



Reliability and Validity of a Turkish version of the Prenatal Breastfeeding Self-Efficacy Scale[☆]

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ABSTRACT

Aim: This study aims to conduct reliability and validity study of the Turkish version of the “Prenatal Breastfeeding Self-Efficacy Scale”, which determines pregnant women’s perception of breastfeeding self-efficacy in the prenatal period.

Material and method: This methodological research was carried out between December 2014 and May 2016 in maternity clinics of the Erzurum Nene Hatun Maternity Hospital and Atatürk University Research Hospital. The study population consisted of pregnant women, admitted to the specified clinics for prenatal controls. The study was carried out with 326 pregnant women, who met the inclusion criteria and agreed to participate in the research without any sample selection. “Personal Information Form” and “Prenatal Breastfeeding Self-Efficacy Scale – Turkish Form” were used for data collection. The data were collected by the face-to-face interview method, and analyzed by SPSS 18 software. In the validity-reliability analysis of the scale, language and content validity, explanatory factor analysis, Cronbach’s Alpha coefficient, item-total score correlation, and test-retest methods were used.

Results: Linguistic validity was verified by the translation–backtranslation of the Prenatal Breastfeeding Self-Efficacy Scale, then the necessary corrections were made according to the recommendations of the expert opinions, to ensure the content validity. As a result of the explanatory factor analysis, performed to determine the construct validity of the scale, a single factor structure was found, having factor loadings in the appropriate range (0.30–0.76). In the internal consistency analysis of the scale, Cronbach’s Alpha was 0.86, and the item-total score correlations were between 0.23 and 0.65, and no item was removed from the scale. In order to test the time-invariance of the scale, the test-retest correlation value was found to be 0.94. The relationship between the two applications were determined to be statistically significant ($p < 0.001$).

Conclusion: Turkish version of the Prenatal Breastfeeding Self-Efficacy Scale was evaluated in Turkish women and found to be a valid and reliable measurement instrument.

Introduction

The prenatal period is a period, which starts with the planning of the pregnancy and lasts until birth, in which physical, mental and social problems may arise in the pregnant women. Mother and fetus need a special care during this period. The goal of prenatal care is to ensure that pregnancy, childbirth and postpartum periods are passed smoothly for both the mother and the baby as well as bringing in healthy individuals to the family and community (Taşkın, 2016).

As much as the most natural right of mothers to breastfeed their babies, every baby has the right to be fed with breast milk (Turkey Demographic and Health Survey 2008). For infants, breastfeeding has positive

effects on growth and development, as well as protection against many diseases (Karaçam and Kitiş, 2005).

Breastfeeding is important not only in terms of child and family health but also in terms of bringing up healthy individuals in the community (Atmaca, 2008). Breastfeeding is supported by many organizations at national and international level. Especially, the “American Pediatric Association” and the “World Health Organization” indicate that breast milk has an important role in improving the lifespan and quality of life of babies and that mothers need to breastfeed their babies for at least 6 months with breast milk in addition to supplemental nutrients (Dennis, 2002; WHO, 2016). However, according to Turkey Demographic and Health Surveys (TDHS) 2008 data, 68.9% of babies exclu-

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sively breastfed within 0–1 month of life, 42% within 2–3 months of life, and 21.9% within 4–5 months of life (Turkey Demographic and Health Survey, 2008). According to TDHS-2013 data, 57.9% of infants are fed only breast milk in the first two months, and this ratio drops to 35.4% in 2–3 months old infants and to 10% in 4–5 months old infants. And, the percentage of infants who were fed only with mother's milk until the 6th, 7th month was 4.7% (Turkey Demographic and Health Survey, 2013). When we compare the TDHS 2008–2013 data, we see a fall in breastfeeding rates in 2013. According to Lansinoh's 2015 International Breastfeeding Research, the proportion of mothers who only breastfed their baby in the first six months in Turkey is 26% (Lansinoh, 2015).

One of the factors affecting breastfeeding is the mother's self-efficacy perception towards breastfeeding. Self-efficacy perception is important in bringing about activities that an individual desire or avoids (Dennis, 1999).

The breastfeeding self-efficacy perception is the adequacy that the mother feels about breastfeeding. The breastfeeding self-efficacy perception of mothers is influenced by four sources of information: Previous breastfeeding skills of the person, the experience of others (seeing other breastfeeding women), verbal support (by close friends, family, breastfeeding counselor) and psychological responses (fatigue, stress, anxiety) (Dennis, 1999).

Evidence has demonstrated that mothers with the higher level of breastfeeding self-efficacy were generally more successful in initiating and continuing breastfeeding (Ip et al., 2012; de Jager et al., 2014).

In studies evaluating factors affecting breastfeeding, it is emphasized that the most important factor in breastfeeding is the mother's self-efficacy perception (O'Campo et al., 1992). In addition, when the relationship between self-efficacy perception and inadequacy of milk production is examined, it is revealed that the perception of self-efficacy increases the perception of mother's milk adequacy (Otsuka et al., 2008).

The prenatal period is the period suitable for nurses to prepare mothers for breastfeeding (Dyson et al., 2005; Littleton and Engebretson, 2005). With an appropriate measurement tool, breastfeeding self-efficacy perceptions of mothers in pregnancy can be determined. Therefore, there is a need for a tool that can measure the breastfeeding self-efficacy perceptions of pregnant women.

The Prenatal Breastfeeding Self-Efficacy Scale (PBSES) was developed in 2006 by Wells et al. (2006) to assess gestational breastfeeding self-efficacy. Breastfeeding and breastfeeding continuation rates in Turkey are not at the desired level. It is important to determine the breastfeeding self-efficacy status of the mothers for this problem that can be solved with breastfeeding counseling. With the adaptation of PBSES, which has not been adapted to Turkish yet, it would be possible to determine Turkish women's breastfeeding self-efficacy perception in the prenatal period.

This study aims to perform Turkish adaptation and reliability and validity study of the "Prenatal Breastfeeding Self-Efficacy Scale (PBSES)", which determines pregnant women's prenatal breastfeeding self-efficacy perception.

Methods

Setting and study participants

This methodological study was conducted between December 2014 and September 2015 in Erzurum Nene Hatun Maternity Hospital and Atatürk University Research Hospital's Obstetrics and Gynecology Clinic. The study population consisted of primary school graduate pregnant women, admitted to the above-mentioned clinics for prenatal check in the 3rd trimester, who do not have a communication problem, have no risk in pregnancy and have no condition prohibiting breastfeeding. In the adaptation of a scale to another culture, the number of subjects should be 5–10 times greater than the number of items in the scale (Gözüm and Aksayan, 2002). For this reason, data were collected from a total of 326 pregnant women, who agreed to participate in the study and

who meet the inclusion criteria. The data were collected by face-to-face interview technique.

Instruments

Prenatal Breastfeeding Self-Efficacy Scale (PBSES)

It was developed by Wells et al. (2006) in 2006 to determine breastfeeding self-efficacy perceptions of pregnant women in the prenatal period. The scale consists of 20 items (Appendix III).

The original scale has a total of 4 sub-scales. These are:

1. Skills and demands sub-scale: It consists of 7 items in total. These items are 6th, 7th, 8th, 9th, 10th, 11th and 12th items. The lowest and highest scores that can be taken in this sub-scale are 7 and 35, respectively.
2. Gathering information sub-scale: It consists of 5 items in total. These are 1st, 2nd, 3rd, 5th and 17th items. The lowest and highest scores that can be taken in this sub-scale are 5 and 25, respectively.
3. Breastfeeding around other people sub-scale: It consists of 4 items in total. These are 13th, 14th, 15th and 16th items. The lowest and highest scores that can be taken in this sub-scale are 4 and 20, respectively.
4. Social pressure: Sub-scale: It consists of 2 items in total. These are 18th and 19th items. The lowest and highest scores that can be taken in this sub-scale are 2 and 10, respectively.

Each item of the 5-point Likert-type scale is marked with one of the options: "1 = Not at all sure", "2 = Slightly sure", "3 = Fairly sure", "4 = Very sure", "5 = Completely sure". The lowest and highest total scores of the scale are 20 and 100 respectively. The increase in the score indicates an increasing breastfeeding self-efficacy perception.

2 items of the scale (4th and 20th items) cannot be included in any sub-scale. These items are taken into account in the sum of the scale scores. The original Cronbach's alpha value of the scale is 0.89.

Translation, content validity and pilot study

The translation-back translation method was used in the study. The scale was translated from English to Turkish by an English Linguist. After the items translated into Turkish were examined by the researcher and the supervisor, the final version of the scale was created. Its back-translation was performed by a scholar in the English Language and Literature from Turkish to English. Clarity of scale items and their appropriated to the Turkish language was checked by a Turkish language specialist. In order to assess whether the items in scale are understood by pregnant women, a pilot study was performed with 20 pregnant women (these pregnant women were not included in the study).

After the translation process was completed, it was presented to the expert group consisting of nine academic nurses and midwives. Experts studied scale items in terms of clarity and cultural appropriateness. Davis Technique was used in the content validity study performed based on expert opinions (Yurdugül, 2005). Experts evaluated each item by one of these options: 1 – Not suitable (1 point), 2 – The item needs to be changed to make it suitable (2 points), 3 – Suitable, but needs minor correction (3 points), 4 – Very suitable (4 points) (Aksayan et al., 2002). After this evaluation, the Content Validity Index (CVI) was obtained by dividing the sum of the last two items by the total number of experts. A value of CVI greater than 0.80 indicates that the item is adequate in terms of content validity (Yurdugül, 2005). It was determined that CVI scores of all items varied between 0.8 and 1.0. Therefore, no item was removed from the scale because of scope/content validity.

Statistical analysis

Reliability

Cronbach's alpha coefficient and item-total score correlations were calculated in order to determine the internal consistency and

homogeneity of the items of the scale. The Cronbach's alpha coefficient should be at least 0.60 and the item-total correlations should be at least 0.20 in each item (Şimşek, 2007). In the literature, it is stated that the scale is not reliable when the Cronbach's alpha coefficient is $0.00 < \alpha < 0.40$, has low reliability when $0.40 < \alpha < 0.60$, reliable when $0.60 < \alpha < 0.80$, and highly reliable when the Cronbach's alpha coefficient is $0.80 < \alpha < 1.00$ (Alpar, 2014). Items which have a total item correlation coefficient of less than 0.20 need to be removed from the scale because they reduce scale reliability (Öner, 2009). The item-total score correlations of the scale should be recalculated after removed the items with a correlation coefficient of less than 0.20 from the scale. If the removed item raises the alpha coefficient of scale, it should be removed from scale since this item is a factor that reduces the reliability. This will increase the homogeneity of scale (Gözüm and Aksayan, 2003; Özdamar, 2004).

Validity

Explanatory factor analysis was performed for the construct validity of the scale. Before factor analysis, KMO and Bartlett's tests were applied to assess the sample size and suitability of the scale for factor analysis. The minimum value for the KMO index, which is used to determine the adequacy of the sample size has been reported to be 0.50. The significance of the Bartlett's test means that the data set is suitable for factor analysis (Özdamar, 2004).

In the explanatory factor analysis, the principal component analysis was used and the data were analyzed using the varimax method. The lowest factor load of 0.30 was taken as the criterion (Özdamar, 2004).

Data analysis

Data were analyzed with SPSS (version 18, SPSS Inc.) software package. In the study, KMO index, Bartlett's test, AFA, Cronbach's alpha, Item-total score correlation, and test-retest were used.

Ethics

For adaptation of the Prenatal Breastfeeding Self-Efficacy Scale to Turkish, written permission of Kristen Wells, who developed the scale, was obtained. The approval of the Erzurum Atatürk University Faculty of Health Sciences Ethical Committee and the written permissions of the studied hospitals were obtained before conducting the study. In addition, verbal consent was obtained from the pregnant women who agreed to participate in the research.

The aim of the study was explained to the pregnant women to fulfill the "informed consent" principle before starting to collect study data, the "Privacy and Protection of Privacy" principle was met by stating that the information obtained will be kept confidential, and the principle of "Respect for Autonomy" was fulfilled by making the study on a voluntary basis and "Non-maleficence/Beneficence" ethical principles were fulfilled in general.

Findings

Characteristics of participants

Of the pregnant women, 36.2% was in the 30–34 age group and 42.9% was primary school graduate. Of the pregnant women, 87.7% was the housewife, 67.8% was living in the nuclear family, and 70.9% had moderate economic status. Of the spouses of pregnant women, 37.7% was high school graduate, and 50.0% of them was the worker. The mean gestational week was 34.86 ± 3.18 , and 81.3% had planned the pregnancy. Of them, 30.1% had 2 pregnancies, and 33.1% had 1 child. Of the pregnant women, 53.4% had the female fetus, 66% had breastfeeding experience, and 100% had preferred breastfeeding method for feeding her baby. The sociodemographic characteristics of the participants are shown in Table 1.

Table 1
Sociodemographic characteristics of the sample.

Sociodemographic characteristics	n	%
Age		
19–24	98	30.1
25–29	110	33.7
30–34	118	36.2
Education level		
Primary school	140	42.9
Middle school	71	21.8
High school	71	21.8
University	44	13.5
Employment status		
Housewife	286	87.7
Officer	29	8.9
Worker	11	3.4
Spouse education level		
Primary school	68	20.9
Middle school	62	19.0
High school	123	37.7
University	73	22.4
Spouse occupation		
Officer	77	23.6
Worker	163	50.0
Other (Artisan, farmer...)	86	26.4
Family type		
Nuclear family	221	67.8
Extended family	105	32.2
Income		
Well	77	23.6
Middle	231	70.9
Worse	18	5.5
Pregnancy status		
Wanted	265	81.3
Unwanted	61	18.7
Number of pregnancy		
1	91	27.9
2	98	30.1
3	76	23.3
4	61	18.7
Number of children living		
No	108	33.1
1	108	33.1
2	69	21.2
3 and ↑	41	12.6
Fetus Gender		
Girl	174	53.4
Male	152	46.6
Breastfeeding experience		
Yes	215	66.0
No	111	34.0
The Method of Thinking about Feeding the Baby in the Postnatal Period		
Breastfeeding	326	100.0
Baby bottle	0	0.0
Unstable	0	0.0

Validity

KMO and Bartlett's tests were applied before the principal component analysis to determine the sample adequacy and whether the data were appropriate for the factor analysis in order to ensure more accurate results in the study. As a result of the analysis, the KMO value was found to be 0.799. This value indicates suitability for principal component analysis. Similarly, Bartlett's test results ($\chi^2 = 3209.492$, $p < 0.001$) also indicate the interrelationships of the data and suitability for the factor analysis.

Exploratory factor analysis

In the explanatory factor analysis, the principal component analysis was performed and the data were analyzed by rotating using the varimax method. As in the original scale, the items were observed to grouped

Table 2
Factor loads of Prenatal Breastfeeding Self-Efficacy Scale items.

Item No.	Prenatal Breastfeeding Self-Efficacy Scale Items	Factor loading
1.	I can find the information I need about problems I have when breastfeeding my baby.	0.48
2.	I can find out what I need to know about breastfeeding my baby.	0.43
3.	I know who to ask if I have any questions about breastfeeding my baby.	0.43
4.	I can talk to my partner about the importance of breastfeeding my baby.	0.53
5.	I can talk to my healthcare provider (midwife/nurse/physician etc.) about breastfeeding my baby.	0.54
6.	I can schedule my day around the breastfeeding of my baby.	0.61
7.	I can make time to breastfeed my baby even when I feel busy.	0.74
8.	I can breastfeed my baby even when I am tired.	0.76
9.	I can breastfeed my baby when I am upset.	0.76
10.	I can use a breast pump to obtain milk.	0.49
11.	I can prepare breast milk so others can breastfeed my baby.	0.34
12.	I can breastfeed my baby even if it causes mild discomfort.	0.65
13.	I can breastfeed my baby without feeling embarrassed.	0.61
14.	I can breastfeed my baby when my partner is with me.	0.59
15.	I can breastfeed my baby when my family or friends are with me.	0.38
16.	I can breastfeed my baby around people I do not know.	0.30
17.	I can call a lactation counselor if I have problems breastfeeding.	0.30
18.	I can choose to breastfeed my baby even if my partner does not want me to.	0.52
19.	I can choose to breastfeed my baby even if my family does not want me to.	0.59
20.	I can breastfeed my baby for one year.	0.38
Variance explained		29.2%

Table 3
Cronbach's alpha coefficient of the Prenatal Breastfeeding Self-Efficacy Scale.

Item no.	Arithmetic mean	Standard deviation	Average of the scale when the Item is removed	Corrected item-total score correlation	Cronbach's alpha coefficient of the scale when the Item is removed
1	3.19	0.68	70.32	0.44	0.85
2	3.31	0.67	70.20	0.38	0.85
3	3.37	0.74	70.14	0.40	0.85
4	3.67	0.96	69.84	0.47	0.85
5	4.07	0.62	69.44	0.49	0.85
6	4.05	0.70	69.46	0.50	0.85
7	4.28	0.74	69.23	0.61	0.84
8	4.32	0.73	69.19	0.65	0.84
9	4.24	0.80	69.27	0.64	0.84
10	3.23	1.03	70.28	0.43	0.85
11	3.03	0.78	70.48	0.29	0.86
12	3.89	0.79	69.62	0.59	0.84
13	3.38	1.15	70.13	0.51	0.85
14	4.18	0.67	69.34	0.51	0.85
15	2.02	1.08	71.50	0.34	0.86
16	1.30	0.75	72.21	0.29	0.86
17	3.71	0.61	69.80	0.27	0.86
18	4.63	0.65	68.88	0.40	0.85
19	4.66	0.59	68.85	0.49	0.85
20	4.88	0.38	68.64	0.30	0.86
Cronbach's alpha					0.86

under different sub-scales, when examined as a 4-factor structure. Since many of the items in the scale (1–3, 1–16, 18th, and 19th) were found to shift to/a the different group, it was decided that the Turkish version of the scale should be one-dimensional. The factor loadings of the items of the scale analyzed in single sub-scale vary between 0.30 and 0.76. The variance explained was 29.2% (Table 2).

Reliability

The internal consistency of the scale was examined with Cronbach's alpha coefficient. The total Cronbach's alpha coefficient of the scale was found to be 0.86. The item-total correlations of the scale vary between 0.27 and 0.65. Since the removal of any item does not increase the Cronbach's alpha coefficient, no item was removed from the scale (Table 3).

Time invariance (Test–retest)

Test-retest was performed to determine the time invariance of the scale. The correlation value between the first and second application

Table 4
The relationship between the first and second application scores of the prenatal Breastfeeding Self- Efficacy Scale.

Applications	$\bar{X} \pm SD$	r	p
First application	73.5 ± 8.0	0.944	0.000
Second application	75.8 ± 6.9		

scores of the scale was found to be $r = 0.944$, with a significant difference at $p < 0.001$ significance level (Table 4). This finding suggests that the first and second measurement results, applied with a two-week interval, were similar.

In the validated and reliability-tested PBSES, it was determined that the lowest score taken by the pregnant women was 48, the highest score was 95 and the mean total score was 73.5 ± 8.0 (Table 5).

Table 5

The total scale score average of Prenatal Breastfeeding Self-Efficacy Scale score and the lowest-highest scores obtained by the pregnancies.

Prenatal Breastfeeding Self-Efficacy Scale	The lowest–highest scores of the scale	The lowest–highest scores taken on the scale	$\bar{X} \pm SD$
	20–100	48–95	73.5 \pm 8.0

Discussion

In this study, it was aimed to perform Turkish adaptation and reliability and validity study of the “Prenatal Breastfeeding Self-Efficacy Scale (PBSES)”, which determines pregnant women’s prenatal breastfeeding self-efficacy perception. This scale was needed since there was no scale to determine breastfeeding self-efficacy perception of pregnant women in the prenatal period in Turkey.

In the scale adaptation studies, the first thing to do is to a/the translation of the original scale in accordance with the culture of the society to be adopted. In the language adaptation of the Prenatal Breastfeeding Self-Efficacy Scale, the translation-back translation method, which is the most used method in the world, was utilized (Öner, 2009; Gözüm and Aksayan, 2002). In this method, the scale is translated into the language to be adapted from the original language, and then translated back to the original language in order to evaluate it semantically (Gözüm and Aksayan, 2002). As a result of this translation-back translation method, it can be said that the Turkish Version of the Prenatal Breastfeeding Self-Efficacy Scale is a suitable measurement tool in terms of language validity.

The opinions of experts on the subject are collected using Davis technique to assess the content validity. Scale items are assessed for clarity and cultural appropriateness for content validity (Büyüköztürk, 2007). In the adaptation and development studies, the number of experts varies between 3 and 20 (Tavşancıl, 2002). In this study, obtaining an/the opinion about the scale by referring to 9 experts is in parallel with the literature.

In the literature, it is reported that the CVI score should be 0.80 or greater in the content validity as evaluated by Davis technique (Yurdugül, 2005). In this study, the CVI scores of all the items in the scale were over 0.80. In this sense, it can be said that the scale is adequate in terms of content validity.

Construct validity indicates the measurement instrument’s ability to measure the theoretical structure. It is expected that the items of the measurement instrument are similar to each other and homogeneous. Factor analysis is the best way to statistically analyze the construct validity (Seçer, 2015).

Factor analysis is a process to determine which of the scale items will be grouped under sub-scales (Gözüm and Aksayan, 2003). Prior to factor analysis, Bartlett’s Test analysis was performed to determine the adequacy of sample size, and the Kaiser–Meyer–Olkin (KMO) analysis was performed to determine the suitability of the sample for factor analysis (Özdamar, 2004). If the KMO value is between 0.90 and 1.00 it is considered excellent, if it is between 0.80 and 0.89 it is considered very good, if it is between 0.70 and 0.79 it is considered good, medium if it is between 0.60 and 0.69, and it is considered weak if it’s between 0.50 and 0.59; and it is unacceptable below 0.50 (Akgül, 2003). For a good factor analysis, the KMO value needs to be greater than 60 (Büyüköztürk, 2007). The KMO value was 0.79 in this study. This finding indicated that sample size is sufficient for factor analysis.

In scale adaptations, the significance of the Bartlett’s test indicates that the sample size is good and the correlation matrix is appropriate for factor analysis (Büyüköztürk, 2007). In this study, according to the Bartlett’s test result, $\chi^2 = 3209.492, p < 0.001$. In addition, this finding indicates that data are appropriate for factor analysis.

According to the result of the factor analysis, it was determined that the Turkish version of the Prenatal Breastfeeding Self-Efficacy Scale is not suitable for 4 sub-scale structure. The reason for this may be due to cultural factors. Examples of cultural factors include 15th item (I can breastfeed my baby when my family or friends are with me) and 16th

item (I can breast-feed my baby around people I do not know) in the scale. In the Turkish society, especially in the Eastern culture, women are not able to breastfeed their babies comfortably beside their family (father, father-in-law) and in many settings due to privacy concerns. In Western culture, breastfeeding is perceived as an ordinary task in everyday life of mothers. Due to these differences, the Turkish form was studied in single sub-scale.

In the literature, factor loadings are expected to be greater than or equal to 0.30 as a result of factor analysis (Seçer, 2015; Büyüköztürk, 2007). The factor loadings of the items in this study were between 0.30 and 0.76 (Table 2). The variance explained in this study was 29.2% (Table 2). It is accepted that the ratio of variance explained greater than or equal to 30% in single factor scales is adequate (Kırtak, 2016). According to the explanatory factor analysis findings in the study, it can be said that the item factor loadings and the variance explained are adequate.

Cronbach’s alpha coefficient is a frequently used method to determine the internal consistency in the scale development and adaptation studies. The Cronbach’s alpha coefficient is based on the consistency of the items. The purpose of calculating the Cronbach’s alpha coefficient is to reveal the consistency levels of the items in the scale (Seçer, 2015; Akgül, 2005).

In the literature, it is stated that the scale is not reliable when the Cronbach’s alpha coefficient is $0.00 < \alpha < 0.40$, has low reliability when $0.40 < \alpha < 0.60$, reliable when $0.60 < \alpha < 0.80$, and highly reliable when the Cronbach’s alpha coefficient is $0.80 < \alpha < 1.00$ (Alpar, 2014). In this study, Cronbach’s alpha coefficient of PBSES was found to be 0.86 (Table 3). The Cronbach’s alpha coefficient of the original scale is 0.89 (Wells et al., 2006). The Cronbach’s alpha coefficient of the Spanish version of the scale is 0.91 (Piñero-Albero et al., 2013). It is seen that the Cronbach’s alpha coefficients of this scale, which is adapted to the Turkish, and the original scale are very close to each other. Since the Cronbach’s alpha coefficient of the scale was $0.80 < \alpha < 1.00$, it can be said that the scale is highly reliable.

Another internal consistency criterion is the item-total score correlation. In this method, the variance of a scale item and the variance of total scale score are compared and the relationship between them is examined. The item-total score correlation is calculated in order to determine whether an item measure the characteristics measured by the total (Akgül, 2005). As the item-total score correlation increases, the activity of that item increases, and when the correlation coefficient is low, it is decided that the scale items are not reliable enough. In the literature, it is stated that the item-total score correlation of an item should be 0.20 at minimum (Öner, 2009). In the Spanish version of the scale, the item-total correlations were between 0.39 and 0.68 (Piñero-Albero et al., 2013). In this study, the item-total scale correlations were between 0.27 and 0.65, item-total score correlations of all items were found to be adequate (Table 3). These findings indicate that there is no problematic item in the validated Prenatal Breastfeeding Self-Efficacy Scale.

In the validated and reliability-tested PBSES, it was determined that the lowest score taken by the pregnant women was 48, the highest score was 95 and the mean total score was 73.5 ± 8.0 (Table 5).

Conclusion

As a result of this study, it was determined that PBSES is a valid and reliable measurement tool for the Turkish society. It can be used as a useful measurement tool in the determination of breastfeeding self-efficacy perception of pregnant women in the prenatal period and in examining factors affecting their self-efficacy.

According to the studies conducted, breastfeeding rates in the first six months in Turkey are low (Lansinoh, 2015; Turkey Demographic and Health Survey, 2013). With this study, it will be possible to determine breastfeeding self-efficacy perceptions of pregnant women in the prenatal period. The future studies may contribute strengthening the self-efficacy perception and increasing breastfeeding success by providing breastfeeding training to pregnant women with low self-efficacy perception. Thus, the number of babies fed with breast milk, which is a natural wonder, will increase and healthy generations will be brought up.

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Supplementary materials

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