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Investigation of Nutritional Level Habits in Sedentary Women According to Body Mass Index

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Abstract

In this study, it was aimed to examine the nutritional level habits of sedentary women according to body mass index. A total of 504 sedentary women with a mean age of 48.79 ± 3.65 living in Gaziantep city center voluntarily participated in the study. In order to determine the nutritional habits of the subjects participating in the study, a three-factor eating habits questionnaire, which was adapted into Turkish in 2015 by Kıvanç et al., was applied. The "IBM SPSS Statistics 22" package program was used in the statistical analysis of the obtained data, and the normality analysis of the data was tested with the Kolmogorov Smirnov test. One-way anova test was used to compare normally distributed data. In this study, the margin of error was taken as 0.05. As a result of the analysis; It was determined that sedentary women with a high body mass index did not avoid eating at any time of the day, and they needed to eat when they felt restless and lonely. It was also found that these women ate until they finished the food in front of them even when they were full, they saw eating as a philosophy of life and they were not very conscious about nutrition. As a result; The reason for the nutritional irregularities of sedentary women is mostly due to insufficient nutritional knowledge. We believe that it will be possible to correct sedentary women's malnutrition behaviors and gain healthy and correct eating habits through nutrition education.

Keywords: Sedentary, Diet, Body Mass Index

1. Introduction

A healthy lifestyle is the conscious behavior of people to preserve and improve their health. Therefore, people's attitudes and behaviors regarding healthy lifestyle behaviors have a key role (Kılıç, 2017). The dietary habits of people are also a significant factor in a healthy life. However, with the development of technology and changing living conditions, large irregularities are observed in people's eating and movement habits (Akyol & İmamoğlu, 2019). As a result of technological changes, sedentary life and fast-food-type eating habits have emerged. This has led to a decline in people's quality of life and caused health problems. It should be noted that a healthy diet as well as making exercises is important for improving our quality of life and minimizing the health problems that may occur with increasing age (Ersoy et al, 2008). Although the significance of dietary habits in improving and increasing the quality of life has been gaining importance each passing day, modern lifestyle negatively affects people's healthy eating habits. The negative effects of eating habits also lead to an increase in the body fat ratio of

individuals. The increases in body mass index (BMI) cause psychological problems in individuals by creating disorders in their physical structures as well as causing health problems. The duty of sports scientists is to raise awareness of society by conducting scientific studies on these issues and to help them have a healthy lifestyle. The present study tried to contribute to science by examining the relationship between body mass index and eating habits of individuals having a sedentary life.

2. Material And Method

A total of 504 women living in Gaziantep city center with an average age of 48.79 ± 3.65 and having different body mass index values voluntarily participated in the study. In order to determine the nutritional habits of the subjects participating in the study, a three-factor eating habits questionnaire, which was adapted into Turkish in 2015 by Kıvanç et al., was applied (Kıvanç et al., 2015).

Table 1: Information about the characteristics measured by the questions in the questionnaire.

Question No.	Measured characteristic
1, 7, 13, 14, 17	They measure the uncontrolled eating levels of the subjects.
3, 6, 10	They measure the emotional eating degree of the subjects.
2, 11, 12, 15, 16, 18	They measure the extent to which subjects consciously restrict their eating.
4, 5, 8, 9	They measure the sensitivity level of subjects to hunger.

Height and Weight Measurement: The heights of the subjects were measured using a stadiometer with a precision of 0.01 m, and their body weights were measured using an electronic scale with a precision of 0.1 kg in accordance with the measurement technique.

BMI Calculation: The following formula was used to calculate the body mass index values of the individuals participating in the research.

$$\text{Body Mass Index} = \text{weight} / \text{height}^2$$

Statistical Analysis: The IBM SPSS Statistics 22 software package was used in the statistical analysis and evaluation of the data. The normality of the data used in the study was tested using the Kolmogorov-Smirnov test and the distribution was found to be normal. Therefore, the One-way ANOVA test was used to compare the data of the groups with each other. In this study, the margin of error (confidence interval) was assumed to be 0.05.

3. Findings

Table 2: Demographic characteristics of the subjects

Variables	N (count)	Mean \pm SD
Age (year)	504	48.79 \pm 3.65
Height (cm)	504	157.78 \pm 4.12
Weight (kg)	504	88.79 \pm 3.19
BMI (kg/m ²)	504	35.66 \pm 2.13

Table 3: Frequency and percentage values of subjects' body mass index

Body mass index	Frequency	%
25-30 kg/m ²	126	25.00
30-35 kg/m ²	126	25.00
35-40 kg/m ²	126	25.00
above 40 kg/m ²	126	25.00

Table 4: Mean and standard deviations of body mass index values of the subjects according to their dietary habits

Variables	Body mass index (kg/m ²)			
	25-30 (N=126)	30-35 (N=126)	35-40 (N=126)	above 40 (N=126)
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Level of uncontrolled eating behavior (LUEB)	7.47±0.995	8.29±1.112	13.78±2.201	16.39±2.329
Level of emotional eating behavior (LEEB)	4.51±1.101	5.19±0.991	9.32±1.703	10.77±1.057
Level of consciously restricting eating (LCRE)	8.16±1.599	8.71±1.501	14.89±2.404	17.44±1.798
Level of sensitivity to hunger (LSH)	6.39±0.803	6.87±0.798	11.01±1.498	14.12±1.401

Considering Table 4, according to the mean scores of the sub-dimensions of the eating habits scale, sedentary women with a body mass index of 40 and above were found to have the highest score average while sedentary women with a body mass index of 25-30 have the lowest mean score.

Table 5: Comparison of the subjects' dietary habits in terms of their body mass index values

Variables	Sum of squares	Mean squares	F	P
LUEB Between groups	2401.001	787.976	269.899	0.000*
LEEB Between groups	1201.498	383.997	279.402	0.000*
LCRE Between groups	2601.500	843.799	251.705	0.000*
LStH Between groups	1597.975	529.597	389.379	0.000*

*p<0.05

According to Table 5, the comparison of the mean squares of the scores of the eating habits scale's sub-dimensions of the individuals participating in the study by their body mass index revealed significant differences in all sub-dimensions (p<0.05).

Table 6: Multiple comparisons of the dietary habits of the subjects participating in the study in terms of their body mass index values

Variables	BMI	BMI	Mean difference	Standard error	P
LUEB	25-30	30-35	-.663	.411	.301
		35-40	-5.903*	.411	.000*
		above 40	-8.946*	.411	.000*
	30-35	25-30	-.663	.411	.301
		35-40	-6.003*	.411	.000*
		above 40	-8.641*	.411	.000*

		25-30	-5.903*	.411	.000*
	35-40	30-35	-6.003*	.411	.000*
		above 40	-3.003*	.411	.000*
		30-35	-.801*	.355	.018
	25-30	35-40	-5.423*	.355	.000*
		above 40	-6.619*	.355	.000*
		25-30	-.801*	.355	.018
LEEB	30-35	35-40	-4.980*	.355	.000*
		above 40	-5.679*	.355	.000*
		25-30	-5.423*	.355	.000*
	35-40	30-35	-4.980*	.355	.000*
		above 40	-1.804*	.355	.000*
		30-35	-.714	.499	.487
	25-30	35-40	-7.089*	.499	.000*
		above 40	-8.973*	.499	.000*
		25-30	.714	.499	.487
LCRE	30-35	35-40	-4.409*	.499	.000*
		above 40	-8.627*	.499	.000*
		25-30	-7.089*	.499	.000*
	35-40	30-35	-4.409*	.499	.000*
		above 40	-2.761*	.499	.000*
		30-35	-.483	.381	.251
	25-30	35-40	-5.638*	.381	.000*
		above 40	-7.493*	.381	.000*
		25-30	.483	.381	.251
LStH	30-35	35-40	-5.011*	.381	.000*
		above 40	-7.002*	.381	.000*
		25-30	-5.638*	.381	.000*
	35-40	30-35	5.011*	.381	.000*

above 40	-2,937*	.381	.000*
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*p<0.05

According to Table 6, no statistically significant difference was found between the mean scores of women with a body mass index of 25-30 and women with a body mass index of 30-35 in terms of all sub-dimensions, which were the level of uncontrolled eating behavior, level of emotional eating behavior, level of consciously restricting eating, and the level of sensitivity to hunger ($p>0.05$). On the other hand, considering the mean scores of the women with other body mass index values, a statistically significant difference was found in all sub-dimensions ($p<0.05$).

4. Discussion And Conclusion

Improper dietary knowledge and habits are one of the most significant reasons that impair the quality of life of individuals. Positive changes in dietary habits are an important parameter in reducing the risk of chronic diseases. According to the results of the eating habits scale applied to sedentary women in the present study, no statistically significant difference was found between the scores of sedentary women with a body mass index of 25-30 and sedentary women with a body mass index of 35-40 in terms of the scores of the level of uncontrolled eating behavior, level of emotional eating behavior, level of consciously restricting eating, and the level of sensitivity to hunger ($p>0.05$). However, a statistically significant difference was found between the mean scores of women with all other body mass index values ($p<0.05$). The results of the analysis revealed that the sedentary women with higher body mass index values did not avoid eating at any time of the day, they needed eating when they felt restless and lonely, they continued to eat until they finished the food before them even when they were full, they considered eating as their philosophy of life, and they were not very conscious about their diets. A study on the dietary knowledge of female adolescents reported that the knowledge level of 39.3% of the participants was poor, that of 42.7% was medium, and that of 16.9% was good (Önay, 2002). According to another study conducted on 1208 adolescents aged between 14 and 18, the dietary knowledge and eating habits of the participants were found to be poor (Yıldız, 1992). In a study conducted on university students, the effect of the level of dietary knowledge and dietary training on their nutritional status was examined. The research reported that the body mass index values of male and female students were declined after the dietary training (Kızıltan, 2000).

Moreover, studies on depressive states due to malnutrition reported that the probability of having depression ranged between 17-53% in overweight women (Zhao et al., 2009). According to the results of a similar study, individuals living as obese for a long time were observed to have depression more, and a positive correlation was found between depression and insulin resistance (Pearson et al., 2010). Furthermore, according to the body mass index's correlation with sleep quality and depression, a positive correlation was found between the increase in the body mass index value and the occurrence of depression. Poor sleep quality due to depression may cause food intake at night. Therefore, the factors of depression, sleep quality, and body mass index was considered to be stimulants in night eating syndrome (Striegel-Moore et al., 2006). In the study of Yıldırım (2022) on sedentary men, no statistically significant difference was found between the 8-week life kinetic training sub-dimensions of sedentary men and the levels of self-confidence, attention and psychological skills.

Considering the above-mentioned studies, it can be concluded that improper dietary habits, especially unhealthy diets of women with higher body mass index due to lack of dietary knowledge, lead to fluctuations in the blood glycemic index which causes hormonal disorders. Therefore, insulin resistance, which develops as a result of this hormonal disorder, increases the habit of eating irregularly and at night, which contributes to obesity, the disease of our age. A study on the glycemic index reported that diets with a low glycemic index caused weight loss in overweight people and that it also provided improvements in lipid values by reducing body mass index values and body fat (Thomas et al., 2007). In their study, Morse et al. (2006) found that night eating was associated with glycemic index values. Moreover, the prevalence of night-eating syndrome was found to be high in patients who applied for bodyweight loss treatment (Aranoff et al., 2001; Lundgren et al., 2006).

In the present study, according to the answers of the overweight women to the questions, they were observed to feel the need to eat constantly. Therefore, especially overweight individuals need to make significant adjustments in their diets by including more foods with a low glycemic index and reducing their body fat ratios by making sports activities. Thus, the decrease in the fat rate improves the hormonal mechanisms and facilitates the use of nutrients in cells. In a study, it was determined that there were positive developments in blood lipids and serum insulin levels due to the decrease in body fat ratio (Zorba et al., 2011). It also has an effect on high weight oxygen saturation levels. In a study on obese people, significant improvements were found in oxygen saturation values depending on the decreased body fat ratio (Taşkın et al., 2017).

Therefore, recent studies have focused on dietary habits and it was observed that there has been an effort to offer proper dietary habits to consumers and to change their food preferences accordingly taking into account the "health" factor. Lack of dietary knowledge leads to the occurrence of several diseases. It is undoubted that lack of knowledge will result in malnutrition habits in individuals, and it is very difficult to overcome the established habits. Thus, having knowledge about nutrition and not gaining improper habits at all are the issues to be highlighted.

To conclude, it was observed that the irregularities in the eating habits of women having a sedentary lifestyle were generally caused by insufficient dietary knowledge. It is thought that dietary training may facilitate correcting improper eating habits and gaining healthy eating habits in sedentary women.

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