Original Article

Examination of the Psychometric Properties of the Turkish Version of the Birth Memories and Recall Questionnaire

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Abstract

Objectives: This methodological study was designed to determine the validity and reliability of a Turkish version of the Birth Memories and Recall Questionnaire (BirthMARQ).

Methods: The study sample consisted of 400 women who were patients of 9 family health centers in Eskisehir, Turkey, and who had a child aged 0–12 months. The data were collected using a sociodemographic data form, the BirthMARQ, and the Edinburgh Postpartum Depression Scale. Validity and reliability analyses of the scale were performed using the responses of 387 women who completed the scales.

Results: The linguistic validity of the BirthMARQ was determined to be sufficient after translation, back-translation, and expert consultation. The content validity index of the scale was 0.95. The Kaiser-Meyer-Olkin coefficient was 0.759 and the Bartlett chi-squared test value was 3079.458 (p<0.001). The Cronbach's alpha coefficient was 0.794 for the overall scale, and 0.797, 0.643, 0.760, 0.670, 0.785, and 0.725 for the subdimensions of emotional memory, ambivalent emotional memory, centrality of memory to identity, coherence and reliving, sensory memory, and recall, respectively . The goodness of fit index was 0.091 for the root mean square error of approximation, 0.091 for the standardized root mean square residual, 0.85 for the goodness of fit index, 0.91 for the comparative fit index, 0.91 for the incremental fit index, 0.85 for the relative fit index, and 0.88 for the normed fit index.

Conclusion: The Turkish version of the BirthMARQ is a valid and reliable measurement tool that will be valuable in practice and future research.

Keywords: Birth memory; postpartum depression; recall; validity and reliability.

Birth is an extraordinary experience for women and their families. It is highly emotional, and may have long- or short-term effects that may be positive or negative.[1] Each birth experience is different and has the potential to significantly change the woman's life. Specifics of the event, the way in which the woman views birth, and mood and well-being in the postpartum period contribute to differences in women's memories of giving birth.[2,3] The distinctive birth experience-related information that is retained and recalled is known as birth memory.

Birth memory affects the way women cognitively make sense of the events surrounding the birth, the postnatal period, and their adaptation to parenting. Birth memory may also be associated with postpartum mood and psychological health.[3] In the postpartum period, the expectation of positive memories of birth and positive emotions are closely related to psychological status.[4] However, the expected may not always occur, and some women experience birth as a traumatic event, rather than a positive event.[5] Traumatic deliveries can pose a risk of serious injury or death to the mother or infant at any stage of the birth.[6–8] Some women who experienced a traumatic birth have acknowledged that the event has remained alive in their mind and that they regard it as a nightmare.[4]

Clinical and experimental research findings have shown that emotional experiences are better retained in memory.[9,10] However, traumatic memories can become fragmented and

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What is presently known on this subject?

• Memories of childbirth can have a significant impact, however, few studies of birth memory have been conducted in the international arena, and a review of the national literature yielded no studies on the subject and no measurement tool to evaluate the experience of childbirth in Turkey.

What does this article add to the existing knowledge?

• This study adds to the knowledge of the concept and effects of birth memory in the literature and a validity and reliability study of a Turkish version of the Birth Memories and Recall Questionnaire (BirthMARQ) provides a scale to evaluate the experience in our country. This research also facilitates intercultural comparisons.

What are the implications for practice?

• This is a valid and reliable scale that can be used to evaluate women's birth memory in Turkey. This scale assesses the transition and adaptation to motherhood using concrete measurements. The findings can serve as a tool to guide health professionals in planning care for women in the postpartum period.

may be recalled more often, while positive memories often remain consistently positive.[3] Individuals exposed to traumatic events are at high risk of developing post-traumatic stress disorder (PTSD) and other psychological disorders.[11,12] The experience of labor and delivery may be one of the most important events in a woman's life. The birth experience has a tremendous impact on the mother's identity, her future, and the decisions she will make. It has been reported that 19% of women who have experienced a traumatic birth develop postpartum depression (PPD), anxiety disorders emerge in 16%, and PTSD in 7%.[3] Brummelte and Galea.[13] reported that every year, 10% to 15% of women who give birth were affected by PPD.

Birth memory includes information received from healthcare workers and the environment before the delivery as well as the experience during and after the delivery. Given the impact of negative experiences on a woman's postnatal life and her communication with her infant and family, birth memory may have an important role in the development of depression, anxiety, and PTSD in the postpartum period.

A review of the national literature revealed no previous studies of birth memory in Turkey or measurement tools to evaluate birth memory and the factors related to birth. Although there are a few studies in the international literature that address birth memory characteristics and postpartum psychological problems, no specific measurement tool was used to evaluate the characteristics of birth memory until the development of the Birth Memories and Recall Questionnaire (BirthMARQ).[3] Birth memory, and particularly negative birth memories, not only affect women's postpartum experiences, but can also have a negative effect on women's participation in health monitoring programs. Women can develop avoidance behaviors as a result of negative experiences.

This research was designed to conduct a validity and reliability study of a Turkish adaptation of the BirthMARQ, a tool developed to evaluate postpartum mood and women's memories related to birth. This scale could have valuable psychopathology and care-planning applications.

Materials and Method

Study Design, Time, and Location

The data used in this methodological study were collected between May 2018 and August 2018 at 9 family health centers of the Eskisehir Provincial Directorate of Health.

Study Technique

The BirthMARQ was translated from English to Turkish by 2 language experts who created a common Turkish version of the questionnaire, and then it was translated back into English by another expert.

Seventeen midwife-nurse professionals were consulted in order to calculate the content validity index (CVI). Before starting the data collection procedure, a small-scale trial of the questionnaire was conducted with 52 individuals. No negative feedback was received about the intelligibility of the data collection tool. The data of the pilot group were not included in the study data and the questionnaire was not readministered to this group.

Sample and Participants

In scale adaptation studies, it is recommended that the sample size be 5 to 10 times the number of items on the questionnaire.[14] Accordingly, since the BirthMARQ comprises 21 items, the sample size of the study included 400 individuals, however, 13 participants did not fully complete the questionnaires. The validity and reliability analyses were performed with the responses of 387 subjects. The study enrolled women who volunteered to participate, were citizens of the Republic of Turkey, were aged 18–49 years, had given birth at least once, had a child aged 0–12 months, and had a vaginal delivery or a cesarean section with epidural/spinal anesthesia. The data were collected using face-to-face interviews.

The mean age of the participants was 28.68±5.30 (min-max: 18–44 years) and 98.8% were married. Of the participants, 27.0% (n=108) had a minimum of an undergraduate degree, and 23.8% (n=95) were employed. The most recent birth was a cesarean section in 44.5%. Participant statements of 5.2% indicated that having a baby negatively affected their marriage. In addition, 6.0% (n=24) of the participants and 0.8% (n=3) of the participants' spouses had a history of mental disorder.

Data Collection Tools

The data collection tools used were a form to record sociodemographic and obstetric characteristics of the participants, the Turkish version of the BirthMARQ developed by Foley et al.[3] to analyze women's birth memory, and the Edinburgh Postpartum Depression Scale (EPDS).

Sociodemographic Data Form: The participants' age, marital status, educational status, employment, income status, the total number of living children, the method of the most re-

cent delivery, and the time elapsed since the most recent birth were recorded on a 16-item form.

The Birth Memories and Recall Questionnaire: The original BirthMARQ scale consists of 21 items within 6 subdimensions and uses a 7-point Likert-type scale. The subdimensions are (i) emotional memory (items 1, 2, 3, 4 and 5), (ii) centrality of memory (items 6, 7, 8 and 9), (iii) coherence (items 10 and 11), (iv) reliving (items 12, 13, 14 and 15), (v) sensory memory (items 16, 17, 18 and 19), and (vi) recall (items 20 and 21).

The Cronbach's alpha value of the 21-item scale was 0.80. The subdimension values were 0.81, 0.80, 0.80, 0.74, 0.84, and 0.84, for emotional memory, centrality of memory to identity, coherence, reliving, recall, and sensory memory , respectively.

Items 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, and 21 on the scale are scored from 1 to 7, whereas items 1, 4, and 11 are inversely scored.

The score of each subdimension is the mean score of the items in that subdimension. One point means "strongly disagree" and 7 points means "strongly agree".

The Edinburgh Postpartum Depression Scale: The EPDS is a 10-item scale developed to determine the risk of depression in the postpartum period and to measure the level and severity change. The items are scored between 0 and 3 with a 4-point Likert type scale. The score ranges from 0 to 30. The cut-off score is 12/13.[15]

Statistical Analysis

SPSS for Windows, Version 16.0 (SPSS Inc., Chicago, IL, USA) and LISREL 8.7 (Jöreskog & Sörbom) statistical software packages were used to analyze the data. Descriptive statistics were represented using number, percentage, and mean values. CVI, explanatory and confirmatory factor analysis (EFA, CFA), known group comparisons, and predictive validity were used to evaluate validity. The Cronbach's alpha value, split-half, item-total score and item-subscale total score correlation, and floor and ceiling effect were used for reliability analysis. Potential response bias was examined with the Hotelling T2 test. Tukey's summability test was used to determine the summability of the Turkish sample. The accepted significance level was p<0.05.

Ethical Considerations

Professor Susan Ayers, one of the researchers who developed the original BirthMARQ scale, was informed about the purpose and use of the Turkish version of the scale, and the necessary permission was obtained via email. Approval for the study was obtained from the Eskisehir Osmangazi University Non-Interventional Ethics Committee (03.04.2018; no:09) and the Eskisehir Provincial Health Directorate (07.05.2018) prior to data collection. Written, informed consent was also obtained from the women who participated in the study.

Results

The mean age of the participants was 28.68±5.30 years (min-max: 18–44 years). In all, 36.3% (n=145) were high school graduates, 23.8% (n=95) were employed, and 71.3% (n=285) stated that their income was sufficient only to meet expenses. Responses related to marital status and the total number of living children indicated that 98.8% (n=395) of the participants were married and 43.0% (n=172) had 2 children (Table 1).

Validity Process Language Validity

The translation-back-translation method was used to assess the language validity of the Turkish version of the BirthMARQ. The scale was translated from English to Turkish by 2 language experts who spoke both Turkish and English fluently and who agreed to participate in the study, and then a joint translation text was formed. The consensus text was then translated back into English from Turkish by another expert and compared with the original version of the scale. Some expressions were revised to ensure Turkish language validity.

Content Validity

Seventeen specialists from different fields (e.g., midwifery,

Table 1. Sociodemographic characteristics of the participants (n=400)

Characteristics	n	%
Age		
Mean±Standard deviation	28.68±5.30	
Minimum-maximum	18–44	
Education status		
Illiterate	5	1.3
Literate	12	3.0
Primary education	130	32.5
High school	145	36.3
University degree or more	108	27.0
Working status		
Yes	95	23.8
No	305	76.2
Income status		
Income less than expenses	65	16.2
Income equal to expenses	285	71.3
Income greater than expenses	50	12.5
Marital status		
Married	395	98.8
Single	5	1.2
Number of children		
1	166	41.5
2	172	43.0
3 or more	62	15.5

public health nursing, obstetrics, women's health and diseases, principles of nursing, surgical nursing, health management) were consulted for an evaluation of content validity. Analysis conducted according to the Davis technique yielded an item-level CVI of 0.77–1.00, while the scale-level CVI was determined to be 0.95.

Construct Validity

EFA and CFA were employed to determine the construct validity of the scale. The Kaiser-Meyer-Olkin (KMO) coefficient was 0.759, and the Bartlett chi-squared test value was 3079.458 (p<0.001). Similar to the original version, the Turkish version of the scale consists of 21 items and 6 factors, but uses a slightly different dimensional pattern and titles.

Factor 1 (Emotional memory): 3 items (1, 2, and 4).

Factor 2 (Ambivalent emotional memory): 2 items (3 and 5).

Factor 3 (Centrality of memory): 4 items (6, 7, 8, and 9).

Factor 4 (Coherence and reliving): 6 items (10, 11, 12, 13, 14, and 15).

Factor 5 (Sensory memory): 4 items (16, 17, 18, and 19).

Factor 6 (Recall): 2 items (20 and 21).

Due to the subdimension change in items 3 and 4 on the Turkish version of the scale, items 1, 3, and 11 were scored inversely.

The CFA determined that the factor loading of the 6 subdimensions was 0.717–0.881, 0.773–0.797, 0.305–0.844, 0.642–0.811, 0.121–0.827, and 0.578–0.589, respectively. The percentage of the explained total variance by subdimension was emotional memory: 14.674%, ambivalent emotional memory: 5.72%, centrality of the memory: 10.157%, coherence and reliving: 6.655%, sensory memory: 24.347%, and recall: 4.897%. The 6 subdimensions explained 66.501% of the total variance (Table 2).

The estimated chi-squared value of the 6-factor model was found to be 721.62 and the degree of freedom was 168 with a p value of <0.001. The X^2/SD was 4.295. The fit indices were root mean square error of approximation (RMSEA): 0.091, standardized root mean square residual (SRMR): 0.091, goodness of fit index (GFI): 0.85, comparative fit index (CFI): 0.91,

| Items	Subscales					
	Emotional memory	Ambivalent emotional memory	Centrality of memory	Coherence and reliving	Sensory memory	Recall
I 1	0.881					
I 2	0.745					
I 4	0.717					
I 3		0.797				
I 5		0.773				
I 6			0.305			
I 7			0.813			
I 8			0.844			
I 9			0.705			
I 16				0.811		
I 17				0.833		
I 18				0.650		
I 19				0.642		
I 10					0.284	
I 11					0.121	
I 12					0.670	
I 13					0.827	
I 14					0.674	
I 15					0.694	
I 20						0.589
I 21						0.578
Explained variance (%)	14.674	5.772	10.157	6.655	24.347	4.897
Explained total variance (%)	66.501					
KMO	0.759					
Bartlett X^2 (p)	3079.458 (p<0.001)					
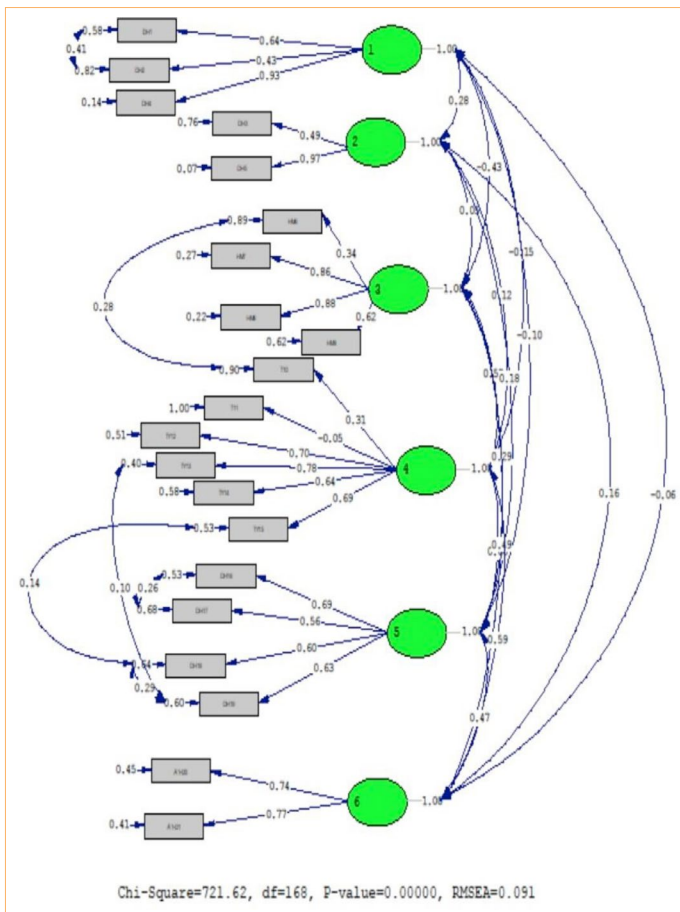
Figure 1. Confirmatory Factor Analysis.

incremental fit index (IFI): 0.91, relative fit index (RFI): 0.85, and normed fit index (NFI): 0.88 (Table 3).

Concurrent Criterion Validity

Evaluation of the correlation between the EPDS and the Birth-MARQ revealed a low level and positively significant relationship between the total scores (r=0.378). A low level and positively significant relationship was also observed between the total score of the EPDS and the subscale scores: the first subscale: r=0.232, the second subscale: r=0.166, the third subscale: r=0.161, the fourth subscale: r=0.183, the fifth subscale: r=0.190, and the sixth subscale: r=0.362 (p<0.01). A low level and positively significant correlation was also observed between the incidence of depression and the total score of the scale (r=0.256; p <0.01) (Table 4).

Reliability Process

The Cronbach's alpha coefficient of the overall scale was 0.794. Cronbach's alpha values of the subscales were 0.797, 0.643, 0.760, 0.670, 0.785, and 0.725, for the subdimensions of emotional memory, ambivalent emotional memory, centrality of memory to identity, coherence and reliving, sensory memory, and recall, respectively. Split-half analysis indicated that the Cronbach's alpha value of the first half was 0.654, while the value of the second half was 0.586. The Spearman-Brown coefficient was 0.882, the Guttman-split-half coefficient was 0.877, and the correlation coefficient between the halves was 0.789. The total scale score of the scale was 80.91±19.49. No floor and ceiling effects were detected (Table 5). The Hotelling T2 value was 856.243 with p<0.001. The analysis revealed no response bias. Tukey's additivity test yielded an F value of 0.258

Table 3. Model fit indices

	X^2	SD	X2/SD	RMSEA	SRMR	GFI	CFI	IFI	RFI	NFI
Six- factor model	721.62	168	4.295	0.091	0.091	0.85	0.91	0.91	0.85	0.88

CFI: Comparative fit index; GFI: Goodness of fit index; IFI: Incremental fit index; NFI: Normed fit index; RFI: Relative fit index; RMSEA: Root mean square error of approximation; SRMR: Standardized root mean square residual.

Table 4. Correlation between the Edinburgh Postpartum Depression Scale and the Turkish Birth Memories and Recall Questionnaire

Scales	1	2	3	4	5	6	7	8
1- Total score of Edinburgh Postpartum Depression Scale	1.00							
2- Total score of Birth Memories and Recall Questionnaire	0.378*	1.00						
3- First subscale	0.232*	0.252*	1.00					
4- Second subscale	0.166*	0.373*	0.315*	1.00				
5- Third subscale	0.161*	0.624*	-0.269	0.126*	1.00			
6- Fourth subscale	0.183*	0.773*	-0.098	0.033	0.418*	1.00		
7- Fifth subscale	0.190*	0.660*	0.027	0.104*	0.249*	0.425*	1.00	
8- Sixth subscale	0.362*	0.639*	0.092	0.163*	0.399*	0.383*	0.295*	1.00

*Correlations significant at p<0.01.

Table 5. Reliability analysis results of Turkish Birth Memories and Recall Questionnaire (n=387)

	Total Cronbach's alpha	First half Cronbach's alpha	Second half Cronbach's alpha	Spearman-Brown	Guttman Split-Half	Correlation between halves	M±SD (Min-Max)	Base effect (%)	Ceiling effect (%)
Birth Memories and Recall Questionnaire Total	0.794	0.654	0.586	0.882	0.877	0.789	6.71±3.85 (1-21)	–	–
First subscale	0.797						2.84+1.71 (1-7)	22.0	3.8
Second subscale	0.643						3.55+1.86 (1-7)	18.3	8.3
Third subscale	0.760						4.18+1.69 (1-7)	2.8	5.8
Fourth subscale	0.670						6.44+1.96 (1-7)	–	–
Fifth subscale	0.785						2.74+1.07 (1-7)	–	–
Sixth subscale	0.725						3.34+1.94 (1-7)	21.5	8.3

Table 6. Correlation of item-total score and item-subscale total score (n=387)

Subscales	Items	Correlation of item - total score (r)*	Correlation of item - subscale total score (r)*
Emotional memory	M 1	0.227*	0.904*
	M 2	0.390*	0.832*
	M 4	0.025	0.796*
Ambivalent emotional memory	M 3	0.314*	0.867*
	M 5	0.324*	0.850*
Centrality of memory	M 6	0.139*	0.580*
	M 7	0.544*	0.857*
	M 8	0.598*	0.872*
	M 9	0.603*	0.733*
Coherence and reliving	M 16	0.587*	0.820*
	M 17	0.488*	0.775*
	M 18	0.475*	0.766*
	M 19	0.508*	0.760*
Sensory memory	M 10	0.327*	0.462*
	M 11	0.019	0.257*
	M 12	0.594*	0.764*
	M 13	0.637*	0.772*
	M 14	0.574*	0.667*
	M 15	0.669*	0.731*
Recall	M 20	0.564*	0.880*
	M 21	0.579*	0.892*

*P<0.001 significance level.

(p=0.612). These results indicated that the scale was summable for the sample.

The correlation of the scale items with the overall scale score was 0.019–0.669. The correlations between the items with the total score of the related subscale were 0.796–0.904, 0.850–0.867, 0.580–0.872, 0.257–0.772, 0.760–0.820, and 0.880–0.892 for the subdimensions of emotional memory, ambivalent emotional memory, centrality of memory to identity, coherence and reliving, sensory memory, and recall, re-spectively (Table 6).

No significant increase was found in the total score, variance, or Cronbach's alpha value of the scale when any items were removed (Table 7).

Discussion

Evaluation of Scale Validity

The CVI is commonly used to measure the validity of measure-

Table 7. Statistics of when a scale item is removed

Items	When item is removed Scale average	When item is removed Scale variance	When item is removed Cronbach's alpha
I 1	77.74	366.443	0.798
I 2	78.65	354.004	0.789
I 3	77.15	358.008	0.794
I 4	77.90	382.146	0.809
I 5	77.63	358.246	0.793
I 6	76.76	373.074	0.804
I 7	76.70	339.256	0.779
I 8	76.34	331.329	0.775
I 9	77.13	332.599	0.775
I 10	76.19	358.946	0.792
I 11	75.69	382.625	0.809
I 12	76.35	335.020	0.776
I 13	76.71	330.754	0.773
I 14	77.51	337.245	0.777
I 15	77.19	326.858	0.770
I 16	77.53	334.094	0.776
I 17	77.89	344.537	0.783
I 18	76.05	349.078	0.784
I 19	75.86	346.586	0.782
I 20	77.75	338.100	0.778
I 21	77.43	334.552	0.777

ment tools. The CVI of the Turkish version of the BirthMARQ was 0.95. The desired CVI value noted in the literature is >0.80.[16] Our study findings are consistent with the accepted standard.

The KMO coefficient, which is calculated to determine the appropriateness of the sample for factor analysis, was 0.759, which indicated that an appropriate sample size was used in this study.[17,18] A Bartlett's test of sphericity analysis result of p<0.001 indicated that the correlation matrix of the items in the scale was suitable for factor analysis (Table 2).

The Turkish form of the scale consists of 21 items and 6 factors similar to the original scale, with some differences in the factor pattern and nomenclature.

Emotional Memory Subscale: In the Turkish version of the scale, this subdimension is composed of items 1, 2, and 4, whereas it included items 1, 2, 3, 4, and 5 in the original created by Foley et al.[3]

Ambivalent Emotional Memory Subscale: This subscale comprises items 3 and 5 in the Turkish version. The content and title differ from the original "emotional memory" subdimension.[3]

Centrality of Memory Subscale: This subscale consists of items 6, 7, 8, and 9 in the Turkish version of the scale and the original.[3]

Coherence and Reliving Subscale: In the Turkish version, this subscale consists of items 10, 11, 12, 13, 14, and 15, while Foley et al.[3] categorized items 10 and 11 in a "coherence" subscale and items 12, 13, 14, and 15 in a separate "reliving" subscale.

Sensory Memory Subscale: This subscale consists of items 16, 17, 18, and 19 in both versions of the scale.[3]

Recall Subscale: Items 20 and 21 are included in this subscale in the Turkish version as in the version developed by Foley et al.[3]

The total variance explained by the 6 subdimensions was 66.501% (Table 2). The literature suggests that the minimum acceptable limit of the total variance explained by factor loadings is 40%. A larger variance value indicates that the validity of the scale is high.[19,20] The total variance rate explained in the present study was similar to that of the original study.[3]

CFA to evaluate the appropriateness of the subdimensions identified by EFA is a necessary element of construct validity assessment. CFA evaluates the data and the construct fit indices. For the scale to have an acceptable goodness of fit, the X^2/df should be <5.[21] The X^2/df value of the Turkish version of the BirthMARQ was 4.295. Other commonly used fit indices are the RMSEA, SRMR, CFI, NFI, GFI, IFI, and RFI.[18,21,22] According to the literature, the model is assumed to have acceptable goodness of fit with an RMSEA >0.10, a GFI >0.80, and other fit indices >0.85 or 0.90.[23,24] We determined values of RMSEA: 0.091, SRMR: 0.091, CFI: 0.91, NFI: 0.88, GFI: 0.85, IFI: 0.91, and RFI: 0.85. The factor construct of the Turkish version of BirthMARQ was found to have a suitable goodness of fit (Table 3).

The recommended value for the factor load that explains the item-factor relationship is ≥0.30.[18] In our study, all of the items were in the accepted range, with the exception of the 10th

(0.284) and 11th (0.121) items. For items with a low factor load, reliability analyses should be considered. The item-subscale correlation coefficient of the 10th and 11th items was >0.20, and when the items were removed, no significant increase in the Cronbach's alpha coefficient of the scale or significant changes in the variance and average of the scale was seen (Table 7).

The EPDS was employed to determine the concurrent criterion validity of the adapted scale. The scales were administered to the participants successively, and the corresponding correlations of the scales were examined. A positive, statistically significant relationship was found between the total scores of the BirthMARQ and the EPDS (r=0.378; p<0.001) (Table 4).

Evaluation of Reliability

One of the most commonly used methods to test the reliability of scales is item-total score analysis, which is accepted as an indicator of both reliability and validity (internal consistency). Comparison of the reliability coefficients of the BirthMARQ item scores and the total score revealed that all were acceptable, except for the 6th (r=0.139) and 11th (r=0.019) items. When the correlation of the subscales was examined, the reliability coefficients of the scale items in comparison with the subscale scores were also determined to be adequate.[19] The relationship between the BirthMARQ subdimensions and the overall scale was determined to be satisfactory.[18] (Table 6).

Another method used to assess internal consistency in Likert-type scales is the Cronbach's alpha reliability coefficient. The Cronbach's alpha coefficient of the Turkish version of the scale was 0.794 for the overall scale. This indicates that the scale is highly reliable.[18,21,22] The Cronbach's alpha coefficient of the original version of the BirthMARQ was 0.80.

Removal of some items from the scale did not cause any significant increase in the Cronbach's alpha coefficient of the scale, and there were no significant changes in the variance or average of the scale (Table 7). We decided not to remove any items from the scale so that the original construct of the scale would not be further modified, scoring could be standardized, and it could be used in international comparisons.

Conclusion

A review of the national literature indicated that no measurement tools existed to evaluate the memory of birth and related factors of women in Turkey. The results of this study demonstrated that the Turkish version of the BirthMARQ is a valid and reliable means of assessment. The results of EFA and CFA confirmed the 6-dimensional structure of the scale. The Turkish version of the BirthMARQ can be used to provide data about the expectations and experiences of women regarding childbirth and the postpartum period, which will be useful to health professionals who provide care in the postpartum period.

Conflict of interest: There are no relevant conflicts of interest to disclose.

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