

# **Original Article**

DOI: 10.14744/jern.2025.26779 JEducResNurs.2025;22(2):136-142

# Obsession with Healthy Eating in Pregnancy Scale: Instrument Development and Cross-sectional Validation Study

#### Abstract

**Background:** Orthorexia nervosa (ON) during pregnancy is an important yet often overlooked issue that requires attention. Screening pregnant women who exhibit an obsession with healthy eating is crucial for identifying risk factors and ensuring a qualified nursing process. However, there is currently no valid and reliable ON scale specifically designed for pregnant women.

Aim: This study aimed to develop a measurement tool to assess the obsession with healthy eating during pregnancy and to evaluate its psychometric properties.

Methods: A scale development and cross-sectional validation study was conducted with 539 pregnant women at the obstetrics and gynecology clinic of a university hospital in Türkiye. Preliminary scale items were generated through a comprehensive literature review. A total of 31 preliminary items underwent item-total correlation analyses. Factor analyses and reliability assessments were then performed.

**Results:** Factor analysis revealed a 12-item scale with a four-factor structure: concern for the baby's health, healthy orthorexia, orthorexia nervosa, and restricted eating motivation. The scale demonstrated acceptable construct validity, discriminant validity, internal consistency ( $\alpha$ =0.83), and test-retest reliability (intraclass correlation coefficient = 0.918).

**Conclusion:** The results suggest that the scale is a valid and reliable tool for assessing symptoms of an obsession with healthy eating during pregnancy, in both research and clinical practice settings. The scale is potentially valuable, as it facilitates the identification of such obsessions and supports improvements in the quality of perinatal care.

Keywords: Healthy eating, instrument development, obsession, pregnancy, validation study

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# Introduction

Orthorexia nervosa (ON) is a pathological obsession with avoiding unhealthy foods.<sup>1</sup> Although it is not yet an officially recognized diagnosis, ON is believed to differ from pre-existing eating disorders (EDs) and obsessive compulsive disorders.<sup>2</sup> Proposed diagnostic criteria for ON include: (1) an obsessive concern with healthy eating; (2) avoidance of foods perceived as unhealthy or contaminated, with strict adherence to a self-defined healthy diet; (3) emotional distress, such as guilt, shame, or anxiety, triggered by minor dietary violations, often leading to even stricter dietary restrictions; (4) impairment in social, occupational, or academic functioning; and (5) the development of physical health issues due to nutritional deficiencies.<sup>3</sup>

Focusing on healthy eating is not a disorder in itself. The trend toward ON may reflect a healthier, non-pathological diet and can even be health-promoting, especially in its early stages.<sup>4</sup> Bratman (2017)<sup>5</sup> identified two phases in the development of ON: *healthy orthorexia*, characterized by a non-pathological interest in healthy eating, and *pathological orthorexia*, marked by an obsessive focus on dietary purity.<sup>5</sup> Thus, ON can be both health-enhancing, and, in more extreme forms, potentially life-threatening.<sup>6</sup>

Pregnancy is a critical period in a woman's life, where maintaining health is essential for both mother and fetus. During this time, many women are motivated to improve their diets as part of broader behavioral changes related to gestation.<sup>7</sup> However, this motivation, combined with changes in body shape and dissatisfaction with appearance, can increase vulnerability to EDs.<sup>8</sup> Emotional distress during pregnancy may also lead to anxiety and the emergence of obsessive-compulsive symptoms.<sup>9</sup> Therefore, pregnancy is recognized as a high-risk period for the onset, recurrence, or worsening of EDs.<sup>10</sup> Given the high prevalence of EDs among women of reproductive age, these conditions increase both fetal and maternal morbidity and mortality.<sup>6</sup> Additionally, experiences during pregnancy that deviate from societal expectations have been associated with feelings of fear, shame, and loneliness. These factors may cause pregnant women with mental health concerns to fear being perceived as a "bad mother," leading them to hide their symptoms and avoid seeking help. As a result, the actual prevalence of ON during pregnancy is likely underestimated.<sup>11</sup>

In the limited number of studies available, the prevalence of ON during pregnancy has been reported to range from 21.4% to 26.6%.<sup>12,13</sup> However, evidence on ON in pregnancy is insufficient. Despite being a significant concern, ON during pregnancy is often overlooked and requires greater attention.<sup>14</sup>

Cite this article as: Taştekin A, Çiçekoğlu Öztürk P, Dur R. Obsession with Healthy Eating in Pregnancy Scale: Instrument Development and Cross-sectional Validation Study. J Educ Res Nurs. 2025;22[2]:136-142.

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Received: March, 12, 2024 Accepted: May 12, 2025 Publication Date: June 01, 2025



Copyright@Author(s) - Available online at www.jer-nursing.org Content of this journal is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License. A study that conducted thematic analysis of original tweets on social media identified several perceptions of ON: (1) ON is viewed as a medical issue and a personal responsibility; (2) ON is seen as a cultural phenomenon, shaped by sociocultural influences; and (3) discursive tension arises when ON is interpreted as healthy eating rather than a pathological eating behavior.<sup>15</sup>

Unfortunately, due to varying definitions of ON in the literature, there is no unified understanding of the phenomenon.<sup>16</sup> Although numerous tools have been developed to assess ON risk in different populations, such as the Bratman Orthorexia Test,<sup>17</sup> Orthorexia Nervosa Inventory,<sup>18</sup> ORTO-15,<sup>19</sup> Duesseldorf Orthorexia Scale,<sup>20</sup> Eating Habits Questionnaire,<sup>21</sup> and Teruel Orthorexia Scale,<sup>22</sup> no standardized diagnostic criteria exist.<sup>23</sup> This lack of consensus hinders accurate prevalence estimation.<sup>24</sup> When the target population is pregnant women, the issue becomes even more complex, as, based on current literature, there is no valid and reliable ON scale specifically designed for use during pregnancy. For these reasons, existing measurement tools are insufficient to accurately capture ON symptoms during sensitive periods such as pregnancy, when nutritional changes occur, and may yield questionable results.<sup>15</sup> Therefore, it is crucial to screen pregnant women who exhibit an obsession with healthy eating and to identify associated risk factors to support a qualified nursing process. This study aimed to evaluate its psychometric properties.

In line with this aim, the research questions were:

- 1. Is the Obsession with Healthy Eating in Pregnancy Scale (OHEPS) valid?
- 2. Is the OHEPS reliable?

# **Materials and Methods**

### Design

Two types of studies were conducted: (1) a methodological study for instrument development and (2) a cross-sectional study for scale validation.

#### **Study Sample**

Pregnant women undergoing non-stress testing (monitoring of fetal heart rate and uterine contractions using a cardiotocograph) were recruited from the Gynecology and Obstetrics Clinic of Afyonkarahisar University of Health Sciences Hospital in Türkiye. Inclusion criteria were: being in the last trimester of pregnancy (week 30 or later), aged over 18 years, having no pregnancy-related risk factors, having no history of eating disorders, and volunteering to participate in the study. Those who did not meet these criteria were excluded.

To determine the sample size for exploratory factor analysis (EFA), a 25% dropout rate was added to the standard calculation of five times the number of items in the draft scale.<sup>25</sup> This yielded a required sample size of 194. McNeish (2016)<sup>26</sup> reported that a sample size of 200 is sufficient for EFA. Accordingly, 200 pregnant women were recruited via convenience sampling between October 2021 and January 2022 (Data Set A).

For confirmatory factor analysis (CFA), the required minimum sample size was calculated as 328, based on  $\alpha$ =0.05, power=0.80, and degree of freedom=30.<sup>27</sup> A total of 339 pregnant women were recruited between May 2022 and September 2022. However, due to violations of normality in the CFA dataset, outliers were removed, and CFA was conducted with data from 330 participants (Data Set B).

## **Data Collection**

Data were collected using a survey form. The form included 12 questions assessing the demographic and obstetric characteristics of the pregnant women, such as age, educational status, gestational age, as well as the OHEPS.

The OHEPS was developed as part of this study. Items are rated on a scale from 1 (strongly disagree) to 5 (strongly agree). The scale has no cut-off point; higher scores indicate a greater level of obsession with healthy eating.

## **Data Analysis**

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS, IBM SPSS Statistics, Chicago, IL, USA) version 25 and Analysis of Moment Structures (AMOS, IBM, Armonk, NY, US) version 24. The procedures for instrument development and psychometric testing are detailed below:

## **Instrument Development**

#### **Item Generation**

Preliminary items were developed based on a literature review aimed at exploring the concept of nutritional obsession during pregnancy. The literature review was conducted using Google Scholar, PubMed, EBSCOhost, Web of Science, and Scopus databases with the keywords "pregnancy," "orthorexia nervosa," "healthy eating," and "obsession". Studies published in Turkish or English between 2000 and 2021 were included. No articles were excluded.

#### **Content Validity**

Content validity was assessed using the item and scale content validity indices [I-CVI and S-CVI], calculated based on expert evaluations following the Davis method [1992].<sup>28</sup> The expert panel included five psychiatric nurses with doctoral degrees and experience in scale development, three obstetrics and gynecology nurses, one public health nurse, three nutrition and dietetics experts, one Turkish language expert, and one assessment and evaluation specialist. Experts rated each item in terms of intelligibility, clarity, and relevance using the following scale: A = "appropriate," B = "needs some revision," C = "needs serious revision," and D = "not appropriate." The I-CVI was calculated by dividing the number of experts who rated the item ss A or B by the total number of experts. Based on expert feedback, draft items were revised, combined, or removed.

#### **Face Validity**

Five pregnant women evaluated each item on a 4-point Likert-type scale ranging from "very difficult" to "very easy," assessing clarity, comprehensibility, and appropriateness. The time required to complete the scale was also recorded.

# **Psychometric Tests**

#### **Item Analysis**

Corrected item-total correlations were used to analyze the items. Items with correlations below 0.3 or above 0.8 were removed  $^{\rm 29}$ 

#### **Construct Validity**

First, the theoretical structure of the scale was identified using EFA on Data Set A, followed by CFA to validate this structure using a new sample [Data Set B].<sup>30</sup> Principal component analysis with varimax rotation was applied in the EFA. Kaiser-Meyer-Olkin (KMO) statistics and Bartlett's test were used to assess sampling adequacy. In the EFA, the following criteria were used to determine the number of items and factors: anti-image correlations >0.50, communalities >0.30, total variance explained >50%, eigenvalues, and item factor loadings >0.40.29 Items were removed step by step, and EFA was repeated iteratively.

CFA was conducted to confirm the theoretical structure derived from the EFA. Maximum likelihood and bootstrap estimation methods were used in CFA. Multicollinearity among variables was assessed using variance inflation factors (VIF), and normality was assessed through skewness and kurtosis coefficients (<3).<sup>31</sup> Fit indices used in CFA to assess the goodness of fit of the default model included the chi-square to degrees of freedom ratio ( $x^2$ /df), goodness-of-fit index (GFI), Tucker-Lewis Index (TLI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). Values of 0.90 and above for GFI, TLI, and CFI; 0.08 and below for RMSEA and SRMR; and  $x^2$ /df values of 3 or less<sup>32</sup> were considered indicators of good model fit.

#### **Convergent Validity**

Convergent validity was assessed using the following criteria: composite reliability (CR) >0.7, standardized regression weight (SRW) >0.5, and average variance extracted (AVE) >0.5.  $^{33}$ 

#### **Discriminant Validity**

 $\mathsf{R}^2$  values (the square of the estimated correlation between factors) that were smaller than the AVE values indicated discriminant validity.^{29}

#### **Internal Consistency Reliability**

Internal consistency reliability was evaluated using coefficient a.

#### **Test Reliability**

Test reliability was assessed using the standard error of measurement (SEm), calculated with the formula: SEm=sd  $\sqrt{1-a}.^{34}$ 

#### **Test-retest Reliability**

To assess test-retest reliability, the scale was re-administered two weeks after the initial data collection (Time I) to a randomly selected subgroup of 50 participants (Time II).<sup>35</sup> If the intraclass correlation coefficient (ICC) between TI and TII is close to one, it indicates a strong correlation between the two measurements.<sup>36</sup>

## **Ethics Approval**

Ethical approval was obtained from the Afyonkarahisar University of Health Sciences Clinical Research Ethics Committee (Approval Number: 2021-410, Date: 06.08.2021). The study was conducted in accordance with the principles of the Declaration of Helsinki. Written informed consent was obtained from all participants.

## Results

#### **Participant Characteristics**

The sociodemographic and obstetric characteristics of the pregnant women are presented in Table 1. The mean age was 27.88±5.06 years, the mean gestational week was 34.76±2.45, and the average number of pregnancies was 2.28±1.31. It was found that 54% of the participants had a high school or university-level education, 12.4% were employed, 96.1% reported having a medium to good income, and 84% had social security coverage. Additionally, 56.2% of the pregnant women had not received any prior training on nutrition during pregnancy. According to their pre-pregnancy Body Mass Index (BMI), 49.7% of the women were classified as overweight or obese. The average weight gain during pregnancy was 9.75±6.01 kg. Furthermore, 31.1% of participants exhibited symptoms associated with an obsession with healthy eating.

### **Instrument Development**

#### **Item Generation**

During the creation of the item pool, care was taken to ensure that each item was simple, clear, and did not contain more than one idea or judgment. Following the literature review, 31 draft items were developed.

#### **Content Validity**

Based on expert feedback, terms that were difficult to understand were revised, similar items were combined, and some items were removed. The I-CVI scores for the 23 items ranged from 0.76 to 1.00, and the S-CVI score was 0.91. According to Davis (1992),<sup>28</sup> an S-CVI value of at least 0.80 is acceptable. Ayre and Scally (2014)<sup>37</sup> also state that the minimum Content Validity Ratio (CVR) for 14 experts should be 0.57. Since the condition of S-CVI > CVR was met, the content validity of the 23-item draft scale was deemed sufficient.

#### **Face Validity**

The scale items received an average score of three out of four from pregnant participants in terms of clarity, appropriate item length, and readability. This suggests that the scale is easy to understand and has adequate readability.

#### **Psychometric Tests**

#### **Item Analysis**

Three items [Item 17=0.16; Item 18=0.23; Item 23=0.23] were removed from the scale because their corrected item-total correlation coefficients were below 0.30. The remaining items had corrected item-total correlation values ranging from 0.33 to 0.63.

#### **Construct Validity**

Exploratory factor analysis (EFA) was conducted with the remaining 20 items after item analysis. In the initial EFA, the KMO value was 0.84, and Bartlett's test of sphericity was x<sup>2</sup>=1724.03 (df=190, p<0.001), indicating that the data were suitable for factor analysis. When eigenvalues were examined, six factors emerged, explaining 66.14% of the total variance. Three items were found to load simultaneously on more than one factor. Therefore, Item 2 [Factor 3 [F3]=0.52 and F5=0.50], Item 12 [F5=0.46 and F6=0.49], and Item 16 [F1=0.36, F5=0.42, and F6=-0.34] were removed from the scale. In the second EFA, two items with communality values below 0.30 [Item 3=0.20 and Item 13=0.15] were also removed. As a result of the third EFA, the remaining 15 items met the acceptable criteria for factor analysis [KMO=0.82; Bartlett's test x<sup>2</sup>=1427.73, df=105, p<0.001; anti-image correlations >0.77; communality >0.34]. The total variance explained by the 15-item scale with a four-factor structure was 66.70%. Factor loadings ranged from 0.51 to 0.90 [Table 2].

Table 1. Sociodemographic and	obstetric characteristics of	f pregnant women (	n=539
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Characteristic	n	%	Mean±SD
Age			27.88±5.06
Education level			
Primary education	62	11.5	
Secondary education	348	64.6	
University education	129	23.9	
Employment status			
Employed	67	12.4	
Unemployed	472	87.6	
Income status			
Good	142	26.3	
Moderate	376	69.8	
Poor	21	3.9	
Duration of marriage			5.96±4.64
Number of pregnancies			2.28±1.31
Number of children			1.6±0.73
Pregnancy weeks			34.76±2.45
Nutrition education during pregnancy			
Did not receive	303	56.2	
Received	236	43.8	
Pre-pregnancy body mass index			
<18.5 (Underweight)	33	6.1	
18.5–24.9 (Normal)	236	43.8	
25–29.9 (Overweight)	159	29.5	
30–40 (Obese)	111	20.6	
Weight gained during pregnancy			9.75±6.01
Healthy eating obsession symptoms	161	31.1*	
Total	539	100	

\*: Upper 25th percentile. SD: Standard deviation.

#### Table 2. Results of exploratory factor analysis using data set A (n=200)

Item		Fa	ctor		Communality
	Fl	F2	F3	F4	
4				0.698	0.569
5				0.744	0.618
6				0.769	0.665
1			0.798		0.670
7			0.629		0.653
14			0.661		0.482
15			0.575		0.606
9		0.780			0.732
10		0.881			0.825
11		0.902			0.873
8	0.507				0.348
19	0.878				0.789
20	0.846				0.758
21	0.782				0.627
22	0.871				0.791
Eigenvalue	5.154	2.387	1.272	1.193	
% of Variance	34.357	15.914	8.482	7.955	
Cumulative %	34.357	50.271	58.753	66.708	
F: Factor.					



CMIN: Chi square, df: Degrees of freedom, RMSEA: Root mean square error of approximation, GFI: Goodness-of-fit index, CFI: Comparative fit index, TLI: Tucker-lewis index.

Using the 15-item, four-factor model, CFA was performed with Data Set B (n=330) to cross-validate the fit of the data to the factor structure. Prior to CFA, skewness and kurtosis values for the variables were found to range from 0.368 to 1.345 and from 1.302 to 2.217 respectively. The VIF was below 10 (range: 1.27–3.35), indicating that multicollinearity among the measured variables was not a concern.<sup>38</sup> Although the model's goodness-of-fit indices were acceptable ( $x^2/df=2.806$ , GFI=0.912, CFI=0.923, TLI=0.904, RMSEA=0.074, SRMR=0.077), three items were removed sequentially due to low standardized regression weights (SRW < 0.50): Item 8 (0.301), Item 14 (0.432), and Item 1 (0.481). CFA was repeated after each item removal. The goodness-of-fit indices for the final 12-item model were found to be acceptable ( $x^2/df=2.207$ , GFI=0.948, CFI=0.967, TLI=0.954, RMSEA=0.061, SRMR=0.046) (Fig. 1, Appendix 1).

#### **Convergent Validity**

The SRW of the items ranged from 0.574 to 0.913, all statistically significant (p>0.001). The AVE values ranged from 0.455 to 0.621, and the CR values ranged from 0.711 to 0.866. The AVE for Factor 4 was below the recommended threshold (0.455) (Table 3).

#### **Discriminant Validity**

Discriminant validity was confirmed, as the R<sup>2</sup> values (the squared estimated correlations between factors) ranged from 0.00 to 0.39, and were lower than the corresponding AVE values.<sup>33</sup>

#### **Internal Consistency Reliability**

The a coefficient for the scale was 0.83. The alpha values for individual factors ranged from 0.69 to 0.87 (Table 4).

#### **Test Reliability**

The SEm for the total OHEPS score was 0.142. SEm values for individual factors ranged from 0.232 to 0.408 (Table 4).

# Test-retest Reliability

The ICC value was 0.918 (p<0.001).

# Discussion

The OHEPS is a self-report tool developed to assess the obsessive and pathological preoccupations of pregnant women with healthy eating, as well as the emotional con-

Item		F	Estimate	SRW	SE	Critical ratio	р	AVE	CR
22	+	1	1	0.913				0.621	0.866
21	+		1.068	0.778	0.064	16.687	***		
20	+		0.84	0.711	0.057	14.705	***		
19	+		1.039	0.734	0.068	15.37	***		
11	+	2	1	0.902				0.686	0.866
10	+		0.996	0.894	0.052	19.143	***		
9	+		0.733	0.668	0.054	13.609	***		
15	+	3	1	0.752				0.632	0.774
7	+		1.191	0.836	0.116	10.228	***		
6	+	4	1	0.653				0.455	0.711
5	+		1.168	0.78	0.121	9.665	***		
4	÷		0.758	0.574	0.092	8.249	***		

Table 3. Confirmatory factor analysis results using data set B (n=330)

\*\*\*\*: p<0.001. F: Factor, SRW: Standardized regression weight, SE: Standard error, AVE: Average variance extracted estimate, CR: Composite reliability.

sequences of failing to adhere to self-imposed dietary rules. The findings indicate that the final 12-item, four-factor version of the scale meets established validity and reliability criteria and is appropriate for use with pregnant women. Although there is ongoing debate about whether ON should be classified a disorder or simply a new lifestyle trend,<sup>138</sup> research demonstrates that ON is associated with physical, psychological, and social consequences, aligning it with existing definitions of mental disorders.<sup>39-41</sup> Given that pregnancy is a critical period for the development of EDs, health professionals should also address obsessions with healthy eating as part of perinatal care.<sup>10</sup>

Content validity was assessed based on expert evaluations to determine the extent to which the OHEPS and each of its items effectively measure the obsession with healthy eating during pregnancy. The literature suggests that a CVI of at least 0.80 is required for acceptable content validity.28 In our study, the CVI was found to be high (0.91), indicating strong content validity.

To evaluate construct validity, the KMO coefficient and Bartlett's test of sphericity were used. A KMO value above 0.60 and approaching 1 indicates that the data are suitable for factor analysis and that the sample size is adequate. A significant result from Bartlett's test suggests that the item correlation matrix is appropriate for factor analysis.<sup>29</sup> In our study, the KMO value was 0.82, and Bartlett's test was significant. These findings indicate that the sample was adequate for factor analysis. EFA revealed a four-factor structure. A validation study using Data Set B was then conducted to test this theoretical structure, and the goodness-of-fit indices for the resulting 12-item, four-factor model were found to be within acceptable limits.<sup>32</sup>

In naming the factors, the factor structure of other scales used to evaluate ON, as well as the suggested diagnostic criteria, were taken into consideration. Factor 1 was named "Concern for the baby's health" because concerns about the baby's food safety tend to increase during pregnancy.9 This factor may indicate that the pregnant woman restricts her food choices out of concern for fetal health, potentially using it as a coping mechanism to justify obsessive thoughts about healthy eating.42 Factor 2 was named "Healthy orthorexia", reflecting the commonly observed increase in interest in diet and nutrition during pregnancy.43,44 Pregnant women who score high on this factor tend to be highly engaged in healthy eating and devote considerable time and financial resources to purchasing, planning, and preparing healthy meals. This interest aligns with their self-concept, as they often view their dietary behavior as a lifestyle choice.22,45 However, some cross-sectional studies have shown a relationship between an obsession with healthy eating and pathological eating behaviors.<sup>22,46</sup> Since thoughts about healthy eating can sometimes reflect a pathological preoccupation, 22 Factor 3 was named "Orthorexia nervosa." Individuals who score high on this factor tend to experience extreme anxiety and are overwhelmed by negative consequences such as self-punishment, social isolation, and guilt. This factor indicates that pregnant women obsessively focus on dietary practices through healthy eating, leading to impaired functioning.47 Factor 4 was named "Restricted eating motivation" because the concept of healthy eating ap-

#### Table 4. Reliability statistics using data sets A and B (n=530)

Factor	Item	Mean±SD	Corrected Item- total correlation	Squared multiple correlation	Cronbach's alpha if item deleted	Cronbach's Alpha	Standard error of measurement
1	22	1.78±0.63	0.46	0.62	0.82	0.87	0.85
	21	1.94±0.79	0.42	0.52	0.82		
	20	1.80±0.65	0.38	0.49	0.83		
	19	1.89±0.81	0.38	0.48	0.83		
	Total	7.36±2.37					
2	11	3.28±1.13	0.56	0.71	0.81	0.87	1.07
	10	3.19±1.13	0.57	0.69	0.81		
	9	3.22±1.12	0.55	0.47	0.81		
	Total	9.67±2.99					
3	15	3.52±0.94	0.54	0.42	0.82	0.75	0.90
	7	3.21±1.07	0.54	0.43	0.81		
	Total	6.70±1.79					
4	6	2.78±1.02	0.51	0.33	0.82	0.69	1.25
	5	2.98±0.97	0.51	0.36	0.82		
	4	2.27±0.88	0.46	0.29	0.82		
	Total	8.02±2.24					
Total		31.77±6.60				0.83	2.72
SD: Standard	deviation						

pears to increase pregnant women's tendency to control their food intake. Although ON is generally not associated with weight control, several studies suggest that it is primarily motivated by a desire to be healthy. $^{13,22,40}$ 

A comparison of the reliability results of the OHEPS with those reported in the literature supports the scale's use. The Cronbach's  $\alpha$  reliability coefficient for the overall scale was found to be 0.83, while the coefficients for the individual factors ranged from 0.69 to 0.87. In comparison, Cronbach's alpha values reported for previous ON scales were 0.60–0.67 for the Bratman Orthorexia Test, 0.14–0.83 for the ORTO-15, 0.81–0.92 for the Eating Habits Questionnaire, and 0.80–0.88 for the Duesseldorf Orthorexia Scale.<sup>1719-21</sup> The literature suggest that a scale is considered reliable when the alpha coefficient is between 0.60 and 0.80, and highly reliable when it is 0.80 or above.<sup>29</sup> Therefore, the internal consistency and reliability of the OHEPS can be considered high.

Another reliability test is the test-retest method, which examines the correlation between measurements obtained from the same group at two different time points. This method helps determine the stability of the test over time.<sup>29</sup> A high correlation indicates the stability of test scores and minimal variation between measurements over time. In our study, the correlation coefficient between the test and retest scores of the scale was found to be 0.91, demonstrating that the scale is a consistent measurement tool over time. Previous studies have reported that orthorexic tendencies tend to increase alongside the prevalence of EDs.<sup>4,21,22</sup>

#### Limitations

The most significant limitation of this study is that participants were recruited from a single center. Therefore, more comprehensive studies with larger samples are needed to explore the obsession with healthy eating during pregnancy across different cultures and contexts. Additional limitations include the reliance on self-reported data, the inclusion of only third-trimester pregnant women, and the absence of clinical confirmation of ED symptomatology.

## Conclusion

The Obsession with Healthy Eating in Pregnancy Scale is a measurement tool designed to assess pregnant women's obsessive and pathological preoccupations with healthy eating, as well as the emotional consequences of not adhering to selfimposed dietary guidelines. Our findings demonstrate that the 12-item, four-factor scale developed for use in pregnant women meets established criteria for validity and reliability. Given that pregnancy is a critical period for the onset or exacerbation of EDs, it is essential for healthcare professionals to also evaluate symptoms of healthy eating obsession, such as inadequate weight gain during pregnancy, persistent hyperemesis gravidarum beyond the 20<sup>th</sup> week, a history of pre-pregnancy EDs, adherence to restrictive diets, and negative attitudes toward food.

The OHEPS provides healthcare professionals with a valuable tool for identifying symptoms of obsession with healthy eating during pregnancy and for evaluating the effectiveness of nutritional interventions in high-risk pregnancies. The results of this study may support mental health professionals in improving the quality of perinatal care. The scale has potential utility for enhancing pregnancy monitoring, as it allows for the assessment of obsessive symptoms related to healthy eating during pregnancy in both research and clinical prasctice settings.

Ethics Committee Approval: The study was approved by the Afyonkarahisar University of Health Sciences Clinical Research Ethics Committee (Approval Number: 2021-410, Date: 06/08/2021).

Informed Consent: Informed consent was obtained from all participants.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

Funding: The authors declared that this study received no financial support.

Authorship Contributions: Concept – A.T., P.Ç.Ö.; Design – A.T., P.Ç.Ö.; Supervision – A.T., P.Ç.Ö.; Funding – A.T., P.Ç.Ö.; Materials – A.T., P.Ç.Ö.; Data collection and/or processing – A.T., R.D.; Data analysis and/or interpretation – A.T., P.Ç.Ö.; Literature search – A.T., P.Ç.Ö.; Writing – A.T., P.Ç.Ö.; Critical review – A.T., P.Ç.Ö., R.D.

Peer-review: Externally peer-reviewed.

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Appendix 1. Final version of the obsession	n with he	salthy eating in pregnancy scale					
Factor	Iter	m no.*	Strongly agree	Agree I	Neutral D	isagree	Strongly disagree
1 Concern for baby's health	1	l think I need to pay attention to my diet to bring a healthy baby into the world. Dinvovor sodikki hir hebek netirehilmem icin heslenmeme dikknt etmem nerektiñini diisiiniiriim	വ	4	м	2	П
	2	believe that if I eat unhealthy, pregnancy, rym bookminn, dwart of and a save of an and a save and an a save a Sodilksiz beslenisem gebelikle ilalii sorunların ortaya cıkacağına inanırım.	Ð	4	2	2	Ч
	ю	During my pregnancy, I give importance to healthy eating more for the health of my baby than for myself. Gebeliğimde sağlıklı beslenmeye kendimden cok bebeăimin sağlığı icin önem veririn.	Ð	4	ю	2	1
	4	When I consume unhealthy food during my pregnancy. I worry about my baby's health. Gebeliğimde sağlıksız bir besin tükettiğimde bebeğimin sağlığı icin endiselenirim.	വ	4	ю	2	1
2 Healthy orthorexia	2	l spend a lot of time searching for healthy food during my pregnancy. Gebeliğimde soğlıklı besin bulmak için oldukça fazla zaman harcarım.	വ	4	ю	2	1
	9	l allocate more budget to access healthy foods during my pregnancy. Gebeliğimde soğilklı besinlere ulasmak için daha fazla bütce ayırırım.	വ	4	ю	2	1
	7	l spend most of my time preparing healthy foods during my pregnancy. Gebeliğimde vaktimin coğu soğlıklı besinleri hazırlamakla gecer.	വ	4	ю	2	1
3 Orthorexia nervosa	ω	Planning a healthy diet during my pregnancy keeps my mind very busy. Gebeliğimde soğlıklı beslenmeyi planlamak zihnimi çok meşgul eder.	D	4	м	2	1
	6	l find myself constantly dealing with the issue of healthy eating during my pregnancy. Gebeliğimde kendimi sürekli soğlıklı beslenme konusuyla ilgilenirken bulurum.	Ъ	4	м	2	1
4 Restricted eating motivation	10	l do not consume foods that l consider unhealthy during pregnancy. Gebeliğimde sağılıksız olduğunu düşündüğüm gıdaları tüketmem.	D	4	м	2	1
	П	l enjoy eating only healthy food during my pregnancy. Gebeliğimde valnızca sağlıklı olan vemekleri vemekten zevk alırım.	വ	4	ю	2	1
	12	l prefer the foods I eat during my pregnancy to be healthy rather than delicious. Gebeliğim boyunca yediğim besinlerin lezzetli olmasından çok sağlıklı olmasını tercih ederim.	വ	4	м	2	г
*: The Turkish version of each item is italicized.							