

RESEARCH ARTICLE

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The Association Between Traumatic Experiences and Weight Loss Outcomes in Obesity

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ABSTRACT

Introduction: Obesity and lifetime exposure to violence are preventable public health issues. The relationship between exposure to violence and obesity treatment outcomes has not been extensively investigated. The aim of this study was to examine the effect of childhood trauma and violence during adulthood on short-term weight loss success among individuals with obesity.

Methods: The study included 89 female patients diagnosed with obesity who had no active psychiatric disorders. Participants were assessed using the Structured Clinical Interview for DSM-5, Clinical Version (SCID-5-CV). Childhood trauma was measured with the Childhood Trauma Questionnaire (CTQ-28). Exposure to physical, emotional, sexual, and economic violence during adulthood was evaluated using a researcher-developed questionnaire. After a three-month follow-up period, participants who achieved at least 5% weight loss, a short-term treatment target recommended for reducing morbidity were compared with those who did not.

Results: A substantial proportion of participants (85.4%) reported experiencing at least one type of childhood trauma, and more than half

(51.7%) had been exposed to at least one type of violence in adulthood. Participants who failed to achieve $\geq 5\%$ weight loss had significantly higher CTQ subscale scores for physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect ($p < 0.05$). A significant association was also observed between childhood trauma and subsequent exposure to violence in adulthood ($p < 0.01$). Effective weight loss was less common among individuals exposed to physical, emotional, economic, or sexual violence during adulthood; however, multivariate analyses revealed that only economic violence was a significant risk factor for unsuccessful weight loss ($aOR = 5.65 [2.05-15.55]$).

Conclusion: This study highlights the high prevalence of exposure to different types of lifetime violence among women with obesity and demonstrates a significant association between trauma history and diminished weight loss outcomes. Integrating trauma-focused approaches into obesity treatment may contribute to improving both treatment and prevention processes.

Keywords: Adverse childhood experiences, domestic violence, intimate partner violence, obesity, obesity management

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INTRODUCTION

It has been observed that the risk of obesity increases in individuals exposed to any type of childhood trauma (1) and in those with a lifetime history of intimate partner violence (2). In a large-sample study, it was demonstrated that adverse childhood experiences in adolescents are associated not only with obesity but also with comorbidity of anxiety and depression (3). As the number of adverse experiences in childhood increases, the risk of experiencing intimate partner violence in early adulthood increases, and a higher prevalence of obesity is observed in those with both a history of childhood trauma and adult intimate partner violence compared to those who have experienced no trauma or violence or only childhood trauma (2). Therefore, it is important to consider the cumulative effect of violence. Although the association between exposure to childhood trauma or domestic violence and obesity is well known,

Highlights

- Childhood traumas are associated with experiencing violence in adulthood.
- Exposure to economic violence impacts weight loss success in obesity.
- Screening for and addressing trauma may contribute to the treatment process.
- Our study contributes to a topic that has been relatively understudied.

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its impact on treatment outcomes has not been extensively studied. Current research primarily focuses on studies following bariatric surgery. It has been reported that exposure to childhood emotional abuse and emotional and physical neglect is associated with less improvement in depressive symptoms and eating disorder symptoms (4), and that those with higher scores on the adverse childhood experiences scale lose less weight during follow-up after bariatric surgery (5). In addition, the relationship between different types of violence in adulthood, especially economic violence, and the success of obesity treatment has not been sufficiently investigated.

In a review in which most of the data were obtained from high-income countries, it has been reported that exposure to childhood sexual abuse is associated with increased body mass index (BMI), overweight, and obesity through cortisol reactivity and depression (6). Stress activates the hypothalamic-pituitary axis, leading to elevated cortisol levels and insulin resistance, and this condition creates an allostatic load resulting in fat accumulation (7). Experiences of violence can also be considered a form of chronic stress. This process may physically hinder weight loss during the treatment process. In addition, chronic stress may strengthen the desire for certain weight-promoting foods by affecting reward sensitivity via the mesolimbic dopaminergic system (8). In individuals with obesity, a significant increase in activation in the brain's reward regions has been observed when exposed to certain foods under stressful conditions (9). Childhood trauma and exposure to partner and domestic violence, which lead to chronic stress, may result in difficulties in emotional regulation and a reduced capacity to cope with stress. In this context, foods rich in carbohydrates may be used as a form of self-soothing (10,11). Furthermore, traumatic experiences weaken the inhibitory control mechanism of the prefrontal cortex (12,7). The weight loss process may require a high level of cognitive control; therefore, in victims of trauma and violence, adherence to weight loss treatment may decrease due to the biological weakening of this control mechanism. In addition to biological relationships, other factors contributing to obesity include social withdrawal due to the effects of trauma, inability to access healthy food, and risky health behaviors. Moreover, food addiction may also be used as a coping mechanism (13).

Weight loss failure that can be observed despite treatment methods such as pharmacological treatments, dietary restrictions, and bariatric surgery may indicate the importance of underlying psychological factors contributing to obesity and leading to treatment resistance. Therefore, examining the impact of childhood trauma and experiences of violence in adulthood on weight loss success will raise awareness for the development of trauma-focused personalized treatment protocols.

The aim of the study is to investigate the relationship between childhood trauma experiences and exposure to domestic and intimate partner violence in adulthood in patients with obesity, and the effect of these experiences on the level of weight loss. The hypothesis of the study is that individuals with a history of childhood trauma are more likely to experience violence in adulthood, and that the level of weight loss will be lower in those exposed to these different types of violence.

METHODS

Sample

All patients diagnosed with obesity with a BMI of 30 and above who applied to the Izmir Atatürk Training and Research Hospital Obesity Outpatient Clinic within six months were included in the study. The inclusion criteria were being between 18–65 years of age, having a BMI of 30 and above, and continuing follow-up in the obesity outpatient clinic for three months. The exclusion criteria were the presence of an active psychiatric disorder, a history of chronic psychiatric disorders such

as psychotic disorder and bipolar disorder, the presence of alcohol and substance use disorder, and receiving glucagon-like peptide-1 (GLP-1) agonist treatment. Due to the potential effect on weight loss and because some patients would be initiated on GLP-1 agonist treatment, patients diagnosed with diabetes mellitus and those with thyroid function disorders known to affect weight loss or receiving treatment for these conditions were not included in the study. During the three-month follow-up period, no patient was newly diagnosed with diabetes mellitus or thyroid function disorder. The use of antihypertensive and hypolipidemic medications, which do not have a significant effect on weight change, did not constitute a barrier to inclusion criteria. None of the included patients were using antipsychotic, mood stabilizer, or antidepressant.

The sample of the study consisted of individuals with obesity who applied as outpatients to the obesity clinic of Izmir Atatürk Training and Research Hospital seeking help to lose weight. A Structured Clinical Interview (SCID-5-CV) was administered to 181 patients diagnosed with obesity who participated in the study, and 16 patients with an anxiety disorder and 42 patients with depression were identified. These patients, along with 22 individuals who did not complete the scales and forms and 7 individuals who did not continue follow-up, were excluded from the study. As there were only 2 male participants, they were not included in the data analysis. Ultimately, 89 female participants were included in the study.

A total of 262 patients presented to the obesity outpatient clinic within the first 6 months. The mean age of these patients was 43.02, and 80.1% (n=210) were female and 19.9% (n=52) were male. The mean BMI was 41.99. All patients who applied to the outpatient clinic from the date of its opening and met the inclusion and exclusion criteria were consecutively included in the study sample. The study sample (n=89) represented 33.96% of this population, and the demographic characteristics, except for gender, were consistent with the population.

Design

A Structured Clinical Interview (SCID-5-CV) (14,15) was conducted with the participants by a psychiatrist. The "Childhood Trauma Questionnaire-Short Form" (CTQ-28) (16,17) was administered to all participants by another psychiatrist. Among adult trauma experiences, specifically domestic and intimate partner violence were investigated. Exposure to violence in adulthood was measured using questions derived by the researchers through examining the psychological, physical, and sexual violence items included in the "Conflict Tactics Scale-Revised form" (CTS-2), due to the absence of a Turkish validity and reliability study of a scale measuring only experienced violence (18,19).

Exposure to physical violence was assessed with the question: "Have you been exposed to behaviors such as coercive physical contact, slapping, beating, punching, injury with a sharp or blunt object, pushing, or kicking?"

Exposure to emotional violence was assessed with the question: "Have you been exposed to behaviors that humiliate, belittle, insult you, or prevent you from meeting with your friends/family members?"

Exposure to sexual violence was assessed with the question: "Have you ever been forced into sexual intimacy or intercourse against your will, or forced to do things you did not want during sexual activity?"

Exposure to economic violence was determined with the question developed by the researchers: "Have you been exposed to behaviors such as controlling your income, forcibly taking your money, not giving you money when needed, or otherwise restricting you financially or putting you in a difficult financial situation?"

During the three-month follow-up period, patients were monitored in the obesity outpatient clinic by two internal medicine specialists who were blinded to the questionnaire and scale results. At the initial visit, height (cm), weight (kg), and body mass index (BMI) (kg/m²) measurements were obtained. During the follow-up period, dietary and exercise recommendations were provided; additionally, necessary treatments were arranged for accompanying medical conditions such as diabetes, hypertension, and vitamin-mineral deficiencies, and weight and BMI values were recorded again at the end of the follow-up. Percentages of weight loss were calculated. As a short-term clinical success criterion in obesity management, a weight loss of 5% or more, recommended in terms of achieving glycemic and blood pressure regulation, reducing hepatic steatosis, improving psychosocial problems such as depression, and increasing quality of life, was accepted as a criterion for early treatment response (20).

Instruments

Childhood Trauma Questionnaire (CTQ-28): It is a self-report measurement tool that retrospectively assesses experiences of sexual, physical, and emotional abuse, as well as emotional and physical neglect during childhood and adolescence (16). It consists of five subscales: physical abuse (PA), emotional abuse (EA), sexual abuse (SA), and physical neglect (PN) and emotional neglect (EN). Its Turkish validity and reliability have been established (17).

Domestic and Intimate Partner Violence Identification Form: It is a form developed by the researchers, consisting of questions that assess exposure to different types of violence perpetrated by family members and intimate partners.

Statistical Analysis

IBM Statistical Package for Social Sciences (SPSS) program Statistics Standard Concurrent User V 27 (IBM Corp., Armonk, New York, USA) statistical package program was used for the analysis of the data. Descriptive statistics were presented as number of units (n), percentage (%), mean \pm standard deviation ($\bar{x} \pm SD$), median (M), and minimum (min) and maximum (max) values. The normality of the data for numerical variables was evaluated using Kurtosis-Skewness tests and the Shapiro-Wilk normality test, and the homogeneity of variances was assessed using the Levene test. In the comparison of the two groups those who lost $\geq 5\%$ weight and those who did not at the end of the three-month follow-up, data were compared using the independent samples t-test when parametric test assumptions were met, and the Mann-Whitney U test when they were not. Pearson's chi-square test was used for the analysis of categorical data. Binary logistic regression analysis was performed to

identify independent predictors of weight loss outcomes. Variables that were statistically significantly associated with weight loss in descriptive analyses and showed moderate correlation in correlation analysis (adult violence subtypes and total CTQ score) were included in the multivariate analysis performed with logistic regression. The backward stepwise method was applied. Age, baseline BMI, vitamin D, and ferritin levels, which may influence the weight loss process, were added to the models as covariates (21–23). In the logistic regression models, the reference category for the dependent variable was defined as “those who achieved effective weight loss”; thus, the analysis focused on risk factors predicting weight loss failure. For the independent variables, the reference category was defined as “absence of exposure to violence or trauma.” Model fit was evaluated using the Hosmer-Lemeshow test, and the level of statistical significance for the model was accepted as $p < 0.05$. Results were reported as adjusted odds ratios (aOR) with 95% confidence intervals [CI]. In all analyses, a p -value < 0.05 was considered the threshold for statistical significance.

Ethics

Approval for the study was obtained with decision number 2024/0095 from the Izmir Katip Celebi University Health Research Ethics Committee. The study was conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained from all participants.

RESULTS

No significant differences were found in terms of demographic and clinical characteristics between participants with and without $\geq 5\%$ weight loss. The demographic and clinical data of the participants are summarized in Table 1.

Exposure to Childhood Trauma

85.4% (n: 76) of all participants had been exposed to at least one type of trauma during childhood. The CTQ Total score of the participants was 45.13 ± 19.27 , and the minimum and maximum values ranged between 25 and 116. The most common trauma subtype was emotional neglect (79.8%). The childhood trauma subscale scores of the participants are summarized in Table 2.

Among those with a history of at least one trauma in childhood, 57.9% also had a history of at least one trauma in adulthood; whereas 95.7% of those with a history of violence in adulthood had a history of childhood trauma. There was a significant association between childhood trauma history and exposure to violence in adulthood (χ^2 : 8.03 $p < 0.01$).

Table 1. Sociodemographic and clinical characteristics of the participants

	Participants with $\geq 5\%$ weight loss at the end of 3 months (n=56) Mean \pm SD n (%)	Participants with $< 5\%$ weight loss at the end of 3 months (n=33) Mean \pm SD n (%)	Statistical value
Age (Mean years \pm SD)	42.10 \pm 9.50	44.42 \pm 9.56	t=1.10 p=0.27
Marital status (M-S)	32(57.1)-24(42.9)	19(57.6)-14(42.4)	$\chi^2=0.02$ p=0.96
Education level (Mean years \pm SD)	7.91 \pm 3.05	7.96 \pm 3.03	t=0.88 p=0.93
Body weight (kg)	107.41 \pm 15.23	109.18 \pm 14.82	t=0.53 p=0.59
BMI (kg/m ²)	41.53 \pm 5.99	42.45 \pm 4.88	t=0.74 p=0.45

BMI: body mass index; M: married; n: number; S: single; SD: standard deviation.

Table 2. Childhood trauma subgroup percentages of all participants

Subscale	Exposure n (%)	Severity (%)
Emotional abuse (present)	n=39(43.8)	Minimal-Moderate: 51.3 Moderate-Severe: 15.4 Severe-Very Severe: 33.3
Emotional neglect (present)	n=79 (79.8)	Minimal-Moderate: 42.3 Moderate-Severe: 19.7 Severe-Very Severe: 38.0
Physical abuse (present)	n=25 (28.1)	Minimal-Moderate: 40.0 Moderate-Severe: 24.0 Severe-Very Severe: 36.0
Physical neglect (present)	n=51 (57.3)	Minimal-Moderate: 51.0 Moderate-Severe: 21.6 Severe-Very Severe: 27.5
Sexual abuse (present)	n=25 (28.1)	Minimal-Moderate: 96.0 Moderate-Severe: 4.0

n: number.

Table 3. History of domestic violence in adulthood among all participants

	m	%
Physical violence		
None	58	65.2
Present	31	34.8
Emotional violence		
None	56	62.9
Present	33	37.1
Economic violence		
None	65	73.0
Present	24	27.0
Sexual violence		
None	68	76.4
Present	21	23.6

n: number.

Table 4. Relationship between weight loss levels and childhood trauma subscale scores

	Participants with $\geq 5\%$ weight loss at the end of 3 months (n=56) Mean \pm SD	Participants with $< 5\%$ weight loss at the end of 3 months (n=33) Mean \pm SD	Statistical value
Physical abuse	6.36 \pm 3.22	9.36 \pm 6.69	t=2.42 p=0.02*
Emotional abuse	7.93 \pm 4.27	11.03 \pm 6.45	t=2.46 p=0.01*
Sexual abuse	5.84 \pm 1.96	8.24 \pm 5.94	t=2.25 p=0.03*
Physical neglect	7.77 \pm 2.88	9.97 \pm 4.47	t=2.54 p=0.01*
Emotional neglect	12.34 \pm 5.88	15.73 \pm 5.81	t=2.64 p=0.01*
Total CTQ-28 score	40.69 \pm 14.66	53.76 \pm 24.51	t=2.78 p<0.01*

CTQ-28: childhood trauma questionnaire; n: number; SD: standard deviation.

Exposure to Domestic and Intimate Partner Violence in Adulthood

51.7% (n: 46) of all participants had been exposed to at least one type of violence in adulthood. The history of domestic violence in adulthood among the participants is summarized in Table 3.

Among perpetrators of physical violence, 64.5% were partners, 16.1% were female relatives, 16.1% were male relatives, and 3.2% were other individuals. Among perpetrators of emotional violence, 57.6% were partners, 18.2% were female relatives, 15.2% were male relatives, and 9.1% were other individuals. Among perpetrators of economic violence, 79.2% were partners, 12.5% were female relatives, and 8.3% were male relatives. Among perpetrators of sexual violence, 38.1% were partners, 4.8% were male relatives, and 57.1% were other individuals.

Comparison of Groups with $\geq 5\%$ and $< 5\%$ Weight Loss at the End of Three-Month Follow-up

At the end of the three-month follow-up, 37.1% (n=33) of the participants had less than 5% weight loss, and 62.9% (n=56) had 5% or greater weight loss. There was no difference between the groups with effective and ineffective weight loss in terms of age, marital status, education level, initial weight, and mean body mass index.

The mean total score of the Childhood Trauma Questionnaire was statistically significantly higher in those who lost $< 5\%$ weight compared to those who lost $\geq 5\%$ weight (t=2.78, p<0.01). All subscale scores of those who lost $< 5\%$ weight were significantly higher than those who lost $\geq 5\%$ weight (respectively: t=2.46 p=0.01; t=2.42 p=0.02; t=2.42 p=0.03; t=2.54 p=0.01; t=2.64 p=0.01).

The relationship between the level of weight loss and childhood trauma subscale scores is summarized in Table 4.

At the end of three months, effective weight loss was statistically significantly lower in those exposed to physical, emotional, economic, and sexual violence in adulthood (respectively: χ^2 : 6.43, p=0.01; χ^2 : 4.68 p<0.05; χ^2 : 12.33 p<0.001; χ^2 : 7.26 p<0.001).

The relationship between the level of weight loss and types of violence experienced in adulthood is summarized in Table 5.

There was no significant difference in weight loss levels between those exposed to violence only in childhood and those exposed to violence in both childhood and adulthood.

Multicollinearity was assessed using variance inflation factors (VIF), and all variables representing exposure to violence in adulthood included in the model had VIF values < 2.0 , while the CTQ total score had a VIF value < 2.5 . In the regression analysis model which was constructed by including covariates, types of violence in adulthood, and the CTQ total score, the model fit was good according to the Hosmer–Lemeshow test. The model explained 23.8% of the variance, and the Omnibus test confirmed the significance of the model. According to the multivariate analysis, economic violence was significantly associated with failure to achieve effective weight loss. The odds ratios remained significant after adjusting for covariates. No significant association was found with other types of violence or the CTQ total score.

Exposure to economic violence showed the strongest association with adverse outcomes in the study and substantially affected weight loss success (aOR=5.65, 95% CI [1.84–15.56], p=0.001).

The results of the regression analysis are presented in Table 6.

91% of the participants reported that healthcare professionals had not previously asked them any questions regarding violence.

Table 5. Relationship between level of weight loss and types of violence in adulthood

	Weight loss in three-month follow-up		Statistical value
	<5% Weight Loss (n=33) n (%)	≥5% Weight Loss (n=56) n (%)	
Physical violence			
None (n=58)	16 (27.6)	42 (72.4)	χ^2 : 6.43 p=0.01*
Present (n=31)	17 (54.8)	14 (45.2)	
Emotional violence			
None (n=56)	16 (28.6)	40 (71.4)	χ^2 : 4.68 p=0.03*
Present (n=33)	17 (51.5)	16 (48.5)	
Economic violence			
None (n=65)	17 (26.2)	48 (73.8)	χ^2 : 12.33 p<0.001*
Present (n=24)	16 (66.7)	8 (33.3)	
Sexual violence			
None (n=68)	20 (29.4)	48 (70.6)	χ^2 : 7.26 p<0.001*
Present (n=21)	13 (61.9)	8 (38.1)	

n: number.

Table 6. The effect of childhood trauma questionnaire total score and exposure to types of violence in adulthood on weight loss success

	β	p	aOR [95% CI]
Economic violence	1.73	0.001*	5.65[2.05–15.55]
Physical violence	0.44	0.45	1.56[0.49–4.96]
Emotional violence	0.30	0.65	0.73[0.19–2.79]
Sexual violence	0.79	0.18	2.20[0.70–6.95]
Total CTQ-28 score	0.01	0.61	1.01[0.97–1.04]

aOR: adjusted odds ratio; CI: confidence interval; CTQ: childhood trauma questionnaire; *: p<0.05; Models were adjusted for age, baseline BMI, vitamin D, and ferritin levels.

DISCUSSION

In this study, the co-occurrence of violence and obesity, two major public health problems, was addressed. According to a UNICEF report, to which the World Health Organization also contributed, one in every two children aged 2–17 years has been exposed to some form of sexual, physical, or psychological violence in the past year (24). In our study, 85.4% (n: 76) of the participants were exposed to at least one type of abuse or neglect during childhood. The most common type of violence experienced was emotional neglect, consistent with the literature (12). The high rate observed in our study may be due to the fact that the sample group consisted not of the general population, but only of individuals with obesity.

The World Health Organization has reported that 27% of women aged 15–45 have experienced intimate partner violence in studies conducted across different social, economic, religious, and cultural groups (25). In our study sample, 51.7% (n=46) were exposed to at least one type of domestic or intimate partner violence in adulthood. It was determined that the most common perpetrators of violence were partners. The most common type of violence, similar to samples from Australia and the United Kingdom was found to be emotional violence (3,26). The fact that our study sample consisted only of patients diagnosed with obesity and that both partner and domestic violence were assessed may have contributed to the higher rates of violence. This finding may in fact represent important data that can be tested with a healthy control group in future studies.

In this study, consistent with literature, a history of domestic and intimate partner violence in adulthood was more frequent among those with a history of childhood trauma (26). Studies conducted in the field have shown that obesity following childhood trauma generally begins in early adulthood (6). This significant association between childhood trauma and exposure to violence in adulthood can be explained by the concept of revictimization (2).

The most striking finding of our study was that exposure to economic violence in adulthood was the strongest and independent risk factor hindering weight loss success in obesity treatment. Exposure to economic violence increased the likelihood of failure to lose weight by 5.65 times. Additionally, 73.8% of those without a history of economic violence were able to achieve effective weight loss. Although descriptive analyses showed that higher Childhood Trauma Questionnaire subscale and total scores and exposure to all types of violence in adulthood were associated with lower weight loss; in our regression model, while childhood trauma and other forms of violence in adulthood lost their significance, the effect of economic violence remained significant, revealing the predominant inhibitory role of this type of trauma in the treatment process. This situation may be explained by the chronic stress created by financial control and uncertainty imposed by a partner or family member, as well as by financial constraints that make it difficult to access resources and adhere to behavioral recommendations during the treatment process, and by the concept of food insecurity (27–30).

Economic violence is a persistent form of pressure that permeates the relationship with a partner or family members. A victim of economic violence may be deprived of access to adequate and quality food, as the perpetrator may exert control over the individual through food. Women exposed to economic violence experience chronic stress involving economic deprivation and uncertainty (27,28). It has been suggested that economic uncertainty is perceived by the body as a risk of scarcity and triggers weight gain as a survival mechanism (29). Dent et al. drew attention to compensatory mechanisms developed by the body during the weight loss process, such as increased orexigenic hormones to preserve energy stores and decreased energy expenditure. In addition, elevated cortisol levels during chronic stress increase fat storage in tissues and appetite stimulating hormones (30). From this perspective, the high rate of weight loss failure observed in individuals exposed to economic violence in our study may be due to the activation of a metabolic defense

mechanism, such as fat storage and difficulty in losing weight, triggered by the persistent economic uncertainty caused by violence. In an 11 year follow up study, it was found that women who perceived continuous economic hardship gained significantly more weight compared to those who did not, and this was independent of economic level and behavioral factors such as exercise and eating habits. In this study, the association between economic hardship and weight gain was found to be specific to the woman (31).

A limited budget resulting from economic violence may lead to the consumption of cheaper, higher calorie foods with lower nutritional value. Due to a partner's control over financial resources, a victim of economic violence may be forced to prefer inexpensive carbohydrate-dense foods instead of protein-rich foods suitable for a healthy diet. This situation may directly hinder the weight loss process. Some women exposed to economic violence have reported that they are unable to access money even for basic needs such as food, while others have reported that they are unable to purchase anything beyond a fixed amount allocated for household needs, as well as a lack of resources necessary for daily life such as housing, childcare, and transportation (32). Individuals whose access to healthy food is restricted due to economic violence may have difficulty adhering to diet recommendations based solely on caloric restriction. Consequently, this situation may result in treatment failure.

It has been stated that partner support is a positive source of motivation during the weight loss process (33). Women exposed to economic violence appear to be disadvantaged in this process due to both financial constraints and the lack of partner support.

Another important concept is food insecurity, defined as the limited or uncertain access to the nutritious food necessary for a healthy life. Food insecurity has been found to be associated with chronic diseases and obesity (34). Individuals experiencing food insecurity may engage in uncontrolled eating when food becomes available as a psychological and physiological response to prior deprivation. It has been determined that dietary restrictions imposed due to economic constraints increases binge eating behavior (35). Although eating disorders were not investigated in our study, uncontrolled eating episodes resulting from food insecurity should also be considered in the weight loss failure observed in individuals exposed to economic violence.

In the literature, it has been stated that partner violence has an effect on obesity through comorbidities such as depression (6). The exclusion of patients with depression from our study may have limited this effect. Although it can be considered that other types of violence included in our study may also have negative effects on the treatment process, particularly on motivation, this effect may have been reduced due to the fact that the sample consisted of patients seeking treatment, in other words, those who were motivated. In addition, it is possible that other types of violence may influence the treatment process through stress-cortisol mechanisms; however, in the analyses, the effect of economic violence overshadowed other types of violence. This may be because, in economic violence, biological effects are accompanied by food insecurity, which has concrete impacts during the treatment process, and by financial constraints that directly hinder access to treatment resources.

The relationship between childhood trauma, adult domestic violence exposure, and obesity treatment outcomes has not been extensively studied. In our study, at the end of three months, the total Childhood Trauma Questionnaire (CTQ) scores were significantly lower in patients who achieved effective weight loss. Furthermore, subscale scores for emotional abuse, physical abuse, sexual abuse, physical neglect, and emotional neglect were higher in those who failed to achieve effective weight loss compared to those who did. However, the lack of an

independent contribution of the CTQ total score to weight loss failure in the regression analysis is consistent with the contradictory findings in the literature. In a cohort study conducted in patients who underwent bariatric surgery, similar to our study, it was found that a history of childhood trauma did not affect weight loss outcomes (4). In a six month follow-up study examining treatment outcomes, lower weight loss success was observed in those with a history of childhood physical abuse compared to those without (36). In that study, only physical and emotional violence were assessed, and the lack of use of the CTQ as a measurement tool may have influenced the results. The most likely reason why the CTQ total score was not significant in the regression analysis in our study may be that a current and concrete barrier, such as economic violence, statistically masked the psychological effects of past trauma.

Another significant finding of the study is that the vast majority of participants (91%) reported that they had never received any questions regarding violence by healthcare professionals throughout their lives. This high rate indicates that history of violence is not sufficiently screened in healthcare settings and that greater awareness is needed in this area. Studies have found that the effects of non-surgical interventions such as pharmacological treatments, diet, exercise, and lifestyle modifications on weight loss in the treatment of obesity are modest (37). Therefore, it is important to address psychosocial factors in the treatment process as well. Investigating a history of violence and detailing its impact on eating behavior may contribute to reducing the negative effects of these factors on treatment. In addition, as part of the treatment plan, it is recommended to evaluate the individual's consistent access to safe, adequate, and nutritious food and, when necessary, to support access to social support services.

Studies involving different designs and sample groups suggest that genetic and environmental factors increase the risk of obesity starting from the perinatal period (38). Environmental risk factors may not have the same impact across different geographical regions and cultures. Therefore, studies conducted in socioculturally diverse environments and cultures, as well as in regions with varying income levels, are of great value. A significant advantage of our research is its contribution to a subject that has been under-researched in Türkiye.

In our study, the lack of assessment of childhood obesity, the limitation of the follow-up period to three months, and the evaluation of domestic and intimate partner violence using questions developed by the researchers rather than validated and reliable scales constitute limitations. In addition, including only patients diagnosed with obesity (BMI >30 kg/m²) and not including overweight patients (BMI: 25–30 kg/m²) may be considered another limitation. Individuals with active depression were not included in our study; however, the lack of assessment of previous depressive episodes is another limitation. The absence of evaluation of participants' economic status is also a limitation; however, previous studies have shown that economic uncertainty is independent of income level (31). As the sample included only female patients, the results cannot be generalized to male patients.

As a result, this study demonstrates a significant association between a history of economic violence and weight loss outcomes in obesity. A better understanding and clinical screening of this relationship during the treatment process may contribute to the development of more effective obesity prevention strategies and therapeutic interventions.

Ethics Committee Approval: Approval for the study was obtained with decision number 2024/0095 from the Izmir Katip Celebi University Health Research Ethics Committee.

Informed Consent: Written informed consent was obtained from all participants.

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