Basu A, Selim R, Eisingerich AB. Women's menopausal experiences in the UK: A systemic literature review of qualitative studies. *Health Expectations*. 2025;28(1):e70167.
11. Davis SR, Pinkerton J, Santoro N, Simoncini T. Menopause—biology, consequences, supportive care, and therapeutic options. *Cell*. 2023;186(19):4038-4058.
12. Zhang L, Ruan X, Cui Y, Gu M, Mueck AO. Menopausal symptoms and associated social and environmental factors in midlife Chinese women. *Clinical Interventions in Aging*. 2020;15:2195-2208.
13. Demirtaş FA, Fırat BÖ, Ertop H, Oskay Ü. Menopoz dönemindeki kadınlarda eş desteğinin menopozal yakınmalara etkisi: Nitel bir çalışma. *Etkili Hemşirelik Dergisi*. 2024;17(3):337-350.
14. Ozcivit Erkan IB, Gulcicek A, Sayili U, Bayram Deger V, Erel CT, Senturk LM. Menopausal symptoms among perimenopausal women in rural Turkey: A cross-sectional study. *Climacteric*. 2025;28(3):304-311.
15. Gümüşay M, Erbil N. Kadınların menopoza özgü yaşam kalitesine menopoz tutumunun etkisi. *Ordu Üniversitesi Hemşirelik Çalışmaları Dergisi*. 2019;2(2):96-109.
16. Koçak DY, Beji NK. Modeling the risk factors of women with very severe menopausal symptoms. *Journal of Obstetrics and Gynaecology Research*. 2023;49(4):1264-1272.
17. Ayranci U, Orsal O, Orsal O, Arslan G, Emeksiz DF. Menopause status and attitudes in a Turkish midlife female population: An epidemiological study. *BMC Women's Health*. 2010;10(1):1.
18. Abay H, Kaplan S. Validation and reliability of the Turkish Utian Quality-of-Life Scale in postmenopausal women. *Menopause*. 2016;23(4):425-432.

19. Palacios S, Ferrer-Barriendos J, Parrilla JJ, et al. Health-related quality of life in the Spanish women through and beyond menopause. Development and validation of the Cervantes Scale. *Medicina Clinica*. 2004;122(6):205-11.
20. Pérez-López FR, Fernández-Alonso AM, Pérez-Roncero G, Chedraui P, Monterrosa-Castro Á, Llaneza P. Assessment of menopause-related symptoms in mid-aged women with the 10-item Cervantes Scale. *Maturitas*. 2013;76(2):151-154.
21. Erdoğan S, Nahcivan N, Esin MN. Hemşirelikte araştırma: süreç, uygulama ve kritik: Nobel Tıp Kitabevi; 2015.
22. Pimenta F, Albergaria R, Marôco J, Leal I, Chedraui P, Pérez-López FR. Validation of the 10-item Cervantes Scale in middle-aged Portuguese women: paper-and-pencil and online format assessment of menopause-related symptoms. *Menopause*. 2019;26(2):203-210.
23. Dall'Agno ML, Ferreira CF, Ferreira FV, et al. Validation of the Brazilian 10-item Cervantes Scale for the assessment of menopausal symptoms. *Revista Brasileira de Ginecologia e Obstetrícia*. 2024;46:e-rbgo7.
24. Kharbouch S, Şahin N. Menopozal dönemlerdeki yaşam kalitesinin belirlenmesi. *İ.Ü.F.N.H.Y.O Hemşirelik Dergisi*. 2007;15(59):82-89.
25. Çapık C, Gözümlü S, Aksayan S. Intercultural scale adaptation stages, language and culture adaptation: updated guideline. *Florence Nightingale Journal of Nursing-Florence Nightingale Hemşirelik Dergisi*. 2018;26(3):199-210.
26. Karaçam Z. Ölçme araçlarının türkçeye uyarlanması. *Ebelik ve Sağlık Bilimleri Dergisi*. 2019;2(1):28-37.
27. Yurdugül H. Ölçek geliştirme çalışmalarında kapsam geçerliği için kapsam geçerlik indekslerinin kullanılması. *XIV Ulusal Eğitim Bilimleri Kongresi*. 2005;1:771-774.
28. Boateng GO, Neilands TB, Frongillo EA, Melgar-Quinonez HR, Young SL. Best practices for developing and validating scales for health, social, and behavioral research: a primer. *Frontiers in Public Health*. 2018;6:149.
29. Gökdemir F, Yılmaz T. Likert tipi ölçekleri kullanma, modifiye etme, uyarlama ve geliştirme süreçleri. *Journal of Nursology*. 2023;26(2):148-160.
30. Kline RB. Principles and practice of structural equation modeling: Guilford publications; 2023.
31. Çapık C. Use of confirmatory factor analysis in validity and reliability studies. *Journal of Anatolia Nursing and Health Sciences*. 2014;17(3):196-205.
32. İlhan M, Çetin B. Comparing the analysis results of the structural equation models (SEM) conducted using LISREL and AMOS. *Journal of Measurement and Evaluation In Education And Psychology-Epod*. 2014;5(2):26-42.
33. Yılmazyaşar H. Bencillik ölçeği: Bencilliğin uyumsal, egosantrik ve patolojik biçimlerinin ölçülmesi. *The Journal of Academic Social Science*. 2024;74(74):45-57.
34. Turan GB, Özer Z, Karman S. Turkish validity and reliability study of disease-related fear scale in patients with epilepsy. *Epilepsy & Behavior*. 2023;138:109053.
35. Vural PI, Yangın HB. Menopoz algısı: Türk ve Alman kadınların karşılaştırılması. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*. 2016;5(3):7-15.
36. Büyüköztürk Ş. Data analysis handbook for social sciences statistics, research pattern Spss applications and interpretation. Ankara: Pegem Academy. 2017.
37. Yanmış S, Bahçecioğlu Turan G, Özer Z. Turkish validity and reliability study of humanistic practice ability of nursing scale. *International journal of clinical practice*. 2022;2022(1):8435530.