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Investigation of Orthorexia in Breastfeeding Mothers, Adaptation of Orthorexia Nervosa Revised Scale into Turkish

Investigación de la Ortorexia en madres lactantes, adaptación de la escala revisada de ortorexia nerviosa al turco

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ABSTRACT

Introduction: The growing emphasis on healthy eating has led to orthorexia nervosa, a pathological obsession with food quality, particularly affecting women. Breastfeeding mothers, concerned with optimal infant nutrition, may be especially at risk. This study aimed to translate the Orthorexia Nervosa Revised Scale (ORTO-R) into Turkish, evaluate its validity and reliability, and determine orthorexic tendencies among breastfeeding mothers.

Methods: A cross-sectional study was conducted from January to December 2023 in five family health centres in Afyonkarahisar, Turkey, with 388 breastfeeding mothers recruited via simple random sampling. Data were collected using the Turkish ORTO-R, EAT-26, and EDE-Q Short Form. Psychometric evaluation included pilot testing, content validity, EFA, CFA, and reliability via Cronbach's alpha and split-half methods. Analyses were performed in SPSS 27.0 ($p<0.05$).

Results: Mean ORTO-R score was 16.36 (4.77). EFA retained all items and revealed a two-factor structure; CFA indicated good fit ($\chi^2/df = 0.93$, RMSEA = 0.00). Cronbach's alpha was 0.724; Spearman-Brown and Guttman split-half coefficients were 0.703 and 0.692, confirming internal consistency. Mean EAT-26 and EDE-Q Short Form scores were 11.07 (10.22) and 1.66 (1.11), respectively. Significant positive correlations were observed between ORTO-R, EAT-26, and EDE-Q Short Form scores ($p<0.05$).

Conclusions: The Turkish ORTO-R scale is valid and reliable for assessing orthorexic tendencies in breastfeeding mothers.

Keywords: Orthorexia Nervosa; Breastfeeding Mothers; ORTO-R Scale; Validity; Reliability

RESUMEN

Introducción: El creciente énfasis en la alimentación saludable ha dado lugar a la ortorexia nerviosa, una obsesión patológica por la calidad de los alimentos que afecta especialmente a las mujeres. Las madres lactantes, preocupadas por la nutrición óptima de sus bebés, pueden correr un riesgo especial. El objetivo de este estudio fue traducir la Escala Revisada de Ortorexia Nerviosa (ORTO-R) al turco, evaluar su validez y fiabilidad, y determinar las tendencias ortoréxicas entre las madres lactantes.

Metodología: Se llevó a cabo un estudio transversal entre enero y diciembre de 2023 en cinco centros de salud familiar de Afyonkarahisar (Turquía), con 388 madres lactantes reclutadas mediante muestreo aleatorio simple. Los datos se recopilaron utilizando la ORTO-R turca, la EAT-26 y la EDE-Q Short Form. La evaluación psicométrica incluyó pruebas piloto, validez de contenido, EFA, CFA y fiabilidad mediante los métodos alfa de Cronbach y split-half. Los análisis se realizaron en SPSS 27.0 ($p < 0,05$).

Resultados: La puntuación media del ORTO-R fue de 16,36 (4,77). El EFA conservó todos los ítems y reveló una estructura de dos factores; el CFA indicó un buen ajuste ($\chi^2/df = 0,93$, RMSEA = 0,00). El alfa de Cronbach fue de 0,724; los coeficientes de Spearman-Brown y Guttman de mitad dividida fueron de 0,703 y 0,692, lo que confirma la consistencia interna. Las puntuaciones medias del EAT-26 y del EDE-Q Short Form fueron de 11,07 (10,22) y 1,66 (1,11), respectivamente. Se observaron correlaciones positivas significativas entre las puntuaciones de ORTO-R, EAT-26 y EDE-Q Short Form ($p < 0,05$).

Conclusión: La escala ORTO-R turca es válida y fiable para evaluar las tendencias ortoréxicas en madres lactantes.

Palabras clave: Ortorexia nerviosa; Madres lactantes; Escala ORTO-R; Validez; Fiabilidad.

HIGHLIGHTS MESSAGES

- The ORTO-R scale was successfully adapted into Turkish and demonstrated good validity and reliability among breastfeeding women.
- The two-factor structure of ORTO-R was confirmed by exploratory and confirmatory factor analyses with strong model fit indicators.
- Breastfeeding mothers showed orthorexic tendencies, with significant links to marital status, education, and occupation.
- ORTO-R scores positively correlated with both EAT-26 and EDE-Q scores, indicating shared disordered eating patterns.

INTRODUCTION

In recent years, awareness of the importance of healthy eating has steadily increased in modern societies. This growing awareness influences people's eating habits and shapes their perception of body image. For some individuals, however, the pursuit of healthy eating can lead to obsessive thoughts and behaviours. As a result, various eating disorders, such as anorexia nervosa, bulimia nervosa, and orthorexia nervosa (an obsession with healthy eating), can occur[1].

Orthorexia nervosa is characterised by restrictive and compulsive behaviours related to healthy eating[2]. In other words, it involves pathological attitudes towards healthy food choices[3]. Individuals with orthorexic tendencies are primarily concerned with the quality rather than the quantity of food [4]. Although the exact prevalence of orthorexia nervosa remains unclear, global studies suggest that it ranges from 6.9% to 75.2%, depending on factors such as gender and occupation[5]. Some studies have found that women are at a higher risk than men[6,7].

Women, particularly those of childbearing age, may be at an increased risk of developing orthorexia nervosa due to the emphasis placed on healthy eating, concerns about weight, and the physiological changes that occur during this period. Postpartum psychological and physiological changes can also elevate orthorexic tendencies, with breastfeeding mothers being at a higher risk than non-breastfeeding mothers, likely due to concerns about producing high-quality milk[8,9]. Restrictive diets focused on 'healthy eating' can lead to nutritional deficiencies in children, suggesting that the offspring of mothers with orthorexia nervosa may adopt similar restrictive behaviours, thereby increasing their risk of developing an eating disorder in the future [10,11]. Early intervention and maternal awareness are therefore critical for public health.

However, research on orthorexic tendencies in breastfeeding mothers is very limited. Accurate assessment of this phenomenon across populations requires the linguistic and cultural adaptation of measurement instruments. Psychometric analyses demonstrate that a scale can consistently and appropriately measure the intended construct, thereby ensuring the comparability and generalisability of findings. Accordingly, this study aimed to translate the Revised Orthorexia Nervosa Scale (ORTO-R), a revision of the ORTO-15, into Turkish, and to evaluate its validity and reliability among breastfeeding mothers. The study also examined

whether the scale's linguistic and cultural adaptation enables reliable identification of orthorexic tendencies in this population.

METHODS

Study Design

This cross-sectional study was conducted between January and December 2023 in five family health centres in the city center of Afyonkarahisar, Turkey. A two-phase observational design was applied. The study aimed to evaluate the descriptive characteristics of breastfeeding mothers and to assess the validity and reliability of the Revised Orthorexia Nervosa Scale (ORTO-R) in Turkish.

Participants and Sampling

The study included 27,115 women aged 18 years and older who gave birth between 2019 and 2021. A priori power analysis using G*Power 3.1.9.2 (effect size f = 0.3, α = 0.05, power = 0.80) indicated a required sample of 379 participants, providing statistical justification for the study sample. However, the survey was ultimately administered to 388 breastfeeding mothers in the study 2 (main study). Inclusion criteria were: having a child aged 0–3 years, being 18 years or older, residing in Afyonkarahisar, and being literate. Exclusion criteria included having stopped breastfeeding, being under 18 years old, or submitting incomplete or incorrectly completed surveys.

Instruments and Procedures

ORTO-R Scale Translation and Adaptation:

The ORTO-R is a revised form of ORTO-15 developed by Radoslaw Rogoza and Lorenzo M. Donini [12]. The Turkish adaptation of ORTO-15 was previously conducted by Arusoğlu, who created the ORTO-11 version [13]. The revision addressed the unstable factorial structure observed in earlier adaptations. ORTO-R includes six best-performing items from ORTO-15, rated on a five-point Likert scale (1 = never, 5 = always), with higher scores indicating greater orthorexic tendencies. Unlike ORTO-15, no reverse scoring is applied.

The six ORTO-R items were first translated into Turkish by a student and then independently by three academic translators (a dietitian, an English specialist, and a medical doctor). The versions

were tested with 24 participants to determine clarity, and the most comprehensible translation was finalized. Two independent translators then performed back-translation into English. Finally, three experts evaluated each item for clarity on a three-point scale ("appropriate," "appropriate but should be modified," "not appropriate"). Based on this process, the final Turkish version of ORTO-R was established.

Eating Attitudes Test-26 (EAT-26):

The EAT-26 was adapted to Turkish by Ergüney Okumuş & Sertel Berk [14]. The test includes three sections: A (demographic data), B (26 items on eating habits), and C (five items on behaviors during the past six months). Only section B is scored (0–3 scale), with item 26 reverse-coded. Sections A and C are descriptive and not included in scoring.

Eating Disorder Examination Questionnaire – Short Form (EDE-Q Short Form):

The EDE-Q Short Form was adapted to Turkish by Esin & Ayyıldız [15]. The Turkish EDE-Q Short Form comprises 13 items and five subscales, and scores range from 0 to 6. Higher scores indicate greater eating-related psychopathology.

Study 1. Pilot Study.

The finalized Turkish ORTO-R scale was tested on 30 participants in family health centres. Reliability analyses were conducted, including calculation of Cronbach's alpha and item-total correlation coefficients. Following the pilot study, no modifications were made to the scale prior to administration in the main survey.

Reliability Analysis:

Internal consistency was assessed with Cronbach's alpha and split-half reliability. In the main study, alpha coefficients were calculated for the entire scale and with each item removed. For the split-half method, items (2, 3, 5) and (1, 4, 6) were analyzed separately, and Spearman-Brown and Guttman coefficients were computed.

Validity Analysis:

Construct validity was evaluated using Kaiser-Meyer-Olkin (KMO) and Bartlett's tests, confirming data suitability for factor analysis. EFA (Varimax rotation) and CFA were performed, with Scree plot, fit indices, and path diagrams used for interpretation.

Content validity was assessed by five experts using Lawshe's method. Items were rated for appropriateness, and Content Validity Ratio (CVR) and Index (CVI) were calculated accordingly.

Variables

The dependent variable in this study was the ORTO-R score, which reflects orthorexic tendencies. The independent variables were age, body mass index (BMI), marital status, educational level, occupation, number of children and duration of breastfeeding. Sociodemographic and clinical covariates, such as height and weight, were also recorded.

Statistical Analysis

Data were analyzed using SPSS for Windows version 27.0. Descriptive statistics of participants and scores on the ORTO-R, EAT-26, and EDE-Q short form were presented as frequencies and percentages. The normality of the data distribution was first assessed using the Shapiro-Wilk test. Since the data were found to be normally distributed, relationships between ORTO-R scores and descriptive variables were analyzed using one-way ANOVA with Tukey HSD post hoc tests, independent samples t-tests, and Pearson correlation coefficients. Statistical significance was set at $p<0.05$.

Ethical Considerations

Ethical approval was obtained from the Non-Interventional Research Ethics Committee of Kırklareli University (29.12.2022; approval number: E-69456409-199-73137), and necessary permissions were obtained from the Afyonkarahisar Provincial Health Directorate.

RESULTS

Study 1. Pilot Study

The reliability of the ORTO-R scale was initially tested in a pilot study with 30 breastfeeding mothers. During the pilot, participants were presented with three independent Turkish translation versions of the scale, and feedback was collected to determine the most understandable version. Following this, no modifications were made to the scale before

administration in the study 2(main study). The Cronbach's alpha coefficient for the pilot study was 0.52. All items showed item-total correlations above 0.30, and no items were excluded.

Study 2. Main Study

Descriptive Statistics

Descriptive information about the breastfeeding mothers who participated in the study is shown in Table 1. The mean age of the participants was 33.92(5.93) years; 51.8% were aged 31-36 years. Of the participants, 95.9% were married, while 2.8% were divorced and 1.3% were single. In terms of educational background, 40.9% were ≥bachelor's degree and 23.1% had completed high school or equivalent. The majority of women were housewives (52.8%) and had 2 children (51.8%).

Validity

The suitability of factor analysis was confirmed by a KMO value of 0.728 and a significant Bartlett's test ($p < 0.005$). The construct validity of the ORTO-R scale was supported by both EFA and CFA. Items contributed 43.9–78% to the total variance. Eigenvalues greater than 1 indicated a two-factor structure. Factor 1 (items 1, 4, 5 and 6) explained 42.48%, while Factor 2 (items 2 and 3) explained 18.04%. Together, these factors explained 60.5% of the total variance. All factor loadings exceeded 0.40 and no cross-loading or redundant items were identified (Table 2).

CFA was applied to test the structure identified by EFA. The correlation coefficient between the two factors was 0.15, which is within the acceptable reference value (<0.85). The CFA results for the two-factor structure established according to the EFA, indicating that all values fall within the desired reference range and the model demonstrates a good fit. ($\chi^2/df = 0.93$, RMSEA = 0.000, CFI = 1.00, TLI = 1.00, IFI = 1.00, NFI = 0.957, RFI = 0.90).

Content validity was assessed by submitting the scale to five academic experts. Using the Lawshe technique, all items were rated as 'adequate' (A), resulting in content validity ratios (CVR) and content validity indices (CVI) of +1. This indicates that the scale achieved content validity.

Table 1. Descriptive Characteristics of the Participants

Variable	n	%
Age		
18–24	15	3.9
25–30	68	17.5
31–36	201	51.8
37–42	70	18.0
43–48	32	8.2
49–54	2	0.5
Marital Status		
Married	372	95.9
Divorced	11	2.8
Single	5	1.3
Educational Level		
Primary School	35	9.0
Middle School	71	18.2
High School or Equivalent	90	23.1
Associate Degree	30	7.7
≥Bachelor's Degree	159	40.9
None	3	0.7
Occupation		
Housewife	205	52.8
Education Sector	20	5.2
Health Sector	64	16.5
Worker	5	1.3
Civil Servant	41	10.6
Number of Children		
1	111	28.6
2	201	51.8
3	51	13.1
4 or more	25	6.4
BMI		
Underweight	16	4.1
Normal weight	200	51.5
Overweight	115	29.6
Obese	57	14.6
	$\bar{x}$ **(SD)**	**Median (min-max)**
Body Weight	66,91(13,70)	64,50 (43-140)

Table 2. Factor Loadings from the Varimax Method

Item	*Factor 1*	*Factor 2*
1)Are you rigid and restrictive dietary choices conditioned by your worry about your health status?)	*0,69*	
4)In the last three months, did the thoughts of food make you feel guilt, ashamed and anxious?	*0,61*	
5)Does thinking about food excessively worry you for more than three hours a day?	*0,75*	
6)Does eating healthy food changes your lifestyle (frequency of eating out, friends,…)?	*0,74*	
2)Would you agree that eating healthy food increases your self-esteem?		*0,88*
3)Do you believe that strict consuming only of healthy food may improve your appearance?		*0,79*
Eigenvalue	***2,072***	***1,560***
Variance %	***34,53***	***26***
Cumulative Variance %	***34,53***	***60,53***

Reliability

The study included 388 participants. The ORTO-R demonstrated good internal consistency (Cronbach's α = 0.724; factors 1 and 2: 0.686 and 0.665, respectively). Item-total correlations ranged from 0.662 to 0.713, indicating that no items needed to be removed. Split-half reliability (α = 0.56–0.61), as well as the Spearman-Brown (0.703) and Guttman (0.692) coefficients, confirmed that the internal consistency was sufficient (Table 3).

Table 3. Reliability of the ORTO-R Scale and Factor Structure

Scale / Factor	*Cronbach's α*	*Item-Total Correlation*	*Split-Half α*	*Spearman-Brown*	*Guttman Split-Half*
ORTO-R (Total)	*0.724*	*0.662–0.713*	–	–	–
Factor 1 (Items 1,4,6)	*0.686*	–	*0.56*	*0.703*	*0.692*
Factor 2 (Items 2,3,5)	*0.665*	–	*0.61*	–	–

Correlation Data of All Scales

Table 4 shows the mean, minimum and maximum scores for the ORTO-R, EAT-26 and EDE-Q short form. The EDE-Q evaluates the severity and scope of eating disorder symptoms, including restraint, eating habits, and concerns about body shape and weight. Higher scores suggest a greater degree of psychopathology. The EAT-26 is a screening tool for identifying individuals at risk of disordered eating behaviours and attitudes, with higher scores reflecting more pronounced symptoms.

The study found that higher ORTO-R scores were associated with increased orthorexic behaviors. ORTO-R showed a moderate, positive correlation with EAT-26 and EDE-Q, and weak but

significant correlations with BMI and body weight. A positive relationship between EAT-26 and EDE-Q indicated that abnormal eating attitudes rise with eating disorder severity. While EDE-Q correlated positively with age, BMI, and weight, EAT-26 showed no such associations. Overall, orthorexic tendencies and eating disorders were interrelated and linked to body size (Table 5).

Table 4. Descriptive Statistics for ORTO-R total and subscale, EAT-26, EDE-Q Short Form Scores (mean, minimum, maximum)

ORTO-R	$\bar{x}$(SD)	Min	Max
Factor 1			
1)Are you rigid and restrictive dietary choices conditioned by your worry about your health status?	2,03(0,94)	1	4
4)In the last three months, did the thoughts of food make you feel guilt, ashamed and anxious?	2,38(1,40)	1	5
5)Does thinking about food excessively worry you for more than three hours a day?	1,97(1,19)	1	5
6)Does eating healthy food changes your lifestyle (frequency of eating out, friends,…)?	2,58(1,28)	1	5
Factor 2			
2)Would you agree that eating healthy food increases your self-esteem?	3,81(1,29)	1	5
3)Do you believe that strict consuming only of healthy food may improve your appearance?	3,70(1,33)	1	5
Scale	16,36(4,77)	6	29
EAT-26	**11,07(10,22)**	**0**	**54**
EDE-Q Short Form	**1,66(1,11)**	**0,2**	**5,2**

Table 5. Pearson Correlation Between Participants' ORTO-R, EAT-26, EDE-Q Short Form Scores, Age, BMI, and Body Weight

Variables		ORTO-R	EAT-26	EDE-Q	Age	BMI	Body Weight
ORTO-R	r	1					
	p	-					
EAT-26	r	0,462*	1				
	p	<0,001	-				
EDE-Q	r	0,398*	0,392*	1			
	p	<0,001	<0,001	-			
Age	r	0,49	0,61	0,192*	1		
	p	0,332	0,277	<0,001	-		
BMI	r	0,156*	0,65	0,358*	0,102	1	
	p	0,002	0,199	<0,001	0,45	-	
Body Weight	r	0,149*	0,088	0,401*	0,137*	0,938*	1
	p	0,003	0,085	<0,001	0,007	<0,001	-

P<0,05

DISCUSSION

This study aimed to validate and confirm the reliability of the ORTO-R scale for use with breastfeeding mothers. This is the first study to examine the validity and reliability of the Turkish version of the scale in this target group.

A total of 388 breastfeeding women with children aged 0–3 years took part in the study, achieving an average ORTO-R score of 16.36 (4.77). There are limited studies on the ORTO-R in the literature. One Turkish study reported a mean score of 17.09 (2.70) [16], while another Turkish study reported a lower mean score of 13.2 (3.3) [17].

Participants' mean age was 33.92 (5.93) years, compared to 30.6 (4.24) years in a study that compared breastfeeding and non-breastfeeding mothers [10]. In our study, no significant association was found between age and mean orthorexia scores. Similarly, one study of breastfeeding mothers reported no significant relationship, while another study found a negative association, with orthorexic tendencies decreasing with increasing age[9].

The participants' mean BMI was 25.16(5.36). A significant positive correlation was found between BMI and mean orthorexia scores, suggesting that participants with a higher BMI exhibited higher orthorexic tendencies. Postpartum women often experience increased body dissatisfaction due to physical changes, which can impact eating behaviours and lead to disordered eating. While one study found no significant relationship between BMI and orthorexia in pregnant and breastfeeding/non-breastfeeding women [10], another study reported that a higher BMI was associated with increased orthorexic tendencies [18].

Our study has proposed a two-factor structure instead of a single-factor structure, while maintaining the original number of items. The two factors identified in our study explain 60.5% of the variance. The KMO value was found to be 0.728, and the Bartlett's sphericity test was statistically significant, indicating that the data are suitable for factor analysis. Our results are consistent with previous studies conducted in Lebanon and Turkey. In one study, the ORTO-R scale was evaluated with a KMO value of 0.57, a Bartlett's p-value of <0.05 and an explained variance of 50.07%[19]. In another study, the ORTO-R scale was assessed, showing a KMO value of 0.718, a Bartlett's p-value of less than 0.001 and an explained variance of 68.21% [20]. Another

study evaluated the ORTO-R scale, showing a KMO value of 0.62, a Bartlett's p-value of less than 0.001, and an explained variance of 63.13% [17].

Structural validity was evaluated using both EFA and CFA. The CFA goodness-of-fit indices indicated an acceptable model fit, with the following values: $\chi^2/df = 0.93$, RMSEA = 0.00, NFI = 0.957, RFI = 0.90, IFI = 1.00, TLI = 1.00 and CFI = 1.00. There was a correlation of 0.15 between the two factors. These results are consistent with those of previous studies, in which the original English version of the ORTO-R showed a CFI of 0.976 and an RMSEA of 0.057, while the Arabic version showed a CFI of 0.96 and an RMSEA of 0.077 [19,21].

Content validity was assessed using the Lawshe technique with five experts (three nutrition and dietetics specialists and two food technology academics), yielding a content validity index (CVI) of 1.00. Reliability analysis showed a Cronbach's alpha of 0.72 for the entire scale, 0.68 for Factor 1 and 0.66 for Factor 2. This indicates good overall reliability and is consistent with the Arabic adaptation ($\alpha = 0.78$) [22].

In the Greek adaptation, omega coefficients ranged from 0.65 to 0.75, with values of 0.70 and 0.65 for the ORTO-15 and ORTO-R, respectively [23]. A Turkish study, however, reported a lower value of 0.64 for Cronbach's alpha [17]. In our study, Cronbach's alpha remained stable after items were removed, confirming the reliability of the original scale. Split-half reliability yielded alpha coefficients of 0.61 and 0.56, with Spearman–Brown and Guttman coefficients of 0.703 and 0.69, respectively, which also support internal consistency. Pearson correlation analysis revealed a significant positive correlation between ORTO-R and both the EAT-26 and the EDE-Q short form ($r = 0.462$, $p < 0.001$), indicating that individuals exhibiting disordered eating behaviours are more likely to exhibit orthorexic tendencies. While previous studies have reported an increase in orthorexic tendencies with higher EAT-26 scores, some findings suggest that individuals with lower EAT-26 scores exhibit higher orthorexic tendencies [24,25].

Pearson's correlation analysis revealed a significant positive correlation between the EDE-Q short form total and subscale scores and the ORTO-R ($r = 0.398$, $p < 0.001$), suggesting a growing correlation between the two measures. Significant positive correlations were observed between the ORTO-R and the 'restrained eating', 'body shape and weight concerns', 'binge eating' and 'purging' subscales. However, the relationship with 'body dissatisfaction' was positive, yet not

significant. Previous research has also reported a significant positive correlation between the EDE-Q and the ORTO-R ($r = 0.620$, $p < 0.001$) [26].

Correlation analysis between the EDE-Q and the EAT-26 revealed a significant positive relationship ($r = 0.392$, $p < 0.001$), with positive correlations observed for the 'restrained eating' and 'body shape and weight concerns' subscales. Non-significant negative and positive relationships were observed for the 'body dissatisfaction', 'binge eating', and 'purging' subscales. Earlier studies have also reported positive and significant correlations between the EAT-26 and the EDE-Q, for the total score and for the restriction, body concern and weight concern subscales ($r = 0.31–0.512$, $p < 0.01$) [27].

Strengths

This study has several strengths. A large sample of 388 breastfeeding mothers improved generalisability. The Turkish ORTO-R scale was developed through a two-phase design, including a pilot study. Multiple validated instruments enabled comprehensive assessment, while structural validity was tested with factor analyses and reliability with internal consistency and split-half methods. Content validity was ensured through expert evaluation and the Lawshe technique. Together, these methods confirm the scale's validity and reliability in this population.

Limitations

Despite its contributions, this study has several limitations. Firstly, the cross-sectional design prevents any conclusions about causality being drawn. Secondly, conducting face-to-face surveys in family health centres may have introduced response biases, including social desirability bias. Thirdly, while this is the first study to examine the Turkish ORTO-R in breastfeeding mothers, the sample size is limited to one city, which may affect how generalisable the findings are. Finally, self-reported data on eating behaviours and anthropometric measures may be subject to reporting errors. Further studies using longitudinal designs and more diverse populations are needed to confirm these findings.

CONCLUSIONS

This study is the first to assess the validity and reliability of the Turkish ORTO-R scale in breastfeeding mothers. Unlike the original single-factor structure, the Turkish version revealed

two factors. EFA indicated KMO = 0.728, Bartlett's χ^2 = 169.134, p < 0.001, Z = 28.12, with cumulative variance of 60.5% (Factor 1: 42.48%, Factor 2: 18.04%) and factor loadings of 0.61–0.75 and 0.79–0.88, confirmed by Varimax rotation. CFA demonstrated excellent fit (χ^2/df = 0.93, RMSEA = 0.000, NFI = 0.957, IFI = 1.00, TLI = 1.00, CFI = 1.00), and content validity was high (KGI = 1.00).

Reliability analyses showed Cronbach's alpha of 0.724 (Factor 1: 0.686, Factor 2: 0.665), item-deleted alphas 0.662–0.713, and split-half reliability with Spearman-Brown = 0.703 and Guttman = 0.692. ORTO-R correlated positively with EAT-26 (r = 0.462, p < 0.001), indicating higher orthorexic tendencies in participants with disordered eating behaviours.

Overall, the Turkish ORTO-R is a valid and reliable tool for assessing orthorexic tendencies in breastfeeding mothers, supporting early identification and intervention in clinical and public health settings.

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AUTHORS' CONTRIBUTIONS

Study conception and design: I. M and G.A, Data collection: I.M Data analysis and interpretation: I.M. Drafting of the article: G.A and I.M. Critical revision of the article: G.A. and I.M

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CONFLICTS OF INTEREST

The authors state that there are no conflicts of interest when writing the manuscript.

DATA AVAILABILITY

Data from this study are available upon request from the corresponding author.

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