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Turkish Version of Supportive Needs of Adolescents Breastfeeding Scale: A Reliability and Validity Study

Adölesan Annelerde Emzirme Destek İhtiyaçları Ölçeği Türkçe Formunun Geçerlilik ve Güvenirlik Çalışması

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ABSTRACT

Objective: To adapt the "Supportive Needs of Adolescents Breastfeeding Scale (SNAB)" into Turkish and determine its validity and reliability.

Methods: This cross-sectional and methodological study was conducted with 140 adolescent mothers aged 15-20. The sample selection in the study, which was conducted in a secondary health care institution in the Southeastern Anatolia region of Türkiye, was carried out on a voluntary basis. The data were collected using a descriptive information form and the Supportive Needs of Adolescents Breastfeeding Scale. The language validity of the scale was ensured through expert opinions, and content validity was evaluated. Factor analysis, Cronbach's Alpha analysis, and item analysis were used to evaluate the data.

Results: As a result of the analysis, the scale consisted of 17 items and three sub-dimensions. The sub-dimensions were named as (1) Evaluation and Information, (2) Support for Breastfeeding Behavior and (3) Individual Breastfeeding Support. According to confirmatory factor analysis, model fit indices were calculated as $x^2/SD=2.579$, GFI=0.805, CFI=0.865, NFI=0.800, and RMSEA=0.076 and the model showed good fit. The factor loadings of the items were between 0.486 and 0.855. The Cronbach's alpha coefficient of the scale was found to be 0.911 and the correlation coefficients ranged between 0.326 and 0.762.

Conclusion: The analyses have showed that the Turkish version of the SNAB scale is a valid and reliable instrument. This scale may be an appropriate tool to determine the support needs of adolescent mothers during breastfeeding and to assess the extent to which health professionals meet these needs.

Keywords: Adolescent, breastfeeding, support, psychometrics

ÖZ

Amaç: Bu çalışma "Adölesan Annelerde Emzirme Destek İhtiyaçları Ölçeği" nin Türkçe' ye uyarlanması, geçerlik ve güvenirliğinin belirlenmesi amacıyla yapılmıştır.

Yöntemler: Kesitsel ve metodolojik tasarımda yürütülen çalışmaya 15-20 yaş aralığında 140 adölesan anne dahil edilmiştir. Türkiye'nin Güneydoğu Anadolu bölgesindeki bir ikinci basamak sağlık kuruluşunda uygulanan çalışmada örneklem seçimi, gönüllülük esasına dayalı olarak gerçekleştirilmiştir. Veriler, Tanımlayıcı Bilgi Formu ve Adölesan Annelerde Emzirme Destek İhtiyaçları Ölçeği kullanılarak toplanmıştır. Ölçeğin dil geçerliliği uzman görüşleri ile sağlanmış ve kapsam geçerliliği değerlendirilmiştir. Verilerin değerlendirilmesinde faktör analizi, Cronbach alfa ve madde analizleri uygulanmıştır.

Bulgular: Analizler sonucunda ölçek 17 madde ve üç alt boyuttan oluşmuştur. Alt boyutlar (1) Değerlendirme ve Bilgilendirme, (2) Emzirme Davranışına Destek ve (3) Bireysel Emzirme Desteği olarak isimlendirilmiştir. Doğrulayıcı faktör analizine göre, model uyum indeksleri $x^2/SD=2,579$, GFI=0,805, CFI=0,865, NFI=0,800, RMSEA=0,076 olarak hesaplanmış ve modelin iyi uyum gösterdiği saptanmıştır. Maddelerin faktör yükleri 0,486-0,855 arasındadır. Ölçeğin Cronbach Alfa katsayısı 0,911 olarak bulunmuş olup, korelasyon katsayıları 0,326 ile 0,762 arasında değişmektedir.

Sonuç: Analizler, ölçeğin Türkçe formunun geçerli ve güvenilir bir araç olduğunu göstermektedir. Bu ölçek, adölesan annelerin emzirme sürecindeki destek ihtiyaçlarını belirlemek ve sağlık çalışanlarının bu ihtiyaçları ne ölçüde karşıladığını değerlendirmek için uygun bir araç olabilir.

Anahtar Kelimeler: Adölesan, emzirme, destek, psikometrik

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INTRODUCTION

The World Health Organization (WHO) defines individuals aged 10-19 as adolescents. Adolescence is a transitional period marked by rapid physical, emotional, and social changes. When pregnancy occurs during this stage, it introduces additional physiological and psychosocial challenges that can significantly impact both the mother and the infant. Approximately 11% of all the births worldwide occur within the age range of 15-19 with a great majority happening in low- and middle-income countries.[1] Data from a 2003 United States Agency for International Development (USAID)-assisted study reported that 5.7% of women aged 15-19 in Türkiye had given birth, with a total of 184.129 adolescent births recorded.[2] According to the Turkish Demographic and Health Survey (TDHS) 2018; 3.5% of high-risk adolescents in Türkiye give birth.[3] While this rate appears to have declined over time, adolescent pregnancies remain a significant public health concern due to their physical, psychological, and social consequences. Adolescence is a period in life characterized by both physical and psychological transformations. Particularly teenagers who become mother in this period find themselves at a point in which the roles of puberty and motherhood intersect.[4]

One of the primary issues with adolescent mothers is the initiation and continuation of breastfeeding, and they need more attention and care.[5-7] A lack of support at this point may adversely affect this experience.[8]

Many adolescent mothers face some issues in breastfeeding period such as lack of knowledge and skills, inadequate support, lack of self-confidence, and the necessity to return to work.[9,10] They may often discontinue breastfeeding at an earlier time because of emotional difficulties influencing their motherhood identity and role attainment.[11] In addition, socioeconomic disadvantages faced by mothers at puberty put their babies under a greater risk in terms of illnesses and death, thereby increasing the significance of preventive factors that might be acquired by means of breastfeeding.[12] It is of importance to understand breastfeeding difficulties this sensitive group has so as to prevent and reduce poor breastfeeding experiences.[11] Several studies indicate that adolescent mothers face unique challenges in establishing successful breastfeeding relationships and need goal-directed support to overcome these obstacles.[4] Likewise, Çınar et al.[13] reported in their qualitative study analyzing the first breastfeeding experiences of adolescent mothers that young mothers were not ready enough to motherhood and required substantial counselling about breastfeeding.[13] Mothers in this period encounter considerably distinctive hardships and requirements. Among them, the need for breastfeeding support is one of the fundamental factors influencing the health of adolescent mothers and the development of their babies.[8,12] Healthcare professionals might have an impact on the rates of breastfeeding through their supportive care for adolescent mothers during the initiation of breastfeeding immediately after the delivery.[4] The research indicates that determination of breastfeeding needs of adolescent mothers directly affects not only physical and psychosocial well-being of mothers but also the development of immunity system and nutrition of babies.[14] It is of significant importance to understand individual needs and provide appropriate support accordingly since challenges and requirements adolescent mothers have in this period might differ.[15] In this regard, in their study on breastfeeding initiation and continuation of adolescent mothers in Türkiye, Yılmaz et al.[8] highlighted that provision of breastfeeding counselling in postpartum period increased the duration of exclusive breastfeeding, which points out how important it is to provide mothers with information and support.[8] Hence, the literature shows that it is crucial to identify the needs of adolescent mothers for breastfeeding support and have a measurement instrument so as to address those needs objectively.[4] In this context, the SNAB scale developed by Grassley et al.[16] based on the Theory of Social Support is a comprehensive tool to bridge this gap. It offers an assessment opportunity specific to supportive behaviours of healthcare professionals in the early postpartum period.[16]

AIM

The aim of this study is to adapt the 'Supportive Needs of Adolescents Breastfeeding Scale (SNAB)' into Turkish and to evaluate its validity and reliability.

Research questions

- How valid and reliable is the Turkish version of the Supportive Needs of Adolescents Breastfeeding Scale (SNAB)?

METHODS

Setting and Sample

The study was carried out in a cross-sectional and methodological pattern to assess intercultural adaptation, validity, and reliability of the SNAB scale. It was undertaken with adolescent mothers who had given birth in a secondary healthcare institution in Southeastern Anatolia region of Türkiye between June 2021 and February 2022. Mothers who had the ability to communicate in Turkish, were 20 years of age or younger, had a live birth, and had

agreed to participate were included in the study.

There are different methods in the literature to determine a sample size for the scale studies. Considering the lower number of adolescent mothers and the suggested sample size for Likert-type scales, it was calculated to be 5-10 participants per item.[17-19] Since the SNAB scale consists of 18 questions, target sample size was 90-180 and 140 participants were ultimately included in the study. Only those who gave written informed consent were included. Besides, a pilot application was implemented with 10 mothers to check the intelligibility of the items. Pilot data were excluded from the analysis. There are different opinions in the literature about the recommended sample size in pilot studies. Especially in scale development and adaptation studies, since the purpose of the pilot study is to evaluate the comprehensibility of the scale items, it is generally stated that 5-10 people are sufficient.[20,21] In addition, given the low rates of adolescent pregnancy and the difficulty of reaching individuals in this group, it was not practically possible to create a larger pilot sample. Therefore, pilot testing with 10 mothers in our study is an approach in line with the literature.

Data Collection Process and Tools

The research data were collected through face-to-face interviews with a descriptive information form and the SNAB scale, both of which were conducted before the discharge of adolescent mothers.

Descriptive Information Form: It consists of 22 questions evaluating demographic, obstetric, and breastfeeding characteristics of the mothers.

Supportive Needs of Adolescents Breastfeeding Scale (SNAB): Developed by Grassley et al.[16], the scale aims to determine the breastfeeding needs of adolescent mothers and consists of Likert-type items rated 0 (No support at all) to 5 (Very helpful).[16] Although the original scale includes 18 items, one item *("My healthcare provider told me that breastfeeding my baby within the first hour would help me start breastfeeding.")* was removed in this study based on exploratory factor analysis (EFA) results, as its common variance load was below 0.30. As a result, the remaining 17 items were grouped under three sub-dimensions: Support for Breastfeeding Behavior (practice, applied breastfeeding support), Evaluation and Information (encouragement and approval), and Individual Breastfeeding Support (information, suggestion, or advice about breastfeeding). Overall score of the scale ranges from 0 to 85 and lower scores indicate a need for support.

Cultural Adaptation: Translation and Scope Validity

Intercultural adaptation was carried out through forward and back translation, which was the most suggested method in the literature.[22] Five researchers who were experts in medicine and health sciences and able to speak both languages made forward translation of the scale into Turkish. They then discussed the translation outputs and reached a consensus on the final Turkish version of the scale.

Next, two linguists made a back translation of this final version into English. The authors of the original SNAB scale approved this final version. Then, 10 expert academicians and health professionals with experience in gynecology, pediatrics, breastfeeding, instrument development and testing assessed the scale in terms of content (scope) validity. Each item was evaluated with respect to clarity and cultural appropriateness by means of the Davis technique and the Content Validity Indices (CVI) of the items were found to be between 0.80 and 1.00. A CVI value over 0.80 indicates that the item is sufficient in terms of content validity.[20] In the pilot application carried out to determine the degree to which adolescents understood and perceived the content of the scale, participants stated that the scale was clear, legible, and lucid.

Statistical Analysis

All the data were analyzed with IBM SPSS Statistics 25.0 and AMOS 22.0. Descriptive findings were presented with number, percentage, mean, and standard deviation. CVI values for the items and the scale were calculated to be ≥ 0.80, which were considered sufficient.[23] Sample sufficiency was checked with Kaiser-Meyer-Olkin (KMO) and Bartlett tests. Exploratory Factor Analysis (EFA) was used to identify the construct validity of the scale and Confirmatory Factor Analysis (CFA) was then applied with AMOS 22.0 to test the verifiability of the construct produced by the EFA.[17] Principal components analysis with Varimax rotation was used to identify factor structure. Scree plot helped to determine the number of existing factors. Skewness and kurtosis values were calculated for each item to assess the normality of the data. The data were assumed to be normally distributed when these values were between -2 and +2.[24] Cronbach's Alpha coefficient was calculated and item total score analyses were performed for the internal consistency of the scale and sub-dimensions.

Ethical Consideration

Jane S. Grasley's approval was obtained through e-mail to use the SNAB scale. Besides, ethical approval was priorly received from the Local Ethics Committee of Ministry of Health Izmir Tepecik Training and Research Hospital (Date: 17.08.2017; Decision No: 25). Relevant organizations granted permission to implement the research and

mothers who agreed to participate in the study gave verbal and written informed consent.

RESULTS

Demographic and Obstetric Characteristics of the Participants

Participants (n=140) were in the age range of 15-20 years with an average age of 18.35±1.25. 72.1% held a primary school degree and 50.7% had a nuclear family. Only 7.1% of the participants were employed and 50.7% had no health coverage. 70% of the participants were primiparous mothers while 83.6% had intended pregnancy. 16.4% had health issues during pregnancy and 77.1% had vaginal delivery. Only 20.7% of the participants initiated breastfeeding within the first hour after birth. 27.1% received breastfeeding training during pregnancy whereas 89.3% had this training in the hospital after delivery. 87.9% exclusively breastfed their babies while 28.6% reported difficulty in breastfeeding (Table 1).

Table 1. Obstetric and Breastfeeding Characteristics of the Participants (n=140)

Characteristics		n	%
Age	15-17	37	26.4
(X±SD= 18.35±1.25)	18-20	103	73.6
Parity	Primiparous	98	70.0
	Multiparous	42	30.0
Planned pregnancy	Planned	117	83.6
	Not planned	23	16.4
Health issue(s) during pregnancy	Had	23	16.4
	Did not have	117	83.6
Delivery method	Vaginal delivery	108	77.1
	Cesarean delivery	32	22.9
First breastfeeding time	Within the first hour	29	20.7
	After the first hour	111	79.3
Breastfeeding training during pregnancy	Had	38	27.1
	Did not have	102	72.9
Breastfeeding training in the hospital after delivery	Had	125	89.3
	Did not have	15	10.7
Breastfeeding type	Exclusive breastfeeding	123	87.9
	Breast milk + formula	17	12.1
Difficulty in breastfeeding	Having	40	28.6
	Not having	100	71.4

X± SD; Mean ± Standard Deviation

Findings about the Validity Analysis of the Scale

Construct Validity

Exploratory Factor Analysis (EFA): According to the principal components analysis for the SNAB scale, it was found that sample size was sufficient (KMO = 0.878) and Barlett Sphericity test was significant (X^2=1390.779; P < .001). Table 2 presents corresponding EFA results.

Item 6 (Midwife/nurse told me breastfeeding within the first hour would help me initiate breastfeeding) was excluded from the analysis since it had a communality value below 0.30 in the EFA. The remaining 17 items were grouped under three dimensions, and they explained 63.92% of total variance. In the EFA aimed at exploring the factor pattern of the scale, the level of acceptance for factor loading values was determined to be 0.40 and no overlapping items were found (Table 2).

Confirmatory Factor Analysis (CFA): As a last step, confirmatory factor analysis was performed for the 3-factor structure. Fit index values produced by the CFA for the multifactor model in Figure 1 were x^2/SD=3.149, GFI=0.805, CFI=0.812, NFI=0.802, and RMSEA=0.077. The RMSEA value was not in the limit value range according to the study by Büyüköztürk et al.[18] but another study reported that a RMSEA value of 0.05-0.08 might be considered acceptable.[25] Consequently, given the goodness of fit values by the CFA, it was seen that observed variables for the measurement model consisting of single-factor structure and 17 items represented implicit variables sufficiently.

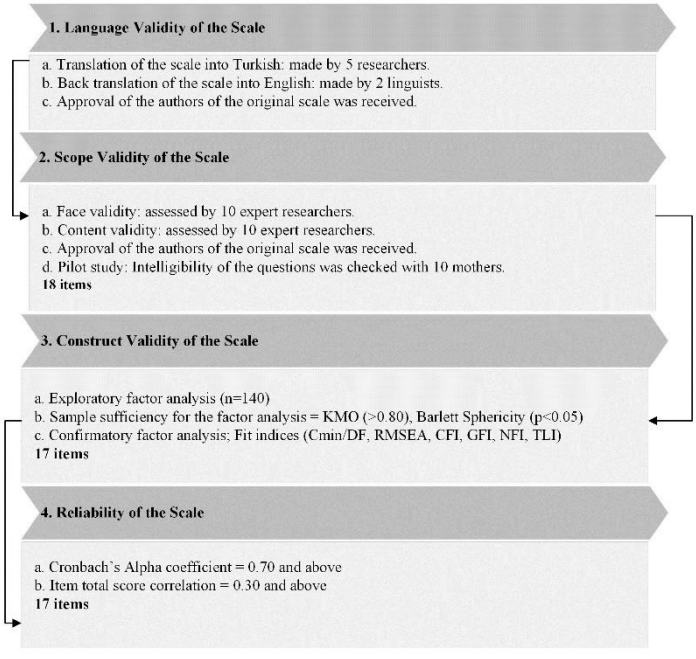

Figure 1. Validity and Reliability Stages of the SNAB Scale

Fit index values produced by the CFA for the unrelated model were x^2/SD=2.781, GFI=0.787, CFI=0.844, NFI=0.779, and RMSEA=0.107. These values were not good enough compared to the fit index limit values in Table 3. After an examination of modification index values, it was deemed

Table 2. The SNAB Scale EFA Results

Items	Factor Loading	Eigen Value	Factors
Midwife/nurse told me about the benefits of breastfeeding.	.757	7.228	Evaluation and Information Variance: 42.52%
Midwife/nurse first asked for my permission while helping me with breastfeeding positioning and attachment.	.750		
Midwife/nurse showed my husband, my friend, and one of my family members how to help me while breastfeeding.	.689		
Midwife/nurse asked me about my knowledge on breastfeeding before giving information.	.680		
Midwife/nurse asked me whether I had concerns about breastfeeding.	.638		
Midwife/nurse asked me how I decided to breastfeed my baby.	.624		
Midwife/nurse appreciated me for deciding to breastfeed.	.611		
Midwife/nurse helped me feel confident about breastfeeding.	.510		
Midwife/nurse gave me a brochure about the benefits of breastfeeding to me and my baby.	.374		
Midwife/nurse told me how to hold my baby skin-to-skin for immediate breastfeeding after birth.	.921	2.137	Support for Breastfeeding Behavior Variance: 12.57%
Midwife/nurse helped me with skin-to-skin contact immediately after birth.	.821		
Midwife/nurse stayed with me during the first breastfeeding.	.726	1.502	Individual Breastfeeding Support Variance: 8.84%
Midwife/nurse ensured my husband, my friend, or one of my family members stayed with me while giving information on the benefits of breastfeeding.	.668		
Midwife/nurse took care of my privacy while breastfeeding.	.664		
Midwife/nurse stayed calm while helping me with breastfeeding.	.653		
Midwife/nurse helped me breastfeed my baby within the first hour after birth.	.634		
Midwife/nurse helped me hold my baby without hurting while breastfeeding.	.559		

SNAB: Supportive Needs of Adolescents Breastfeeding Scale; EFA: Exploratory Factor Analyses

Table 3. Fit Index Values for the Subdimensions of the SNAB Scale

	Unrelated	Multifactor Model	Limit Values
X^2/ SD	2.781	2.579	≤5
GFI	.787	.805	
CFI	.844	.865	≥0.80
NFI	.779	.800	
RMSEA	.107	.076	≤0.05

X^2/ SD; Ki kare/ Degrees of Freedom, RMSEA; Root Mean Square Error of Approximation, CFI; Comparative Fit Index), NFI; Normed Fit Index; GFI: Goodness of Fit Index

necessary to consider the relationship of error covariance values between Items 6 and 7, Items 5 and 9, and Items 13 and 15 respectively under 'innovativeness'. Thus, it was considered that 'item pairs were under the same latent variable and close to each other in terms of meaning'. After relating the errors between the items in question with covariance values, the model formed was tested with CFA (Figure 2).

Findings about the Reliability Analysis of the Scale

In regard to the reliability analysis of the scale, Cronbach's Alpha reliability coefficient was calculated for internal consistency and item total score correlations were examined.

Cronbach's Alpha Reliability Coefficient: The SNAB scale in this study had 17 items in total and its overall Cronbach's Alpha value was calculated to be 0.911 after the internal consistency analysis. It was 0.891 for evaluation

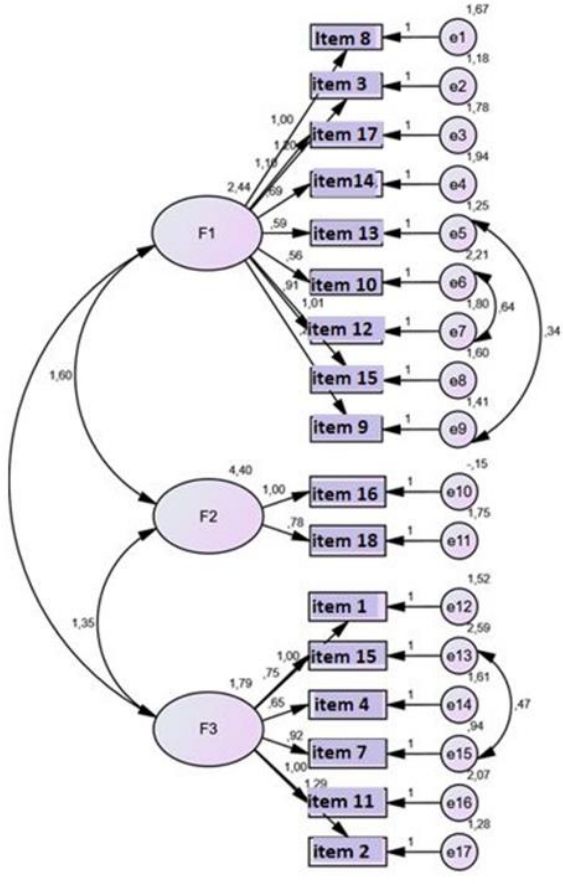

Figure 2. Subdimensions of the SNAB Scale CFA Results (F1=Evaluation, F2=Behavior, F3=Support)

subdimension (9 items), 0.883 for behaviour subdimension (2 items), and 0.857 for support subdimension (6 items).

Item Analysis: Table 4 presents the average scores, standard deviations, and item total correlation values of the items in the scale. Item 14 (Midwife/nurse took care of my privacy while breastfeeding) had the highest score (Mean±SD= 4.08±1.54) whereas Item 9 (Midwife/nurse gave me a brochure about the benefits of breastfeeding to me and my baby) had the lowest (Mean±SD= 0.47±1.27). Büyüköztürk[18] reported the minimum required value for a sufficient item-total test correlation to be 0.30. No items in this scale had a value below 0.30.17 Item-total score correlation for all the items varied between 0.326 and 0.762. All the items were found to be related to each other as seen in Table 4. Therefore, it can be inferred that the scale is distinctive in terms of measuring a desired attribute.

Table 4. The SNAB Scale Item Analysis Results

Scale Items	Item X ±SD	Item Total Score Correlation
Midwife/nurse told me about the benefits of breastfeeding.	1.61±2.03	0.676
Midwife/nurse first asked for my permission while helping me with breastfeeding positioning and attachment.	1.61±2.17	0.756
Midwife/nurse showed my husband, my friend, and one of my family members how to help me while breastfeeding.	2.16±2.18	0.708
Midwife/nurse asked me about my knowledge on breastfeeding before giving information.	0.92±1.76	0.518
Midwife/nurse asked me whether I had concerns about breastfeeding.	0.74±1.45	0.571
Midwife/nurse asked me how I decided to breastfeed my baby.	1.12±1.73	0.440
Midwife/nurse appreciated me for deciding to breastfeed.	1.61±1.95	0.695
Midwife/nurse helped me feel confident about breastfeeding.	1.98±2.02	0.762
Midwife/nurse gave me a brochure about the benefits of breastfeeding to me and my baby.	0.47±1.27	0.326
Midwife/nurse told me how to hold my baby skin-to-skin for immediate breastfeeding after birth.	1.40±2.07	0.571
Midwife/nurse helped me with skin-to-skin contact immediately after birth.	1.52±2.11	0.448
Midwife/nurse stayed with me during the first breastfeeding.	2.95±1.82	0.583
Midwife/nurse ensured my husband, my friend, or one of my family members stayed with me while giving information on the benefits of breastfeeding.	3.80±1.90	0.379
Midwife/nurse took care of my privacy while breastfeeding.	4.08±1.54	0.428
Midwife/nurse stayed calm while helping me with breastfeeding.	3.52±1.57	0.708
Midwife/nurse helped me breastfeed my baby within the first hour after birth.	3.08±1.97	0.563
Midwife/nurse helped me hold my baby without hurting while breastfeeding.	2.54±1.82	0.583

X± SD; Mean ± Standart Deviation

DISCUSSION

Adolescent marriages and pregnancies are considerably high in Türkiye and breastfeeding in this group may cause significant problems. In this study, the English version of the Supportive Needs of Adolescents Breastfeeding Scale, which was developed to address the breastfeeding needs of adolescent mothers, was adapted into Turkish and tested for reliability and validity.

In this study, English version of the SNAB scale was adapted into Turkish and tested with respect to reliability and validity. The results are consistent with the original scale.[16] This study provides evidence that the scale might be used as a relevant and reliable instrument to determine breastfeeding support needs of young expectant mothers as well as adolescent mothers in postpartum period.

In terms of the validity of the scale, CVI results calculated based on expert opinions were acceptable, and the legibility and intelligibility of the items along with their meaning equivalence with the original scale were found satisfactory by the experts.[24] For the face validity of the scale, minor revisions were made in some items in line with the CVI findings[23] by taking expert comments and the original concept of the item in question into account. The researchers held discussions with experts and the members of the research team and consequently finalized the scale in line with the experts' approval. It is commonplace in the intercultural adaptation process to alter the language without losing the meaning of items for the sake of conformity to a population or society.[26,27] Unlike the original version of Grassley et al.[16], which consisted of 18 items and three factors, the scale was reduced to 17 items as a result of the factor analysis conducted in this study and a three sub-dimensional structure emerged. This may be explained by cultural differences between the two communities and the impact of health system-specific practices.[28] Although postpartum breastfeeding counseling is widespread in Türkiye, informing mothers about the

importance of initiating breastfeeding within the first hour may not always be standardized among healthcare professionals.[29] This variability in counselling practices may explain why the item “She said that breastfeeding my baby within the first hour would help me to start breastfeeding” had a common variance loading below 0.30 and was therefore removed from the scale.[16,18] The lack of standardization may have led to differences in how young mothers perceived the item, making it less discriminative and contributing to its low variance loading.

It is regarded as sufficient when the factor loadings in the scale explain 40-60% of the total variance.[19] In this study, a three-factor structure with an Eigen value over 1 was obtained through the EFA. The total variance that must be explained by the factors was 48% in the English version and 59% in this study. The model is well fit and explains approximately two thirds of the total variance, which is higher than that of the English version.[16] Güngör[30] suggests that the number of factors in scale adaptation studies should align with the conceptual or theoretical framework. In this study, not all the factors acquired in the factor analysis matched those of the original version.[16] However, the interpretive structure of the Turkish version aligns with the framework suggested by Grassley et al.[16] The original version had the subdimensions "instrumental support", "evaluation" and "emotional support" which were reorganized in this study as "Support for Breastfeeding Behavior", "Evaluation and Information" and "Individual Breastfeeding Support" respectively. The differences in factor structure and naming may be attributed to both cultural and linguistic factors. In the Turkish context, "instrumental support" was conceptually closer to practical assistance in breastfeeding, leading to its renaming as "Support for Breastfeeding Behavior". Similarly, "emotional support" was reorganized under the broader category of "Individual Breastfeeding Support" to better reflect how Turkish mothers perceive encouragement and advisory roles together. Additionally, during the translation and adaptation process, the terminology was adjusted to ensure clarity and comprehensibility for the target population, while still maintaining the conceptual integrity of the original scale. However, another reason for the differences in the factor structure may be the demographic, regional and cultural differences between the two study populations.[31] Since this study is the first adaptation of the scale to a different culture, no other findings in the literature were found to confirm whether the original three-factor structure remained unchanged in different cultures. Therefore, differences in access to health services, postnatal support systems and family dynamics may have influenced how adolescent mothers perceived different types of breastfeeding support.

In the EFA, it is generally recommended that the factor loading value of items related to factors with an eigenvalue greater than 1.00 should be at least 0.45. However; various studies suggest that this threshold can be lower, with some researchers accepting values as low as 0.30, and in some cases, even 0.20.[18] In the present study, the factor loading of the item “The midwife/nurse gave me a brochure about the benefits of breastfeeding” was found to be low (0.374). Although the factor loading of this item is lower, it remains within an acceptable range.[18] Written materials such as educational booklets and brochures serve as supplementary tools in breastfeeding counselling, many mothers may not perceive them as an essential part of breastfeeding education.[32] This may have contributed to the low factor loading observed for the related item. Besides, racial, cultural, and economic dissimilarities may explain the difference between the results of English and Turkish versions, and breastfeeding support needs of mothers may vary significantly according to their perspectives on healthcare service or the region and culture in which they live.[31] Though the original scales are seen as a standard measure, they may not produce the same outputs in different adaptations.[33] Thus, it is of importance to test psychometric properties, dimensionality, and item structure of the SNAB scale within the context of Turkish population.

Additionally, confirmatory factor analysis (CFA) was conducted to assess the model fit of the Turkish version of the SNAB scale. The fit indices obtained suggest that the model demonstrates an acceptable fit, although some values were at the threshold of acceptability. The chi-square/degrees of freedom (χ^2/SD) ratio was below the recommended limit of 5, indicating a reasonable model fit. Goodness of Fit Index (GFI) and Comparative Fit Index (CFI) values were slightly above the acceptable threshold (≥0.80), supporting the model’s adequacy. However, the Root Mean Square Error of Approximation (RMSEA) exceeded the ideal threshold (≤0.05). A RMSEA value of less than or equal to 0.05 indicates a good fit, and a value between 0.05 and 0.08 indicates an adequate fit.[25] Given that this is the first adaptation of the SNAB scale into Turkish, structural differences in factor loadings are expected. Future studies should consider further refinement of the model and assessment across diverse populations to enhance the scale’s psychometric robustness in different cultural settings.

After the factor analysis, reliability of each dimension (i.e., factor) in the scale must be assessed quantitively.[25] To this end, one of the most used methods to determine internal

consistency in scale development and adaptation is to calculate Cronbach's Alpha coefficient.[34] In this study, Cronbach's Alpha coefficient for the overall scale was calculated to be 0.91 and coefficients of the three factors were above 0.85. Reliability values were found to be similar to the original version.[16] Cronbach's Alpha coefficient is expected to take a value between 0 and +1 and values equal to 0.70 and above indicate that the scale has internal consistency.[34] Internal consistency coefficient in this study has been very satisfactory leading to the conclusion that the scale is a reliable tool to determine breastfeeding support needs of adolescent mothers in Türkiye.

Considering the reliability of the scale, adjusted item-total correlation was calculated after the Cronbach's Alpha coefficient. Correlation values explain the relationship between the individual scores from the items in the measurement tool and the total score.[34] High (0.30 and above) and positive values demonstrate that items in the scale measure similar behaviours and the scale has a high internal consistency.[18,19] Item-total correlation values in this study ranged between 0.326 and 0.756. Consequently, it can be concluded that the scale adapted in this study is a reliable measurement instrument.

Assessment of the factors and their items revealed that items in the evaluation and behaviour subdimensions had lower average scores than those in the support subdimension. Adolescent mothers positively perceived midwives/nurses taking care of their privacy, staying calm while helping, staying with them and helping while breastfeeding, and ensuring a family member stayed with them during training. The behaviour subdimension involving skin-to-skin contact had lower item scores on average, which implies that skin-to-skin contact has an inadequate clinical implementation. The item "Midwife/nurse took care of my privacy while breastfeeding" got the highest score (Mean±SD= 4.08±1.54) which indicates that adolescent mothers attach importance to the attention of midwives/nurses to their privacy during breastfeeding. Likewise, another study has revealed that privacy is what adolescent mothers expect most from midwives and nurses and they are sensitive about it.[31] On the other hand, the item "Midwife/nurse gave me a brochure about the benefits of breastfeeding to me and my baby" got the lowest score (Mean±SD= 0.47±1.27). In a similar vein, Pınar and Pınar[35] reported that one of the situations whereby adolescent mothers' expectations were not met was to give information about the care of their baby.[35] There was no reversed item in the scale and given the item scores, it can be inferred that there was not adequate support to adolescent mothers about using training materials such as brochures and exploring their concerns and knowledge on breastfeeding. In consistency with the literature, these results give rise to the thought that the items may become functional in the field use of the scale.

Limitations

Our study has some limitations. First, the research was conducted in a certain region in Türkiye. Hence, it is difficult to generalize the results. However, this region has higher fertility and adolescent marriage rates, making it suitable for assessing the reliability and validity of the scale, which is the primary aim of this study. In addition, the study was conducted in a secondary public hospital and the application of the scale in private hospitals and mother-friendly hospitals may lead to different results. Private hospitals offer more individualised breastfeeding counselling and lactation support services, whereas public hospitals may have more limited resources for individualised breastfeeding guidance. On the other hand, mother-friendly hospitals implement standardised postnatal support programmes, which may influence the perceived support needs of adolescent mothers. Future studies conducted in different institutions may provide a broader understanding of the applicability of the scale in different healthcare settings. Furthermore, this methodological study only presents the validity and reliability results of the questionnaire instrument and further research is needed to assess its applicability in different clinical settings.

In this study, it was found that validity and reliability of the SNAB scale are highly satisfactory for the sample of Turkish adolescent women. Healthcare professionals can identify adolescent mothers with high breastfeeding support need and exercise individualized care and support by using the SNAB scale. It is recommended that future studies should examine the effects of the breastfeeding support process on the physical, mental and emotional well-being of adolescent mothers in detail using a reliable scale. In addition, although the SNAB scale was developed to directly measure the need for breastfeeding support of adolescent mothers, it can be used to assess all mothers who need support during breastfeeding. Considering the importance of breastfeeding support especially in the postnatal period, it may also be useful to determine the needs of postpartum mothers. However, the validity of this area of use needs to be confirmed by other studies.

Etik Komite Onayı: Etik kurul onayı Sağlık Bakanlığı Tepecik Eğitim ve Araştırma Hastanesi Yerel Etik Kurulundan (Tarih: 17.08.2017, Sayı: 9/25) alınmıştır.
Bilgilendirilmiş Onam: Çalışmaya katılan kadınlardan yazılı ve sözlü onam alınmıştır.
Hakem Değerlendirmesi: Dış bağımsız.
Yazar Katkıları: Fikir- AE, EÇT, RCS, YY; Tasarım- AE, EÇT, RCS, YY; Denetleme- AE, EÇT; Kaynaklar- AE, EÇT, RCS, YY; Veri Toplanması ve/veya İşlemesi- RCS; Analiz ve/ veya Yorum- AE, EÇT, RCS, YY; Literatür Taraması- AE, EÇT, RCS, YY; Yazıyı Yazan- AE, EÇT, RCS, YY; Eleştirel İnceleme- AE, EÇT
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Ethics Committee Approval: Ethics committee approval was obtained from the Ministry of Health Tepecik Training and Research Hospital Local Ethics Committee (Date: 17.08.2017, Number: 9/25).
Informed Consent: Written and verbal consent was obtained from the women participating in the study.
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