

Retraction

The following article from *Journal of Obstetrics and Gynaecology Research*, “Development, validity and reliability of the Turkish version of the Hung Postpartum Stress Scale” by Nezihe Uğurlu, Banu Bayar, Kılıçhan Bayar, Atilla Gökteş, İlkin Çıtak Karakaya and Hatice Polat, published online on 2 March 2012 in Wiley Online Library (<http://onlinelibrary.wiley.com>), and in Volume 38, Issue 4, 705–713 pp, has been retracted by agreement between the journal Editor in Chief, Shiro Kozuma, and Wiley Publishing Asia Pty Ltd. The retrac-

tion has been agreed to due to the manuscript having been submitted without the express agreement of all co-authors in contravention to journal submission rules.

Reference

1. Uğurlu N, Bayar B, Bayar K, Gökteş A, Karakaya İÇ, Polat H. Development, validity and reliability of the Turkish version of the Hung Postpartum Stress Scale. *J Obstet Gynaecol Res* 2012; 38: 705–713.

Development, validity and reliability of the Turkish version of the Hung Postpartum Stress Scale

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Abstract

Aim: The aim of the current study was to translate the Hung Postpartum Stress Scale into Turkish and test the reliability and validity of the Turkish version of the scale.

Methods: The translation process of the Hung Postpartum Stress Scale into Turkish and the testing of reliability and validity of the newly developed scale on postpartum stress in women are described. The questionnaire was translated using a back-translation technique. Expert review of internal consistency reliability, content validity, factor analysis of construct validity and criterion-related validity were examined.

Results: Cronbach's alpha for the Turkish version of the Hung Postpartum Stress Scale was 0.931, indicating very good reliability. Factor analyses resulted in a two factor scale structure: maternal concerns and acceptability of the newborn by the family. Analyses also indicated good test-re-test reliability for the Turkish version of the Hung Postpartum Stress Scale ($P < 0.01$).

Conclusions: The present study describes the design of a Turkish version of the Hung Postpartum Stress Scale. The newly developed scale proved to be reliable and valid and will be a valuable instrument for women's healthcare professionals.

Key words: postpartum stress, postpartum stress scale, reliability, validity.

Introduction

The six weeks following delivery, known as the postpartum period is a complicated transition period. During this stage of adaptation both mother and family experience a disruption in psychosocial balance often leading to intense stress.¹⁻³ Maternity is an important developmental goal and can be perceived as a personal achievement.⁴ There is significant pressure in nearly every society for women to become pregnant and take on the roles of motherhood.^{1,5,6} Society prepares women for the duties of motherhood and pressure

from partners, the peer group and family can be a significant factor in a woman's decision on becoming a mother.^{5,7,8}

During the postpartum period a new system must be established to incorporate the new family member.^{5,9} Basic components of the postpartum period include physical restoration, development of maternal abilities, rearrangement of existing relationships and engaging the baby.¹⁰ All of these responsibilities can lead to a stressful life experience and negatively affect the mother's health, marital relationship and newborn.¹⁰⁻¹²

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Postpartum stress is produced by a number of factors.^{2,13} Feeding and physical care of the newborn, growth and development of the newborn, interpreting the newborn's behaviours, fatigue, chest pain, getting back in shape, limitation of visitors, having needs met and labour were identified as the most common stressors by first-time mothers; while fatigue, having needs met, emotional stress, sibling jealousy, and labour were identified by mothers who had previously given birth.¹⁴

Perineal suture, breast care, body image, impairment of physical appearance and issues related to fatigue are the primary concerns during the early postpartum period. Discomfort due to episiotomy can negatively affect sexual intercourse. Blockage of milk ducts in the breast, pain and milk leakage are other sources of discomfort. Caring for the infant requires constant attention and prevents adequate rest.^{4,7,15-17} During the postpartum period, new mothers must acquire skills such as gaining sensitivity to the infant's behavioural clues and learning to respond adequately.^{7,11} Postpartum stress can be initiated in cases where a new mother has difficulties understanding and learning her newborn's crying, sleeping and feeding patterns and other behaviours specific to the baby.^{1,7,17} During the postpartum period, newborns can suffer health problems such as sucking difficulties, jaundice, discomfort, sleep disturbances, aphtha, diaper rash, ocular infections, umbilical infections, abdominal distention, diarrhoea and insufficient weight gain.¹⁸ New parents must learn about dandruff care, jaundice, oral care, diaper rash care, and evaluation of urine output.¹⁹

Recent studies on new mothers indicate that social support has positive effects on postpartum mood.²⁰ In a Turkish study, Şenses and Yıldızoğlu found that 54.8% of new mothers receive help from their mother-in-laws in the care of themselves and their newborn.²¹ Reece reported that most social support for the new mother comes from partners and peers and that social support of the partner and the family are correlated with both positive parenthood self-assessment and low postpartum stress.²² Therefore, a deficit in social support can lead to feelings of incapability and incompetency in performing roles and responsibilities.⁷

In Turkey, emotional problems arising during the postpartum period are classified into three groups in ascending order of severity: baby blues, postpartum depression and postpartum psychosis. The boundary between each group is not however, well defined.^{5,23,24} Baby blues (appearing 2–4 days post delivery) is experienced by between 50–80% of mothers and is accepted as a normal response to the new situation. Baby blues is

characterized by sleep disturbances, crying, tiredness, discomfort and anxiety.²⁴ It has been reported that the risk of postpartum depression increases as the severity of baby blues increases.⁵ In studies carried out in Turkey, prevalence of postpartum depression was reported to vary between 21.2% and 28%.²⁴⁻²⁶

The birth of newborn is generally a positive and joyful experience. However, emotional difficulties can arise in some mothers.² While some women adapt easily to the new physiologic, psychologic and social challenges that arise from pregnancy and childbirth, varying levels of emotional problems can develop in those who struggle in adapting to these changes. Additionally, in Turkey many women feel guilty for feeling depressed during a period in which they believe they should be happy, and therefore tend to hide their emotions.^{24,27} There is only one available scale to assess postpartum stress although many studies about postpartum depression and various scales available in literature that can be used for assessment. Hung's postpartum stress scale (HPSS) is a reliable scale consisting of 62 items developed for measurement of postpartum stress.²⁸ To date, there are no available scales that measure postpartum stress for clinical assessment or research in Turkey.

The development of a Turkish version of the HPSS would enhance the understanding of postpartum stress among Turkish women and would enable midwives, nurses and health educators to identify women who are in most need of support. In addition, a better understanding of the disorder would aid in the development of appropriate interventions. The primary purpose of the present study was to translate the HPSS into Turkish and to test the psychometric properties of the Turkish version.

Materials and Methods

Sample

The present study follows a comparative design and was conducted in the Central of Mugla, a city located in the south west of Turkey. The data were obtained from 517 postpartum Turkish women in the Mugla State Hospital, Health Center of number 1, number 2 and number 3. The women ranged in age from 16 to 43 years, with a mean age of 26.6 years. The women participants experienced no complications during childbirth, gave birth to healthy babies and agreed to respond to a questionnaire when they visited a health centre to reassess their health after delivery.

Permission to use the original HPSS was obtained from the author. Permission to perform the study was obtained by the chancellery of Mugla University Rectorate, Mugla Governorship and Mugla Provincial Health Directorate. The participants were informed about the general nature of the study and were assured of the confidentiality of the data they provided. Informed consent for the study was obtained from all subjects.

Instruments

Based on the content validity established in 2001, the 85-item HPSS for assessing postpartum stress during the puerperium was tested for construct validity as well as measures of generality and internal consistency reliability with women at risk for postpartum stress.² In 2007 Hung reassessed the 85-item scale and found 62 items that were most significant.²⁸ Three dimensions of postpartum stress were identified: 1) Concerns about maternal role attainment, consisting of 32 items related to competency in physical care-taking tasks and acceptance of role obligations; 2) Concerns about negative body changes, with 13 items related to changes in body sensation, structure, and function after childbirth; and 3) Concerns about lack of social support, including 17 items related to emotional, informational, instrumental, and appraisal support. Clarifying these items resulted in a revised 62-item scale. These 62 items were used in the present study. Items were rated on a five-point Likert-type scale, ranging from 1 (not at all) to 5 (always). The score for postpartum stress was calculated by summing all ratings, resulting in possible scores between 62 and 310 with higher scores indicating higher stress.²⁸

Translation

The original version of HPSS was prepared in Mandarin Chinese. Professor Hung sent us the English translation. Two translations from English to Turkish were performed by two different and independent translators whose native language was Turkish, allowing detection of errors and divergent interpretations of items with ambiguous meanings in the original instrument. The two translations were then synthesized by the translators, along with two bilingual health professionals. Back translation was performed by a translator whose native languages are both Turkish and English, and who was blind to the original version. The original scale and back translation were compared and reviewed by an expert committee composed of the authors, an experienced professional translator, and

health professionals, who were all bilingual. The committee reviewed the translations and reached consensus on discrepancies. Cognitive debriefing performed by the expert committee was performed to assess the level of comprehensibility and cognitive equivalence of the translation, on 15 postpartum women. These women were asked to independently rate the relevancy and the comprehensibility of each item by using a content validity index (CVI) for relevancy four-point rating scale: (i) not relevant, (ii) somewhat relevant, (iii) quite relevant and (iv) very relevant, and for a content validity index (CVI) for comprehensibility also using a four-point rating scale: (i) not understandable (ii) somewhat understandable (iii) quite understandable (iv) very understandable (Ugurlu N, 2009, unpublished data). The CVI was assessed by the proportion of total items rated as either 3 or 4. A CVI rating of 0.8 that was greater than 0.7 was considered valid.²⁹

Procedures

While no standard post delivery hospital length of stay exists, mothers and newborns are typically discharged 24 h after delivery in Turkey.³⁰ Based on new mother monitoring recommendations by the Ministry of Health the HPSS was administered to the mothers in the first 24 h after delivery. In order to assess the reliability of the Turkish version of the scale, the questionnaire was again completed by the mothers during second week after delivery when they visited a health-care centre for a check up.³¹ The questionnaire took approximately 22 min to complete.

Data analysis

The Likert scale contains both quantitative and qualitative variables. The variables were summarized through descriptive statistics (qualitative) and mean \pm standard deviation ($X \pm SD$) and percentages (quantitative). The scale was coded according to Shaw and Wright.³² Statistical analyses were performed using the Statistical Package for Social Sciences 15.0 with a 0.05 alpha level of significance. Kolmogorov Smirnov goodness of fit test was used to check for normal distribution of data. Content validity, construct validity, internal consistency and stability are presented. Content validity was also presented in the Turkish Translation section. The Kaiser-Meyer-Olkin (KMO) test was used to assess whether the sample size was adequately large and the data had multivariate normal distribution.^{33,34} Barlett's Test of Sphericity for factor analysis was performed to assess construct validity. Varimax rotation was used as the principal component for the factor analysis. The

most significant factors were determined by eigenvalues greater than 1 or by the factor scree plot. Cronbach's alpha reliability coefficient was calculated to determine whether the internal consistency reliability of the entire scale was satisfactory. A Cronbach's alpha coefficient above 0.80, was considered high, a coefficient between 0.60 and 0.80, was considered moderate, and below 0.60 was considered low.³⁵ A Spearman correlation analysis was performed to test the association between pre-test and post-test scores. The degree of correlation (high, medium, low) of the Spearman correlation scores were considered the same as those for Cronbach's alpha, outlined above.³⁶

Results

The final draft of the Turkish version of the HPSS was completed by 517 women (mean age 26.60 ± 4.838) out of 605 women between February, 2009 and December, 2009. The questionnaire was re-administered one week after the initial test to assess test-retest reliability.

Validity

Content validity

The mean CVI for both relevancy and comprehensibility of the original HPSS has been reported to be above 0.80 implying sufficient content validity.²⁹ The relevancy CVI of the Turkish version of the HPSS tested on 15 women in the present study was 0.80 while the comprehensibility CVI was 0.82. Since CVI values for both relevancy and comprehensibility were much greater than 0.70 the items included in the HPSS are valid for a research on postpartum stress.

Construct validity

Factor analysis that comes up with principal component analysis was performed to assess construct validity for both the pre-test and post-test results. The Bartlett's test of sphericity for both the pre-test ($\chi^2 = 11\,967.269$, d.f. = 1891, $P < 0.0001$) and post-test ($\chi^2 = 11\,456.88$, d.f. = 1891, $P < 0.0001$) were statistically significant, indicating that there was no inter-correlation between items and that the correlation matrix was not an identity matrix. The KMO value was 0.89 for both the pre-test and post-test indicating that the statistical assumptions of multivariate normality were met and that the sample size was sufficient for factor analysis.^{33,34} Initial factor analysis using principal components analysis with varimax rotation revealed 20 factors with eigen-values greater than 1 for both the pre-test

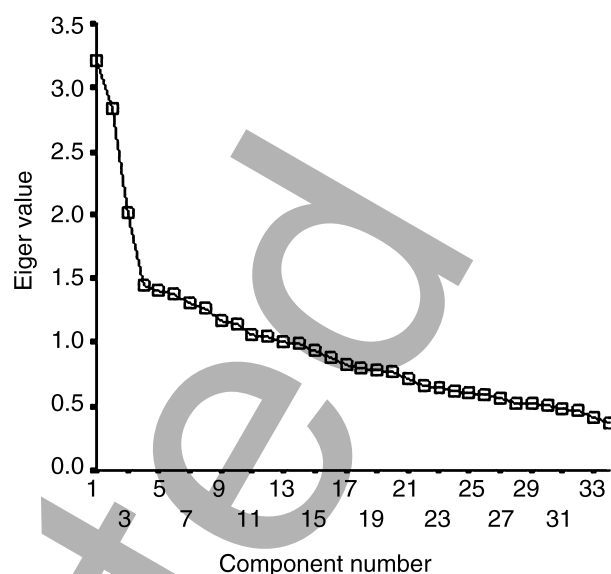


Figure 1 Scree plot indicated a two-factor solution for both pretest and posttest results.

and post-test results. The scree plot indicated that a three-factor solution for both tests was optimum, and provided the most meaningful interpretation based on the theoretical dimensions of learned resourcefulness (Fig. 1). However, since the third factor consisted of only one item, it was excluded. The principal components analysis was performed to obtain a two-factor solution in which 26.383% of the total variance for the pre-test and 26.067% of the total variance for post-test results was gathered. The first factor from the pre-test results, which was identified as maternal concerns, included thirty seven items, explaining 20.97% of the total variance. From the post-test results the first factor, also identified as maternal concerns, consisted of 42 items, explaining 20.11% of the total variance. Factor 2 from the pre-test analysis included four items and was identified as the degree to which the family accepts the infant as a new member of the family, explaining 6.286% of the total variance. Factor 2 from the post-test analysis included four items, explaining 5.957% of the total variance. Factor loadings for items above 0.40 meaning the item has a significant effect on that factor are presented in Table 1.

Reliability

Internal consistency

Cronbach's alpha for both the pre-test (0.931) and post-test (0.932) were significantly greater than the 0.80 rating considered high, indicating reliability.

Table 1 Test and retest factor loadings after varimax rotation for the HPSS ($n = 517$)

Item	Test Factor 1 Maternal Concerns	Factor 2 Acceptableness of Baby	Item	Retest Factor 1 Maternal Concerns	Factor 2 Acceptableness of Baby
2	0.464		1	0.483	
4	0.440		2	0.527	
6	0.432		3	0.467	
7	0.455		4	0.482	
13	0.431		7	0.504	
14	0.475		13	0.454	
15	0.425		14	0.416	
16	0.453		15	0.460	
17	0.475		17	0.539	
18	0.503		18	0.465	
24	0.573		19	0.582	
25	0.490		21	0.422	
26	0.574		22	0.405	
30	0.558		25	0.424	
31	0.457		26	0.473	
32	0.495		27	0.487	
33	0.563		28	0.419	
34	0.501		30	0.439	
38	0.516		31	0.469	
39	0.462		32	0.451	
40	0.502		33	0.512	
41	0.482		34	0.437	
42	0.522		38	0.530	
43	0.476		39	0.522	
45	0.417		40	0.588	
47	0.607		42	0.474	
48	0.615		44	0.445	
49	0.584		45	0.566	
50	0.532		47	0.593	
51	0.534		48	0.570	
54	0.543		49	0.568	
55	0.423		50	0.510	
56	0.470		52	0.406	
58	0.546		53	0.521	
59	0.419		54	0.493	
61	0.526		56	0.541	
62	0.499		57	0.469	
			58	0.528	
			59	0.461	
			60	0.549	
			61	0.494	
			62	0.505	
8		0.469	8		0.475
11		-0.531	20		0.457
20		0.532	29		0.416
29		0.488	36		0.504
Contribution (%)	20.097	6.286	Contribution (%)	20.111	5.957
Cronbach's α	0.919	0.392	Cronbach's α	0.925	0.655

The Pearson correlation analyses between each item and the entire scale are presented in Table 2. Correlations were generally high, indicating strong relationships between items.

Cronbach's alpha was recalculated for both the pre-test and post-test results after the removal of each item

from the scale, leaving 61 items. The removal of each item led to a significant decrease in the Cronbach's alpha (Table 3). For example after the removal of item one, Cronbach's alpha decreased from 0.931 to 0.923 (a 0.0008 decrease; considered statistically significant). These results indicate that each item is valuable in the

Table 2 Test-retest association with Spearman's correlation ($n = 517$)

Item	Item content	Test R ^s	Retest R ^s
1	Not being able to control my body weight	0.388**	0.480**
2	My intake of food	0.469**	0.522**
3	Interrupted sleep	0.429**	0.471**
4	Not knowing the appropriate time for resuming intercourse	0.435**	0.473**
5	The degree of leisure	0.389**	0.396**
6	The wound	0.417**	0.328**
7	The limitations of living space	0.460**	0.500**
8	Not sleeping enough	0.320**	0.343**
9	Choosing formula brands	0.313**	0.353**
10	Sudden stops in my baby's breathing	0.446**	0.354**
11	The baby's jaundice	0.372**	0.296**
12	The results of newborn screening tests	0.423**	0.428**
13	Diapering	0.428**	0.458**
14	Limited resources for counseling during the postpartum period	0.469**	0.300**
15	Differing opinions of family members on baby care	0.426**	0.452**
16	Recovering my original body figure	0.452**	0.355**
17	The unpredictability of the baby's schedule	0.457**	0.517**
18	Painful nipples due to breast feeding	0.494**	0.463**
19	The normality of lochia	0.366**	0.563**
20	The baby's sex being the opposite of what family expected it to be	0.303**	0.365**
21	The baby's body weight	0.376**	0.417**
22	The baby getting sick suddenly	0.420**	0.420**
23	Less concern from my husband	0.362**	0.294**
24	The baby's spitting up	0.558**	0.410**
25	Bothersome taboos during the postpartum period	0.491**	0.416**
26	Missing the baby's cues	0.561**	0.431**
27	Lack of help with household chores	0.352**	0.465**
28	Inadequate emotional support from family	0.338**	0.402**
29	The baby's sex being the opposite of what I expected it to be	0.319**	0.276**
30	Abnormality in the baby's elimination	0.532**	0.446**
31	The lack of my husband's participation in baby care	0.463**	0.459**
32	Cord-stem care	0.475**	0.445**
33	The flabby flesh of my belly	0.551**	0.506**
34	The baby's rash	0.486**	0.434**
35	The baby choking during feeding	0.448**	0.423**
36	The baby's appearance differing from family's expectation	0.200**	0.351**
37	Family financial burden	0.291**	0.258**
38	Bathing the baby	0.494**	0.507**
39	The baby's crying	0.434**	0.500**
40	The shape of the baby's head due to the sleeping position	0.493**	0.569**
41	The baby will not adapt to the shift from breast feeding to formula	0.468**	0.287**
42	My sexual intercourse due to the stretching of the vagina	0.517**	0.461**
43	The baby's intake of milk	0.466**	0.303**
44	Lack of acceptance of the baby by family	0.365**	0.457**
45	Dressing the baby for extreme weather conditions	0.412**	0.552**
46	The baby's nose will get plugged up when sleeping	0.373**	0.369**
47	Lack of information regarding infant's growth and development	0.589**	0.566**
48	Feeding my baby	0.601**	0.547**
49	Dressing my baby	0.565**	0.549**
50	Fatigue	0.526**	0.507**
51	I feel like crying	0.535**	0.379**
52	Poor marital relationship	0.286**	0.398**
53	Lack of information regarding self-care	0.310**	0.500**
54	Unfading striae gravidarum	0.540**	0.485**
55	Insufficient breast milk	0.426**	0.347**
56	Rough skin	0.475**	0.526**
57	Looking after my family and keeping up with my job	0.395**	0.446**
58	Lack of help with baby care	0.537**	0.504**
59	Body soreness	0.413**	0.460**
60	Not knowing the appropriate time for exercise	0.398**	0.524**
61	The baby's immunization	0.514**	0.478**
62	The deformation of my breast	0.499**	0.488**

** $P < 0.001$.

Table 3 Means, standard deviations, squared multiple correlation and Cronbach alpha when item deleted ($n = 517$)

Item	Item content	M	S.D.	R ^s	Alpha if item deleted
1	Not being able to control my body weight	2.11	1.240	0.564	0.923
2	My intake of food	2.01	1.163	0.574	0.922
3	Interrupted sleep	2.21	1.169	0.471	0.923
4	Not knowing the appropriate time for resuming intercourse	1.88	1.052	0.374	0.922
5	The degree of leisure	2.12	1.161	0.448	0.923
6	The wound	2.35	1.217	0.386	0.923
7	The limitations of living space	2.03	1.167	0.424	0.922
8	Not sleeping enough	1.42	1.019	0.455	0.923
9	Choosing formula brands	1.67	1.419	0.306	0.923
10	Sudden stops in my baby's breathing	2.52	1.299	0.561	0.922
11	The baby's jaundice	2.58	1.284	0.538	0.923
12	The results of newborn screening tests	2.54	1.318	0.524	0.923
13	Diapering	1.60	0.941	0.470	0.923
14	Limited resources for counseling during the postpartum period	1.72	0.991	0.468	0.922
15	Differing opinions of family members on baby care	1.80	1.107	0.470	0.923
16	Recovering my original body figure	2.24	1.409	0.514	0.922
17	The unpredictability of the baby's schedule	2.14	1.129	0.386	0.922
18	Painful nipples due to breast feeding	2.30	1.166	0.376	0.922
19	The normality of lochia	2.27	1.708	0.334	0.923
20	The baby's sex being the opposite of what family expected it to be	1.46	0.925	0.468	0.923
21	The baby's body weight	1.65	1.081	0.330	0.923
22	The baby getting sick suddenly	2.79	1.319	0.533	0.923
23	Less concern from my husband	1.85	1.081	0.374	0.923
24	The baby's spitting up	2.21	1.176	0.509	0.922
25	Bothersome taboos during the postpartum period	1.85	1.182	0.464	0.922
26	Missing the baby's cues	2.42	1.223	0.554	0.922
27	Lack of help with household chores	2.02	2.476	0.361	0.925
28	Inadequate emotional support from family	1.84	1.736	0.518	0.924
29	The baby's sex being the opposite of what I expected it to be	1.45	0.949	0.442	0.923
30	Abnormality in the baby's elimination	2.04	1.127	0.458	0.922
31	The lack of my husband's participation in baby care	1.98	1.188	0.397	0.922
32	Cord-stem care	2.00	1.152	0.495	0.922
33	The flabby flesh of my belly	2.27	1.321	0.564	0.922
34	The baby's rash	2.15	1.152	0.457	0.922
35	The baby choking during feeding	2.62	1.284	0.497	0.922
36	The baby's appearance differing from family's expectation	1.64	1.869	0.279	0.925
37	Family financial burden	2.40	1.451	0.393	0.924
38	Bathing the baby	1.90	1.078	0.419	0.922
39	The baby's crying	2.13	1.329	0.529	0.922
40	The shape of the baby's head due to the sleeping position	2.07	1.439	0.596	0.922
41	The baby will not adapt to the shift from breast feeding to formula	1.90	1.159	0.453	0.922
42	My sexual intercourse due to the stretching of the vagina	2.07	1.166	0.388	0.922
43	The baby's intake of milk	1.94	1.134	0.456	0.922
44	Lack of acceptance of the baby by family	2.42	1.767	0.322	0.923
45	Dressing the baby for extreme weather conditions	2.05	1.442	0.341	0.923
46	The baby's nose will get plugged up when sleeping	2.63	1.676	0.379	0.923
47	Lack of information regarding infant's growth and development	2.13	1.175	0.540	0.921
48	Feeding my baby	2.00	1.161	0.605	0.921
49	Dressing my baby	1.76	0.994	0.558	0.922
50	Fatigue	2.34	1.207	0.519	0.922
51	I feel like crying	2.07	1.110	0.447	0.922
52	Poor marital relationship	1.89	2.036	0.250	0.925
53	Lack of information regarding self-care	1.76	1.719	0.265	0.924
54	Unfading striae gravidarum	2.19	1.292	0.551	0.922
55	Insufficient breast milk	2.19	1.317	0.536	0.923
56	Rough skin	2.12	1.468	0.406	0.922
57	Looking after my family and keeping up with my job	1.67	1.099	0.408	0.923
58	Lack of help with baby care	1.88	1.132	0.506	0.922
59	Body soreness	2.39	1.354	0.368	0.923
60	Not knowing the appropriate time for exercise	1.88	1.368	0.407	0.923
61	The baby's immunization	2.01	1.142	0.458	0.922
62	The deformation of my breast	1.89	1.155	0.519	0.922

measurement of postpartum stress and that none of the items should be removed from the Turkish version of the HPSS.

In addition, using the pre-test results Cronbach's alpha values for the items included in Factors 1 and 2 were 0.919 and 0.392 respectively. On the other hand using the post-test results Cronbach's alpha values for the items included in Factors 1 and 2 were 0.925 and 0.655 respectively.

Stability

Test-retest reliability (stability) was, high as measured by the Pearson correlation coefficient (0.830) and paired sample *t*-tests showing no significance differences between pre-test and post-test results ($P = 0.511$).

Discussion

The postpartum period is characterized by dramatic changes requiring various adjustments by the new mother.³⁷ The adjustments and demands of the new maternal role, physical changes and the need for an increase in social support may prove stressful for some women making effective functioning in the new maternal role difficult.²

The current study developed a Turkish version of the HPSS and assessed postpartum stress in 517 Turkish women. The original scale of 85 items was decreased to a three factor scale including 62 items²⁸ and we thus started our analysis with 62 items. Through factor analyses the final scale included two factors with 41 items (37 items in the first factor and 4 items in the second factor) using pre-test results and two factors with 46 items (42 in the first factor and 4 items in the second factor) using post-test results. The second factor in both the pre- and post-tests is a sub-factor of the third factor in the HPSS. The first factor in both the pre- and post-tests was identified as maternal concerns which differ from the HPSS first factor (concerns about maternal role attainment). The second factor, consisting of 4 items, was identified as the degree to which the family accepts infant as a new member of the family which is sub-factor of the HPSS factor 3 (concerns about lack of social support). While the factors from the pre- and post-tests had similar identities, there were slight differences between the tests.

The first factor in the pre-test included more items than first factor in the post-test while the second factor in the pre-test contained one item that was unrelated to the other items. The post-test results may therefore be considered more reliable than the pre-test results.

Postpartum stress is a serious condition that requires evaluation and intervention by health care professionals. The present study has developed a valid and reliably Turkish version of the HPSS with good internal consistency. The newly developed version will help identify the particular needs of Turkish women experiencing postpartum stress and assist healthcare professionals especially nurses to design strategies that meet the postpartum needs of the women in the community.

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Disclosure

None declared.

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