

Relationship Between Emotional Eating and Stress Levels in Pregnant Women and Affecting Factors

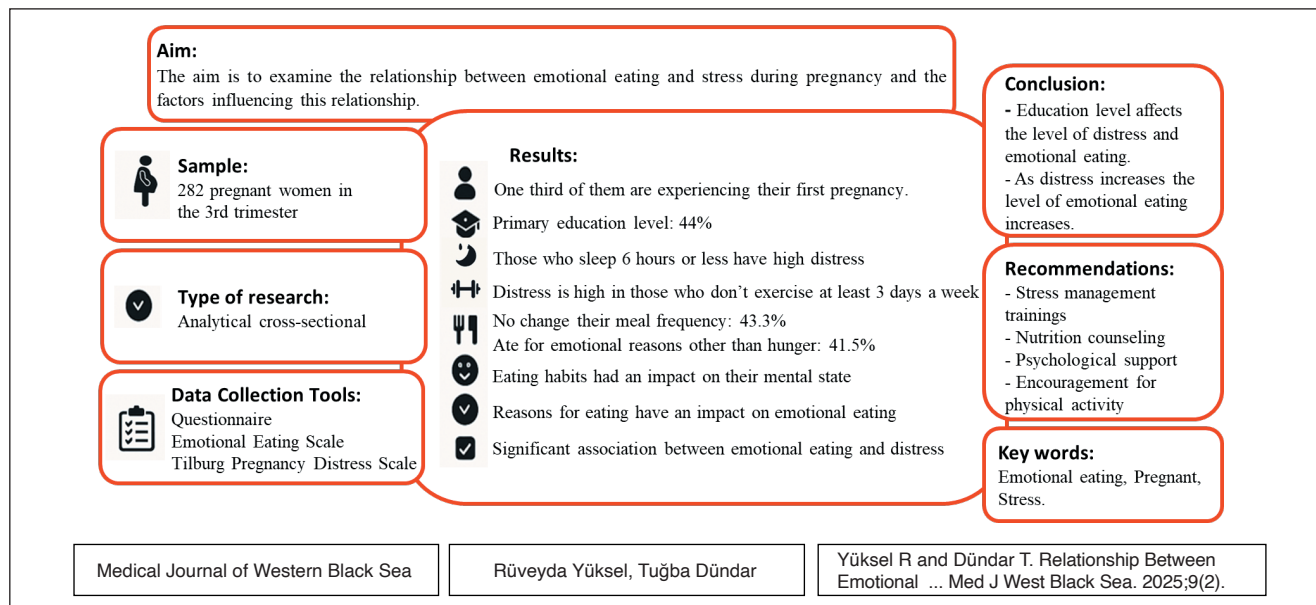
Gebelerde Duygusal Yeme ve Stres Düzeyi Arasındaki İlişki ve Etkileyen Faktörler

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GRAPHICAL ABSTRACT



ABSTRACT

Aim: Correlations between emotional eating and stress during pregnancy and related factors were examined in the present study.

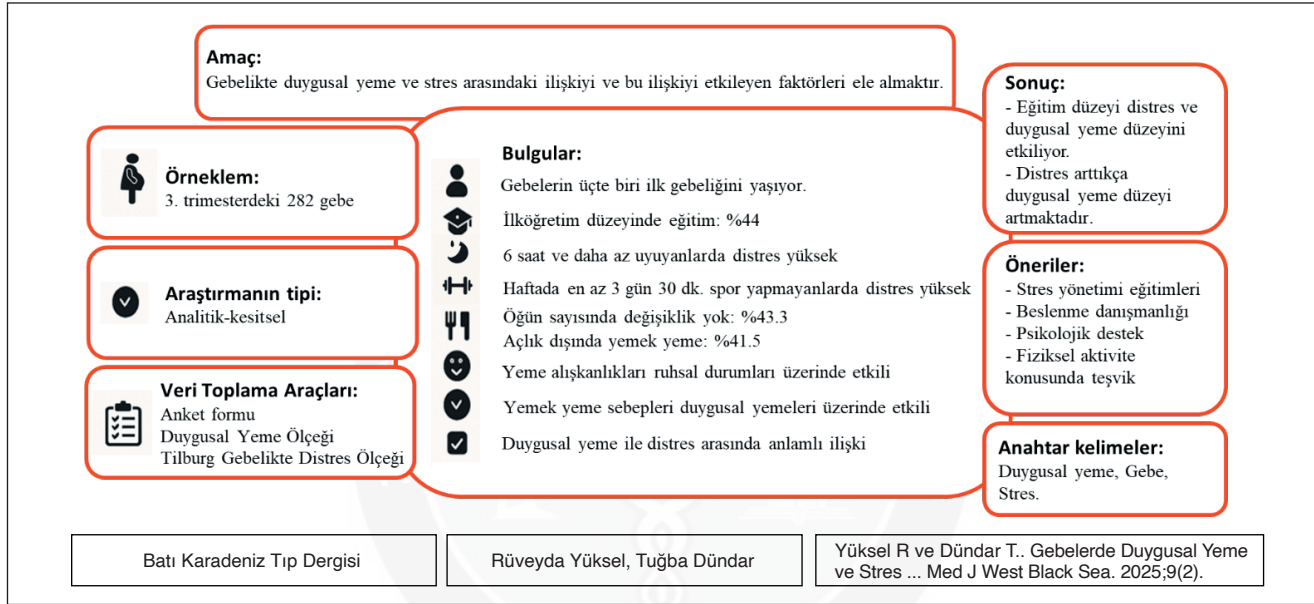
Material and Methods: An analytical-cross-sectional study design was employed. Two hundred and eighty-two women with pregnancy in the third trimester visiting a public hospital for follow-up made up the sample. The Emotional Eating Scale, the Tilburg Pregnancy Distress Scale, and a questionnaire form were instruments to collect data. Kruskal-Wallis test, Independent samples t-test, descriptive statistical analyses, one-way ANOVA, and Mann-Whitney U test were the methods of data analysis.

Results: Among women with pregnancy, one-third experienced their first pregnancy, and most had completed primary school. An important correlation was detected between participants' emotional eating and education levels. Those who slept six hours or less during pregnancy and those who did not engage in at least thirty minutes of sports three days a week exhibited higher distress levels. Additionally, 43.3% of the women with pregnancy did not change their meal count during this period, while 41.5% ate due to emotions rather than hunger, indicating that eating habits influenced their mental state. All reasons for eating among women with pregnancy were found to impact their emotional eating. A significant positive correlation was observed between the two scales ($p=0.007$).

Conclusion: A difference was detected between the characteristics of the women with pregnancy and stress and emotional eating tendencies. As their distress increased, the level of their emotional eating increased as well. It can be recommended that women with pregnancy receive stress management training, nutritional counseling, and psychological support, and be encouraged to do physical activity.

Keywords: Emotional eating, pregnant, stress

GRAFİKSEL ÖZET



ÖZ

Amaç: Gebelikte duygusal yeme ve stres arasındaki ilişkiyi ve bu ilişkiyi etkileyen faktörleri ele almaktır.

Gereç ve Yöntemler: Bu çalışma analitik-kesitsel tipte bir araştırmadır. Araştırmanın örneklemini kamuya bağlı bir hastanede izlenen 3. trimesterdeki 282 gebe oluşturdu. Araştırmada anket formu, Duygusal Yeme Ölçeği ve Tilburg Gebelikte Distres Ölçeği kullanıldı. Veriler, tanımlayıcı istatistiksel analizler, Bağımsız Örneklem t Testi, Tek Yönlü Varyans Analizi, Kruskal Wallis ve Mann Whitney U Testi'yle değerlendirildi.

Bulgular: Gebelerin üçte biri ilk gebeliğini yaşamaktaydı, çoğunlukla ilköğretim düzeyinde eğitime sahipti. Katılımcıların duygusal yeme düzeyleriyle eğitim düzeyi arasında anlamlı farklılık olduğu, gebeliği sırasında 6 saat ve daha az uyuyanlar ile haftada en az 3 gün 30 dk. spor yapmayanların distreslerinin yüksek olduğu görüldü. Gebelerin %43.3'ünün öğün sayısında değişiklik olmadığı, %41.5'inin gebelik sırasında açlık dışında duyguları nedeniyle de yemek yediği, yeme alışkanlıklarının ruhsal durumu üzerinde etkili olduğu belirlendi. Gebelerin tüm yemek yeme sebepleri duygusal yemeleri üzerinde etkiliydi. İki ölçek arasında pozitif yönlü anlamlılık olduğu saptandı ($p=0.007$).

Sonuç: Gebelerin kişisel özellikleriyle stres ve duygusal yeme eğilimleri arasında fark olup, gebelerde distres arttıkça duygusal yeme düzeyi artmaktadır. Gebelere stres yönetimi eğitimleri, beslenme danışmanlığı, psikolojik destek verilmesi ve fiziksel aktivite konusunda teşvik edilmeleri önerilebilir.

Anahtar Sözcükler: Duygusal yeme, gebe, stres

INTRODUCTION

Women go through numerous physical and psychological changes during pregnancy. Hormonal changes during this period, physical discomfort such as increased sleep problems and inactivity, and environmental pressures may increase stress levels significantly in women with pregnancy (1-5). Stress may negatively affect both mental and physical health, so different mechanisms will inevitably be activated to cope with it during pregnancy. For example, changes in eating behaviors are frequently observed as a method of coping with stress during this period (6,7).

Emotional eating (EA) can be defined as increased eating behaviors in individuals to handle emotional conditions, i.e., anxiety, stress, and depression, independent of physical hunger. One of the most prominent characteristics of pregnancy is weight gain, which is recommended to be 11 to 18 kg (8,9). However, this weight gain may interact with the psychological state and emotional balance of women during pregnancy and may be negatively affected by EA behavior. Some studies have shown that such behaviors during pregnancy generally occur along with a tendency toward high-calorie and unhealthy foods, which leads to unwanted weight gain and several health problems and risks for both the mother and the baby (8, 10-12). These risks include premature birth, cesarean delivery, intrauterine growth retardation, low birth weight babies, and pelvic problems (8).

Stress factors during pregnancy can trigger EA behavior, thereby complicating these health problems even more. According to the literature on the topic, EA behavior during pregnancy is strongly related to stress, depression, and anxiety (6, 7, 9, 11). It is important to examine the physiological and psychological dimensions of these two phenomena to understand how stress and EA during pregnancy affect each other. It is known that stress affects the individual's eating habits and leads to excessive or uncontrolled eating behaviors. This situation becomes more evident during special periods such as pregnancy when hormonal imbalances are intense. The increase in cortisol levels, which is among the physiological effects of stress, can increase the individual's tendency to sugary and fatty foods, which leads to EA to become more complex (7,13). The emergence of EA behavior is affected by biological factors and psychosocial variables. Socio-demographic characteristics are among the main factors affecting both stress levels and EA behavior during pregnancy. Income and education levels affect stress in women with pregnancy (14,15). According to some recent studies, regular exercise in women with pregnancy improves sleep quality and reduces stress levels (16,17).

In this context, the present research aimed to explore EA and stress level correlations in women with pregnancy and the factors that affect them.

MATERIALS and METHODS

Population and Sample of the Study

The population of this analytical cross-sectional study included women who were in the third trimester of their pregnancy and presented to a public maternity hospital located in one of the districts in Aydın Province for routine check-ups. The minimum sample size was calculated as 262 on the G-Power v3.1 software, based on $1-\beta=.95$, $\alpha=.05$, and effect size=.22. To determine the effect size in the power analysis, the correlation value between distress and EA ($r=0.22$) in the study conducted by Çelik, Yılmaz, Nazik, and Ünver was utilized (15). Considering around 10% attrition, it was planned to have a sample size of 288 subjects. Eventually, 282 women with pregnancy were recruited. The random sampling method, one of the non-probability sampling methods, was employed to select the sample, and the women with pregnancy were interviewed until the sample size was reached (18). Women who were included in the study were aged ≥ 18 years and were in their third trimester (28-42 weeks of pregnancy). The research did not have subjects with diagnosed mental disorders.

Data Collection and Instruments

Data were collected via an instrument with two sections. One of them had 30 items that the researchers developed in line with the literature (13,19,20) to collect information on participants' sociodemographic and obstetric characteristics, and nutritional habits (2). The second included the Emotional Eating Scale (EES) and the Tilburg Pregnancy Distress Scale (TPDS).

The Emotional Eating Scale (EES): This instrument was created by Garaulet et al. to assess the EA behavior of individuals with obesity and overweight. The reliability and validity study in Turkish was conducted by Arslantaş et al. (21,22). The EES is a 10-item, four-point Likert-type measurement tool. Cronbach's alpha is 0.84, and it was found to be 0.60 in our study.

The Tilburg Pregnancy Distress Scale (TPDS): Pop et al. created this scale to explore distress during pregnancy, and Çapık and Pasinlioğlu adapted it to the Turkish language (23,24). Cronbach's alpha is 0.83. It was calculated as 0.70 in our study. This scale can be applied to women with pregnancy who are in their $\geq 12^{\text{th}}$ week of gestation. It has 16 four-point Likert items. Total scores vary from 0 to 48. An overall grade of ≥ 28 , which is the cut-off score, means a risk of distress for women with pregnancy. Some items are reverse-scored (3,5,6,7,9,10,11,12,13,14,16). The instrument has two factors: "negative affect" and "partner involvement." The first, second, fourth, eighth, and fifteenth items on the scale belong to the partner involvement dimension, while the other items belong to the negative affect dimension (25).

Data were collected between October 2, 2023 and February 16, 2024, by using the self-report method from women with pregnancy in their third trimester who presented to the hospital for routine check-ups via the data collection form. The data collection process was carried out during weekday working hours so that the hospital's operations and the pregnant women's access to services would not be disrupted. The women with pregnancy meeting the inclusion conditions were given information about the objective of the study and the duration to answer the questions (approximately 10 minutes), and were told that they could request answers whenever they needed information about the subject. To ensure privacy, the women were interviewed one by one. First, verbal consent was taken, and then the questionnaire was applied. Participants' questions during and after the application of the form were answered by the researcher.

Ethical Aspects of the Study

The study was approved by the Aydın Adnan Menderes University Faculty of Nursing Non-Interventional Clinical Research Ethics Committee on August 2, 2023 (number: E-76261397-050.99-394226; decision no: 1). The permission of the authors who had created the scales employed in the present research was obtained via e-mail. The institutional permission was taken from the hospital that was the setting of this research (date and number: 01.09.2023). All participants gave verbal consent before participating in the study. The Declaration of Helsinki was followed.

Data Analysis

SPSS 22.0 v21 software package was utilized for analyses, which included normality estimations and skewness and kurtosis values. When skewness and kurtosis values vary from +1.5 to -1.5, the data is considered to have normality (26). One-way ANOVA and Kruskal-Wallis test were employed in the analyses in which participants' scale scores were compared across more than two groups of descriptive characteristics. On the other hand, Mann-Whitney U and independent samples t-test were utilized in the analyses, where the participants' scale scores were compared with two groups of descriptive characteristics. Mean and standard deviation values were utilized for data with a normal distribution, and minimum-maximum values and interquartile ranges (IQR) were employed for data with a non-normal distribution. The correlations between the EES and TPDS scores and their sub-dimensions were assessed with Pearson's correlation analysis. The findings from the variance analysis revealed that the variances were homogeneous; therefore, the difference between the groups was evaluated using the Tukey HSD (27).

RESULTS

Approximately one third of the women with pregnancy, whose ages ranged from 18 to 42 (mean: 27.49 ± 5.41),

were pregnant for the first time, and most of them (44%) had primary school education. According to the BMI classification calculated using pre-pregnancy weight, it was found that approximately 80% of the women with pregnancy had a BMI value above normal, and more than half of them did not exercise during pregnancy (57.8%) (Table 1). Some personal and obstetric characteristics of the participants were compared with their EES and TPDS scores. Table 1 presents the comparison results. A significant difference was detected between participants' EES scores and their level of education ($KW= 8.572$; $p= 0.014$), and further analysis indicated that pregnant women with university and above education were more prone to EA than those who were literate/primary school graduates ($p= 0.011$). In addition, it was found that those who slept six hours or less during pregnancy ($t= 2.066$; $p= 0.040$) and those who did not exercise for 30 minutes a day at least three days a week ($U= 8228.00$; $p= 0.030$) had higher levels of distress.

When the eating characteristics during pregnancy in Table 2 were examined, it was found that 43.3% did not change the number of their meals, but that 28.7% skipped at least one of the main meals. Among women with pregnancy, 41.5% ate due to emotions other than hunger during pregnancy, and their mental state affected their eating habits. Although not presented in the table, 57.9% of the women with pregnancy stated that there were foods that they could not give up during their pregnancy despite their harm. Chocolate (11.7%), chips (8.7%), and Coke (8.2%) were stated as the first three foods that they could not give up. It was determined that all reasons and consequences of eating and impulsive eating behaviors of the women with pregnancy significantly affected their EA. Additionally, those who ate due to both hunger and emotional state (happiness, stress, etc.) had significantly higher EES scores than women who ate only when they were hungry ($p=0.009$). Considering all the reasons and consequences of eating and impulsive eating behaviors of the participants, only those who had cravings for eating even though they were not hungry had significantly higher distress levels than those who did not.

Although not stated in the table, participants' mean scores were 6.67 ± 4 (min: 0, max: 19) on the EES and 16.07 ± 7.26 (min: 1, max: 32) on the TPDS. The sub-dimension scores of the TPDS were 11.50 ± 5.96 (min: 0, max: 26) on the negative affect dimension and 4.57 ± 3.91 (min: 0, max: 15) on the partner involvement dimension. The analysis for assessing the existence of a significant correlation between mean scale scores indicated a significant positive difference between the two scales ($r = 0.160$; $p = 0.007$). As the negative affect factor scores of the TPDS increased, EA also increased significantly ($r=0.225$; $p=0.000$).

Table 1. Comparison of descriptive and obstetric characteristics of participants with their EES and TPDS scores

Descriptive characteristics	n (%)	EES		Test	TPDS		Test
		Min.-Max.	IQR		Min.-Max.	IQR	
Education							
Literate/primary school	124 (44)	0-16	6.0	<i>KW= 8.572</i>	1-32	10.75	<i>KW=5.679</i>
High school	66 (23.4)	0-19	5.0	<i>p= 0.014</i>	1-32	10.25	<i>p= 0.058</i>
University and above	92 (32.6)	0-15	4.0		2-32	9.75	
Number of pregnancies							
1	108 (38.3)	0-14	6.00	<i>KW=2.690</i>	1-31	10.75	<i>KW=2.507</i>
2	80 (28.4)	0-19	5.00	<i>p=0.261</i>	1-32	9.00	<i>p=0.285</i>
3-6	94 (33.3)	0-16	6.00		2-32	10.25	
Having nausea and vomiting problems in the first three months of pregnancy							
Yes	191 (32.3)	0-19	5.00	<i>U=9827.00</i>	2-32	10.00	<i>U= 9545.00</i>
No	91 (67.7)	0-15	6.00	<i>p= 0.869</i>	1-32	9,00	<i>p= 0.564</i>
Regular walking at least 3 days a week for 30 minutes a day during pregnancy							
Yes	119 (42.2)	0-14	5.00	<i>U=9109.00</i>	1-31	10.00	<i>U= 8228.00</i>
No	163 (57.8)	0-19	6.00	<i>p= 0.382</i>	2-32	10.00	<i>p= 0.030</i>
		Mean±SD			Mean±SD		
Age (years)							
18-24	94 (33.3)	7.37±4.01		<i>F=2.1554</i>	17.38±6.84		<i>F=2.419</i>
25-29	95 (33.7)	6.28±3.80		<i>p= 0.118</i>	15.17±7.02		<i>p= 0.091</i>
30-42	93 (33)	6.37±4.14			15.66±7.78		
BMI*							
Normal	57 (20.2)	6.01±4.18		<i>F=2.067</i> <i>p= 0.085</i>	15.01±7.18		<i>F= 1.947</i> <i>p= 0.103</i>
Pre-obese	116 (41.1)	6.82±3.97			16.68±7.21		
Obese (grade 1)	74 (26.2)	7.51±4.10			16.16±6.96		
Obese (grade 2)	21 (7.4)	5.66±3.56			17.95±7.80		
Morbidly obese	14 (5)	5.21±2.60			12.07±7.26		
Gestational weeks							
28-36	142 (50.4)	6.71±3.94		<i>t= 0.173</i>	15.88±7.44		<i>t= -0.435</i>
37-42	140 (49.6)	6.63±4.07		<i>p= 0.863</i>	16.26±7.09		<i>p= 0.664</i>
Average duration of sleep during pregnancy							
≤6 hours	71 (25.2)	7.16±4.15		<i>t= 1.197</i>	17.60±7.35		<i>t= 2.066</i>
>6 hours	211 (74.8)	6.51±3.94		<i>p= 0.232</i>	15.55±7.17		<i>p= 0.040</i>

EES: Emotional Eating Scale; **TPDS:** Tilburg Pregnancy Distress Scale; **Min.-Max.:** Minimum-Maximum; **IQR:** Interquartile range; **SD:** Standard Deviation; **F:** One-Way ANOVA; **KW:** Kruskal Wallis; **U:** Mann-Whitney U; **t:** Independent samples t-test

*Grouped according to the World Health Organization classification.

<https://www.who.int/europe/news-room/fact-sheets/item/a-healthy-lifestyle---who-recommendations>.

DISCUSSION

A strong correlation was detected between EA and stress levels during pregnancy. Understanding EA behavior and stress coping mechanisms during pregnancy may critically impact both maternal health and fetal growth.

According to study results, women with pregnancy who had a university or above education were more prone to EA than those who were literate or primary school graduates. The literature shows that women with higher education eat better during pregnancy (6,28,29). This finding may be unex-

pected, considering the education level and EA correlation. Individuals with a higher education are generally thought to know more and be more conscious about health. Present research results imply that educated women are exposed to more psychological pressure and that their methods of coping with stress can often turn into unhealthy behaviors (such as emotional eating). Another possibility is that educated individuals have more responsibilities in their work and social lives, which may put more stress on them.

In the present study, higher distress levels were observed in women with pregnancy who took six hours or less sleep

Table 2. Comparison of participants' eating characteristics with EES and TPDS scores

Eating characteristics during pregnancy	n (%)	EES Mean±SD	Test	TPDS Mean±SD	Test
Changes in the number of meals					
Yes	160 (56.7)	7.17±4.19	$t = -1.819$	16.73±6.96	$t = -1.341$
No	122 (43.3)	6.30±3.82	$p = 0.070$	15.56±7.46	$p = 0.181$
Status of applying a diet					
Yes (GDM, HT)	27 (8.6)	6.11±3.48	$t = 0.772$	18.55±7.32	$t = -1.854$
No	255 (90.4)	6.73±4.05	$p = 0.441$	15.81±7.22	$p = 0.073$
Status of skipping a main meal					
Yes	81 (28.7)	7.55±4.36	$t = -2.357$	17.33±6.64	$t = -1.856$
No	201 (71.3)	6.32±3.80	$p = 0.019$	15.56±7.45	$p = 0.065$
Causes and effects of eating					
Reasons for eating					
Only hunger	165 (58.5)	6.03±4.05		16.07±7.24	
Hunger and emotions	101 (35.8)	7.50±3.90	$F = 5.530$	16.34±7.24	$F = 0.507$
Only emotions	16 (5.7)	8.12±2.70	$p = 0.004$	14.37±7.83	$p = 0.603$
Guidance by emotions when eating					
Yes	109 (38.7)	8.38±3.98	$t = -6.033$	17.00±7.41	$t = -1.704$
No	173 (61.3)	5.60±3.63	$p = 0.000$	15.49±7.12	$p = 0.089$
The effect of eating habits on mental state					
Yes	120 (42.6)	8.30±3.90	$t = -6.276$	16.63±7.13	$t = -1.113$
No	162 (57.4)	5.46±3.64	$p = 0.000$	15.66±7.35	$p = 0.267$
Impulsive eating habits					
Difficulty limiting the amount of food eaten					
Yes	58 (20.6)	9.51±3.71	$t = -6.515$	17.60±6.60	$t = -1.806$
No	224 (79.4)	5.94±3.74	$p = 0.000$	15.67±7.38	$p = 0.072$
Having an attack of eating even though you are not hungry					
Yes	63 (22.3)	9.66±3.40	$t = -7.327$	18.17±6.98	$t = -2.685$
No	219 (77.7)	5.81±3.74	$p = 0.000$	15.47±7.24	$p = 0.008$
Eating after 10 pm					
Yes	150 (53.2)	9.51±3.71	$t = -6.515$	17.60±6.60	$t = -1.806$
No	130 (46.1)	5.94±3.74	$p = 0.000$	15.67±7.38	$p = 0.072$
Continuing to eat after feeling full					
Yes	38 (13.5)	10.57±3.46	$t = -7.375$	16.13±6.83	$t = -0.052$
No	244 (86.5)	6.06±3.73	$p = 0.000$	16.06±7.33	$p = 0.959$
Eating the food you crave for even if you are full					
Yes	177 (62.8)	7.55±4.03	$t = -5.004$	16.46±7.07	$t = -1.185$
No	105 (37.2)	5.19±3.49	$p = 0.000$	15.40±7.56	$p = 0.237$

EES: Emotional Eating Scale; **TPDS:** Tilburg Pregnancy Distress Scale; **SD:** Standard Deviation; **t:** Independent samples t-test

compared to those who slept longer. Lack of sleep increases stress levels during pregnancy (9, 30). It may be the primary triggering factor of stress. Sleep is a critical process for the recovery of the body and mind; when a person does not have enough sleep, the capacity to cope with stress decreases, and this situation may become more pronounced during pregnancy. Lack of sleep may increase the levels of stress hormones such as cortisol in the body, which may lead to higher stress in the individual. Hormonal changes experienced during pregnancy may further raise the already high stress levels. Lack of sleep reinforces the effects of

these hormonal changes, causing stress to be felt more intensely in physiological and psychological dimensions. In addition, increased physical discomfort during pregnancy may negatively affect sleep quality, which may cause a vicious cycle, lack of sleep may exacerbate increased stress, and increased stress may exacerbate sleep disorders (31,32). Therefore, improving sleep patterns in women with pregnancy may be a significant option in relieving stress levels.

The study results showed that those who did not exercise for 30 minutes a day at least three days a week during preg-

nancy experienced higher emotional stress. According to the literature, low physical activity increases stress levels during pregnancy (33-36). This finding emphasizes the positive effects of exercise on stress management during this period. Regular physical activity is of great importance as one of the strategies to cope with stress, especially during a physically and psychologically intense period such as pregnancy. Exercise creates a natural stress-reducing effect by increasing the secretion of endorphins in the body and improving individuals' mood. While hormonal changes and physical discomforts increase in the body during pregnancy, exercise can increase the capacity to cope with these changes (37,38). Exercise for 30 minutes a day at least three days a week can help balance pregnant women's stress levels and reduce psychological pressure. Lack of exercise can make it difficult to manage stress during this process and expose women with pregnancy to more emotional pressure.

Women with pregnancy participating in this research who skipped meals, ate only due to emotional states, acted according to their emotions while eating, stated that their eating habits affected their mental states, had difficulty limiting the amount they ate, had eating attacks even when they were not hungry, continued to eat at night, and ate after they were full had high levels of EA. EA in women with pregnancy may occur as a result of mental states. Stressful, anxious, or depressive states in particular may increase the desire to cope by turning to food. Eating habits also have a strong effect on pregnant women's psychological states, which can lead to the development of EA behaviors (8,12,15,28). Skipping meals, eating for reasons apart from hunger, and eating behaviors resulting from emotional states may often be seen as a result of stress, anxiety, or emotional emptiness. These behaviors aim to temporarily relax women while they try to manage their emotional discomfort. Since pregnancy is an emotionally and psychologically sensitive period, EA behaviors can intensify during this period (39,40). The present research results revealed that EA was not only a coping strategy but also a behavior that may lead to health problems in pregnancy. Therefore, managing EA behaviors in pregnancy and developing healthy coping mechanisms are of great importance for both maternal health and fetal development. Interventions such as education, support groups, or psychological counseling to be given to women with pregnancy on the subject can be practical in reducing the negative effects of EA. Encouraging healthy nutritional habits is critical to managing emotional states during pregnancy.

A significant correlation was detected between EA and distress levels. As participants' EA behaviors increased, their distress levels increased as well. EA in women with pregnancy is associated with distress according to the literature,

and this relationship may result in excessive weight gain during pregnancy. It has been emphasized that stress has an important effect on EA (41,42). Distress is an important factor that increases EA. Stress may trigger EA as a method of relaxation, which may increase weight gain. Psychological pressures during pregnancy are among the main causes of EA. Understanding this relationship in women with pregnancy may enable appropriate psychological interventions.

Limitations

Since this research included women with pregnancy from one district only, it is limited in terms of the generalizability of the results to the entire society. In addition, since the self-reporting method was employed in data collection, responses based on the participants' perceptions may have affected the accuracy of the results.

Conclusions

Pregnant women's EA behaviors and their stress levels were moderately correlated. Also, their education level was an important factor that increased their stress and tendencies to EA. In particular, it was concluded that stress drove eating behaviors in women with pregnancy, which was likely to lead to overeating or unhealthy food preferences. This situation is important because it can adversely affect both the mother's and the baby's health in the long term. Accordingly, we recommend that women with pregnancy have stress management training, nutritional counseling, and psychological support, and that they be encouraged to do physical activity.

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Not previously presented as a paper.

Author Contributions

Idea/Concept: **Rüveyda Yüksel**, Design: **Rüveyda Yüksel, Tuğba Dündar**, Supervision/Consultancy: **Rüveyda Yüksel, Tuğba Dündar**, Analysis: **Tuğba Dündar**, Literature Review: **Rüveyda Yüksel, Tuğba Dündar**, Manuscript Writing: **Rüveyda Yüksel, Tuğba Dündar**, Critical Review: **Rüveyda Yüksel, Tuğba Dündar**.

Conflicts of Interest

The authors certify that they have no financial or non-financial interests in the subject matter or materials discussed in this article. The authors declare that they have no affiliations with or involvement in any organization or entity with financial interests (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, shares or other equity interests; and expert testimony or patent licensing arrangements) or non-financial interests (such as personal or professional relationships, affiliations, knowledge, or beliefs) in the subject matter or materials discussed in this article. This article has neither been submitted to nor is under review by any other journals or publishers.

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Ethical Approval

Ethics committee approval for this study was obtained from Aydın Adnan Menderes University Faculty of Nursing Non-Interventional Clinical Research Ethics Committee (Date: August 02, 2023, Number: E-76261397-050.99-394226, Decision No: 1).

Review Process

Extremely and externally peer-reviewed.

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