

Determining the Correlation between Alexithymia, Intuitive Eating and Physical Activity Self-Worth in Woman: A Cross-Sectional Study

Kadınlarda Aleksitimi, Sezgisel Yeme ve Fiziksel Aktivite Öz Değeri Arasındaki İlişkinin Belirlenmesi: Kesitsel Araştırma

Süheyla YARALI¹
Ela VAROL²



¹Atatürk University, Faculty of Nursing,
Department of Public Health Nursing, Erzurum,
Türkiye

²Ağrı İbrahim Çeçen University, Faculty of
Health Sciences, Department of Nursing, Ağrı,
Türkiye



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Sorumlu Yazar/Corresponding author:

Süheyla YARALI

E-mail: suheyla.yarali@atauni.edu.tr

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ABSTRACT

Objective: This study revealed the relationship of alexithymia with physical activity, self-worth, and intuitive eating in women.

Method: The study was completed with 573 women referred to a family health center in eastern Turkey between June 2021 and June 2022 and agreed to participate. SPSS 25 was used to analyze the data.

Results: The total mean score of the Toronto Alexithymia Scale of the women in the study was 76.53±11.68, while their mean physical activity self-worth inventory was 82.74±9.63, and they mean the intuitive eating scale total score was 45.37±8.22. A negative and significant correlation was found between the alexithymia levels of the women included in the study and intuitive eating. In contrast, a positive correlation was found between their alexithymia levels and physical activity self-worth. As a result of multiple linear regression analysis, it was found that the Intuitive Eating Scale and the Women's Physical Activity Self-Worth Inventory had a moderately significant relationship with alexithymia ($R=0.64$, $R^2=0.41$, $p<.01$). According to these results, intuitive eating and physical activity together explain 41% of the alexithymia variance.

Conclusion: These findings suggest that alexithymia may be important for understanding the effect of intuitive eating and physical activity processes.

Keywords: Alexithymia, Alexithymia in Women, Intuitive Eating, Physical Activity

Öz

Amaç: Bu çalışma, kadınlarda aleksitiminin fiziksel aktivite, öz değer ve sezgisel yeme ile ilişkisini ortaya koymak amacıyla yapılmıştır.

Yöntem: Çalışma, Haziran 2021-Haziran 2022 tarihleri arasında Türkiye'nin doğusundaki bir aile sağlığı merkezine başvuran ve çalışmaya katılmayı kabul eden 573 kadın ile tamamlandı. Verilerin analizinde SPSS 25 programı kullanılmıştır.

Bulgular: Araştırmaya katılan kadınların Toronto Aleksitimi Ölçeği toplam puan ortalaması 76,53±11,68, fiziksel aktivite öz-değer envanteri toplam puan ortalaması 82,74±9,63 ve sezgisel yeme ölçeği toplam puan ortalaması 45,37±8,22'dir. Çalışmaya dahil edilen kadınların aleksitimi düzeyleri ile sezgisel yeme arasında negatif ve anlamlı bir ilişki bulunurken, aleksitimi düzeyleri ile fiziksel aktivite öz değerleri arasında pozitif yönde bir ilişki bulunmuştur. Çoklu doğrusal regresyon analizi sonucunda, Sezgisel Yeme Ölçeği ile Kadınların Fiziksel Aktivite Öz Değer Envanteri'nin aleksitimi ile orta düzeyde anlamlı bir ilişki olduğu bulunmuştur ($R=0,64$, $R^2=0,41$, $p<.01$). Bu sonuçlara göre, sezgisel yeme ve fiziksel aktivite birlikte aleksitimi varyansının %41'ini açıklamaktadır.

Sonuç: Bu bulgular, sezgisel yeme ve fiziksel aktivite süreçlerinin etkisini anlamak için aleksitiminin önemli olabileceğini düşündürmektedir.

Anahtar Kelimeler: Aleksitimi, Fiziksel Aktivite, Kadınlarda Aleksitimi, Sezgisel Yeme

Introduction

Alexithymia is described as the difficulty in making sense of, recognizing, distinguishing, and expressing emotions (Preece et al., 2020). It has been stated that the basis of alexithymia may be excessive stress, lack of social support, and a traumatic event (Lyvers et al., 2022). In the following periods, it began to be evaluated as a personality trait described by difficulties in recognizing and defining emotions and externally focused thinking (Luminet et al., 2018). In this context, it has been shown by various studies that, as well as different pathological groups, alexithymic features are also observed in healthy populations. It is considered a personality trait with normal distribution today (Barchetta et al., 2021). When the literature is examined, it can be seen that alexithymia has been associated with a large number of diseases and situations such as Hashimoto's thyroiditis (Martino et al., 2021) gastrointestinal disorders (Carrozzino & Porcelli, 2018), pregnancy and infertility (Jurić Vukelić et al., 2019). Alexithymia has been found to be particularly associated with obesity and eating disorders (Casagrande et al., 2020).

The literature reveals that eating disorder as a psychosocial disorder has seriously increased in recent years and this disorder has an important role in the decrease in physical and mental health (Harmancı et al., 2021). It is also stated in the literature that intuitive eating has an effect on eating disorders, and the term "intuitive eating," defined as a non-dietary behavior, has been created. Intuitive eating, which has an important role in health, provides eating by noticing the body's internal feeling of hunger and satiety (Tribole & Resch, 2020).

It has been reported that intuitive eating behavior, which is effective in regulating eating, is inversely correlated with body weight and body mass index (BMI), especially since it is considered as an alternative approach that focuses on body hunger and gives clues about which food should be consumed in what quantities (Ramalho et al., 2022). It is thought that with this aspect, it can be an approach to prevent obesity and support its treatment (Linardon et al., 2021). In a study evaluating the relationship between intuitive eating and BMI, a negative significant relationship was found between BMI values of female students and intuitive eating (Taş & Kabarın, 2020). Intuitive eating (IE) is a promising alternative to diet, and

has received increased attention in the literature in recent years (Linardon et al., 2021).

Cross-sectional studies have found that intuitive eaters have better psychological and behavioral health (Craven & Fekete, 2019). A longitudinal study conducted with an 8-year follow-up has shown that intuitive eating behavior positively affects psychological health and decreases irregular eating habits (Hazzard et al., 2021). Among the causes of obesity, eating disorders, and insufficient physical activity are the most important modifiable factors. In all studies, it has been determined that physical activity has a significant contribution to people's feeling happy. This indicates that there is a positive relationship between physical activity and psychological health (Zhang & Chen, 2019).

Studies conducted with different groups in the literature have reported that physical activity is insufficient in individuals with high alexithymia levels (Alzahrani et al., 2020). In a Meta-Analysis of Prospective Cohort Studies, it has been found that 150 minutes of moderate to vigorous physical activity per week is protective against the development of depression and reduces the risk by approximately 22% (Schuch et al., 2018).

According to the literature reviews, alexithymia negatively affects nutrition and physical activity behaviors. It has been observed that there are not enough studies on intuitive eating and lack of physical activity, especially affecting women. The increase in research in different regions, will determine the problems related to nutrition and physical activity caused by alexithymia.

The present study was conducted to find out the effects of alexithymia on intuitive eating and physical activity self-worth in women.

Research questions

- Is there a relationship between alexithymia level and intuitive eating?
- Is there a relationship between alexithymia level and physical activity self-worth

Methods

Type of Research

The study had a descriptive and cross-sectional design.

Population and Sample of the Research

The study, conducted between June 2021 and June 2022, aimed to reach all women who came to a Family Health Center in a province in the east of Turkey, selected by random sampling, which included the central districts. Based on a strength analysis of results from 573 participants, we determined that the strength of the study was 99% and the amount of effect was moderate at the 95% confidence level (Cohen, 1992).

Inclusion Criteria

In the study, among the women who came to the Family Health Center, over 18 years old, primary school graduates who voluntarily agreed to participate in the study and did not have a mental or psychological health problem or a problem that prevented communication.

Data Collection Tools

The descriptive characteristics form, Toronto Alexithymia Scale (TAS-20), Intuitive Eating Scale-2 (IES-2) and Women's Physical Activity Self-Worth Inventory (WPASWI) were used in data collection.

The Introductory Information Form: This form, prepared to determine the participants' sociodemographic characteristics, consists of 8 questions about age, educational status, marital status, number of children, level of income, regular exercise status, previous regular exercise status, and body mass index (BMI).

Toronto Alexithymia Scale (TAS-20)

TAS was developed (Taylor et al., 1985) to measure alexithymic characteristics relevant to theoretical information while preventing the socially desirable responses, and obtaining high internal consistency values. It is a 5-point Likert type scale with 26 items. The Turkish validity and reliability study of the scale was conducted by Motan and Gençöz (Motan, 2007). As a result of the factor analysis conducted by these researchers, three factors, "difficulty in communicating emotions", "difficulty in recognizing and describing emotions" and "lack of dreaming" were determined. High scores from the scale indicate high alexithymic features. There is sufficient evidence that the scale is valid and reliable (Motan, 2007; Taylor et al., 1985). In this study, internal consistency estimate was .84.

Intuitive Eating Scale-2 (IES-2)

Intuitive Eating is defined as "mind, body and food dynamic process integration harmony". The first IES (Intuitive eating scale) was developed (Hawkins et al., 2013) in 2004 and it was later readdressed as three factors (Hawkins et al., 2013). The scale, which was later revised by Tylka and Kroon Van Diest (Tylka & Kroon Van Diest, 2013) consists of four factors (Unconditional permission to eat, Eating for physical rather than emotional reasons, Reliance on hunger and satiety cues, Body-food choice congruence). Turkish adaptation of the scale was conducted by Baş et al. 2017 (Bas et al., 2017) who provided good evidence of reliability ($\alpha = .89$) and validity for the scale. In this study, the internal consistency estimate was .65.

Women's Physical Activity Self-Worth Inventory (WPASWI)

Women's Physical Activity Self-Worth Inventory is a 37-item multi-dimensional scale developed in 2013 (Huberty et al., 2013). The Turkish validity and reliability study of the scale was conducted in 2014 (Yurtçiçek, 2019). WPASWI is a 4- point Likert type (Totally disagree '1', Disagree '2', Agree '3', Totally agree '4') scale assessing non-physical aspects of physical activity related self-worth in women. The Cronbach alpha values of the original scale are: Knowledge .90, Emotional .87, Social .72. Total possible score from the scale varies between 37 and 148. The feeling of self-worth increases with the increase in score. In this study, internal consistency estimate was .82.

Collection of the Data

Written informed consent was obtained from the institution where the study was conducted by the researchers, and written permission was obtained from those who agreed to participate in the study. Then, (10-15 minutes on average), data were collected with questionnaires. The BMI of the participants was calculated by measuring their height and weight. A scale and a wall-mounted height meter in the family health center were used for the measurement. Data collection was completed between June 2021 and June 2022.

Data analysis

The researcher transferred the data obtained in the

study to the computer environment and analyzed them using the SPSS (Statistical Package for the Social Sciences) software package. Descriptive tests, Ki-Kare, Pearson correlation test, and linear regression were used to evaluate the data statistically.

Ethical Considerations

Ethics committee approval was obtained from the Ağrı İbrahim Çeçen University Scientific Research Ethics Committee (date: 26.05.2021 number: 155) in order to initiate and implement the study. We have received permission from the relevant institution. The purpose of the study was explained and the participation of volunteers from women was ensured. Within the scope of the study, individual rights were protected by adhering to the Helsinki Declaration of Human Rights at all stages of the research.

Results

Table 1. Distribution of descriptive characteristics of the women

	Number	Percentage (%)
Educational status		
Primary school	67	11.7
Middle school	222	38.7
High school	169	29.5
University and higher	115	20.1
Marital status		
Married	460	80.3
Single	113	19.7
Number of children		
None	92	16.1
1	64	11.2
2	115	20.1
3	167	29.1
4 and more	135	23.5
Level of income		
Level < expense	366	63.9
Level = expense	184	32.1
Level > expense	23	4
Exercising regularly		
Yes	74	4.2
No	499	95.8
Exercising regularly before		
Yes	74	12.9
No	499	87.1
Body Mass Index (BMI)		
Normal		
Overweight	354	61.7
Obese	186	32.5
	33	5.8
	Mean	Standard deviation
Age (years)	40.16	±13.05
Weight (kg)	67.21	±9.71

The mean age of the women included in the study was 40.16 ± 13.05 years, while their mean weight was 67.21 ± 9.71 kg. It was found that 32.5 % were overweight and 5.8% were obese. Of the women, 12.9 exercised regularly before, while 4.2 % were exercising regularly for the moment (Table 1).

Table 2. Minimum, maximum and mean scale scores of the women

Scales	Min	Max	Mean±SD
Toronto Alexithymia Scale	41	104	76.53±11.68
Women's Physical Activity Self-Worth Inventory	54	107	82.74±9.63
Intuitive Eating Scale	28	62	45.37±8.22

The total mean score of the Toronto Alexithymia Scale of the women in the study was 76.53 ± 11.68 , while their mean physical activity self-worth inventory was 82.74 ± 9.63 , and their mean the intuitive eating scale total score was 45.37 ± 8.22 (Table 2).

Table 3. The correlation between the Toronto Alexithymia Scale, Women's Physical Activity Self-Worth Inventory and Intuitive Eating Scale scores

	Intuitive Eating Scale Total Score	Women's Physical Activity Self-Worth Inventory Total Score
Toronto Alexithymia Scale Total Score	$r = -.249^{**}$ $p = .000$	$r = .597^{**}$ $p = .000$

Pearson correlation (2-tailed); ** $p < .001$

A negative and significant correlation was found between women's alexithymia and intuitive eating levels, while there was a positive significant correlation between alexithymia and women's physical activity self-worth ($p < .05$) (Table 3).

Table 4. Multiple linear regression analysis result for the prediction of alexithymia

Women's Physical Activity Self-Worth Inventory	Intuitive Eating Scale	Constant	Variable
.718	-.337		B
.039	.046	3.876	Standard Error
.593	-.238	-	β
18.461	-7.406	8.365	t
.000	.000	.000	p
		.643	R
		.411	R²
		200.567	F

Constant: Toronto Alexithymia Scale

As a result of multiple linear regression analysis, it was found that Intuitive Eating Scale and had Women's Physical Activity Self-Worth Inventory a moderately significant relationship with alexithymia ($R=0.64$, $R^2=0.41$, $p<.01$). Accordingly, intuitive eating and physical activity together explain 41% of the variance of alexithymia. It can be said that one unit increase in alexithymia will cause a change of .71 in physical activity, and a decrease of one unit will cause a decrease of .33 in intuitive eating (Table 4).

Discussion

A negative significant correlation was determined between alexithymia levels and intuitive eating in women included in the study, and as the level of alexithymia increased, the level of intuitive eating decreased. There was a positive significant correlation between alexithymia levels and physical activity self-worth in women, and physical activity self-worth in women was positively affected as the level of alexithymia increased. When the literature was examined, it was found in studies on the effects of alexithymia that the rate of eating disorders is higher in women with high alexithymia levels (Cascino et al., 2021).

In a meta-analysis examining the psychological connections of intuitive eating, intuitive eating has been detected to be inversely correlated with the index of unrestrained eating pathology, body image disorders, and psychological distress, and positively associated with a wide variety of positive psychology constructs. It has been

reported that women have lower levels of intuitive eating than men (Linardon et al., 2021). High rates of obesity in women support this situation. In a study conducted on women, it is stated that a high level of intuitive eating may cause conditions such as deterioration in body image and depressive symptoms, which occur as a result of conditions such as obesity (Lee et al., 2022). A study conducted in a group with demographic differences indicated that intuitive eating can be an important approach and demographic differences should be taken into account when designing interventions (Gödde et al., 2022).

As stated in these studies, it is important to plan studies and to plan initiatives for these by considering demographic differences such as place of residence and family structure and psychosocial states. All these reasons support that long term weight loss not only with diet but also through gaining eating behaviors by healthy lifestyle behaviors will contribute to all health needs (Khasteganan et al., 2019). As seen in the literature, intuitive eating is recommended as an effective lifelong eating approach that benefits health by feeling good psychologically and socially compared to diet programs where eating is restricted. Especially gender based regressions show that intuitive eating scores are significantly correlated with all psychosocial health indicators researched. It is important to carry out studies by determining the psychosocial states of women with lower intuitive eating. Physical activity self-worth and related practices in women are important in protecting and developing health. Determining psychological conditions such as alexithymia will contribute to this.

In this study, it was found that although physical activity self-worth was moderate, the number of women who had regular physical activity was low and physical activity self-worth was high in women who had high alexithymia level. It can be thought that the reason for this can be due to positive physical activity self-worth but high level of alexithymia, which includes being externally oriented and difficulties in describing emotions. It has been determined in a study that physical activity is related to cultural values (Chalabaev et al., 2022). Reviewing the literature revealed that women who participated in regular physical activity had higher physical activity self-worth perceptions (Kaya, 2021). In a study, reported that university graduate women were more active in physical activities and more open to

activity when compared to women with other education levels (Korkmaz, 2020).

In a study conducted to find out the physical activity self-worth of female university students, statistically significant differences have been found between regular physical activity participation and women's physical activity self-worth (Kiliç & Yildirim, 2020).

Limitations and Generalizability of the Study

The results of the present study are limited to the women living in a city in the east of Turkey. Each region has physical, social, and cultural differences, so the results can be generalized only to this region.

Conclusion and Recommendations

In line with these results, it was determined in the present study that women had high alexithymia levels and low intuitive eating levels. A negative correlation was observed between alexithymia and intuitive eating. Women with high level of alexithymia were found to have high physical activity self-worth. However, high physical activity self-worth could not have resulted in women's being engaged in regular physical activity. Regular physical activity level was found to be very low. The reason for this is considered to be the problem in activating emotions in alexithymia. The fact that a large number of studies have showed that especially eating disorders and insufficient physical activity were related with psychological problems supports this situation. The present study showed that high level of alexithymia is associated with intuitive eating and physical activity. It has been supported by studies that the intuitive eating model can reduce the negative emotional states caused by energy-restricted diets, and thus increase the motivation and psychological adjustment. For this reason, it is thought that increasing intuitive eating programs will have positive results in the general population. The results of the study suggest that malnutrition and lack of physical activity in women should be evaluated within the scope of psychological problems such as electcitemia.

Ethics Committee Approval: Ethics committee approval was obtained from the Ağrı İbrahim Çeçen University Scientific Research Ethics Committee (date: 26.05.2021 number: 155) in order to initiate and implement the study. We have received permission from the relevant institution. The purpose of the study was explained and the participation of volunteers from women was ensured. Within the scope of the study, individual rights were protected by adhering to the Helsinki Declaration of Human Rights at all stages of the research.

Participant Consent: Verbal consent was obtained from all participants participating in the study.

Peer-review: Externally peer-reviewed.

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