

The effect of self-esteem of obese and non-obese individuals on the body perception and the life quality

Obez ve obez olmayan bireylerin benlik saygısının beden algısı ve yaşam kalitesine etkisi

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SUMMARY

Aim: In this study, we planned to investigate the effect of self-esteem on the body perception and life quality of obese and non-obese individuals.

Materials and Methods: This is a descriptive-relational study. The sample of the study was determined as 200 people. The Introductory Questionnaire, Rosenberg Self Esteem Scale, Body Perception Scale, and 36-Item Short Form Survey (SF-36) were used to collect the data. In addition to descriptive statistical methods, ANOVA, Student t-tests, and correlation tests were used.

Results: Compared to obese people, self-esteem was found to be higher in non-obese people, and their body perceptions were higher. When SF-36 of obese and non-obese individuals were compared, there was a significant difference between subdimension scores of the physical function and social function.

Conclusion: It was found that the self-esteem of obese and non-obese individuals positively affects body perception and life quality.

Keywords: Body perception, life quality, obesity, self-esteem

ÖZET

Amaç: Bu çalışmada obez ve obez olmayan bireylerin benlik saygısının beden algısı ve yaşam kalitesine etkisinin araştırılması planlandı.

Materyal ve Metotlar: Tanımlayıcı-ilişkisel bir çalışmadır. Araştırmanın örneklemini 200 kişi olarak belirlenmiştir. Verilerin toplanmasında Tanıtıcı Anket, Rosenberg Benlik Saygısı Ölçeği, Beden Algısı Ölçeği ve 36 Maddelik Kısa Form Anketi (SF-36) kullanılmıştır. Araştırmada tanımlayıcı istatistiklere ek olarak ANOVA, Student t-test ve korelasyon kullanıldı.

Bulgular: Obez insanlarla karşılaştırıldığında, obez olmayan kişilerde benlik saygısı ve beden algısı daha yüksek bulundu. Obez ve obez olmayan bireylerin SF-36'ları karşılaştırıldığında, fiziksel işlev ve sosyal işlev alt boyut puanları arasında anlamlı bir fark vardı.

Sonuç: Obez ve obez olmayan bireylerin benlik saygısının beden algısını ve yaşam kalitesini olumlu yönde etkilediği bulunmuştur.

Anahtar kelimeler: Beden algısı, obezite, benlik saygısı, yaşam kalitesi

INTRODUCTION

One of the common health problems around the world is obesity, and it is becoming a global outbreak day by day. Currently, it is the second most important cause of preventable deaths after smoking (1). Obesity is defined by the World Health Organization (WHO) as abnormal or excess fat accumulation that poses a health risk. The measurement of obesity is performed through the body mass index (BMI), which is found by dividing a person's weight (kg) by the square of height (m²). A person with a BMI of 30 or more is considered obese (1,2).

According to the WHO 2022 report, more than 1 billion people worldwide are obese, of whom 650 million are in the adult group. WHO estimates that approximately 167 million people will become less healthy by 2025 because they are overweight or obese (2). According to Turkish Statistical Institute (TUIK) 2019 data, 35% of Turkish people are defined as overweight and 21.1% as obese (1,3).

Obesity is an important risk factor for several chronic diseases, including diabetes, cardiovascular diseases, cancer, and musculoskeletal diseases (1-3). These obesity-related diseases, the vast majority of which are chronic, negatively affect the functional status and life quality of individuals. Obesity negatively affects life quality as well as self-esteem (4-6).

Self-esteem is the individual's realistic self-evaluation and, as a result, acceptance that he/she has his/her own abilities and powers. Some studies have found that obese people have lower self-esteem than non-obese people (7-11). Self-esteem and body perception are related concepts and they are influenced by each other. Body perception is defined as how our body looks at ourselves in our minds (7,12). In the literature, it has been reported that the body perceptions of obese individuals were lower than those of normal weight (13-15).

Obesity reduces life quality due to decreased daily life activities, stress, and social and psychological factors for the individual (16). The literature defines a close relationship between obesity and life quality. In recent years, life quality has gained importance in clinical medicine and public health (17,18).

The relationship between obesity and self-esteem, body perception, and quality of life has not been adequately studied in the literature. Therefore, the relationship between self-esteem, body perception, and quality of life in obese and non-obese adults requires to be studied further. In this study, it was planned to investigate the impact of self-esteem on body perception, and the life quality of obese and non-obese individuals.

MATERIALS AND METHODS

Study design and sampling

The research was planned as a descriptive-relational study between April 2019 and September 2019 and was conducted at Firat University Hospital-General Surgery Clinic.

The population of the study consisted of all adult patients who were diagnosed as obese and non-obese and were admitted to the General Surgery Clinic of Firat University Hospital between May and July. The sample of the study was determined as 200 people (100 obese, 100 non-obese-control groups) with 0.3 effect size, 0.05 error level, 0.95 confidence interval, and 0.95 representative power using the G-Power software. The research group was selected by a random sampling method.

Data Collection Tools

The introductive Questionnaire, Rosenberg Self Esteem Scale, Body Perception Scale, and 36-Item Short Form Survey (SF-36) were used to collect the data.

Introductive Questionnaire Form

This form was developed by the researcher, consists of 7 questions that determine sociodemographic characteristics.

Rosenberg Self-Esteem Scale

This scale was developed by Rosenberg (1965) consists of a total of 63 items, using 10 questions aimed directly at measuring self-esteem according to Gutmann scaling technique. Çuhadaroğlu (1986) exerted the validity and reliability study of the scale in Turkey. Çuhadaroğlu found the validity coefficient of the scale as 0.71 (19-21). The Rosenberg Self-Esteem Scale (RSES) questions are answered as very wrong, wrong, true, and very true. The lowest score in the self-esteem sub-test is "0", while the highest score is "6". Those who score 0–1 points in the "Self Esteem" sub-test have "high self-esteem", those who score 2–4 have "medium self-esteem", and 5–6 points in the test express "low self-esteem". The higher scores imply low self-esteem, while the lower scores indicate high self-esteem (21). RSES is a self-notification scale of 63 multiple-choice questions. The scale consists of 12 sub-categories (self-esteem, continuity of self-concept, feeling trust towards people, sensitivity towards criticism, depressive affectivity, dreaminess, psychosomatic symptoms, feeling threatened in interpersonal relationships, degree of ability to participate in discussions, parent interest, relationship with father, and psychic isolation). Rosenberg noted that subscales can be used separately in research. In the study, the 'self-esteem' subscale consisting of the first 10 items of the scale was used to measure self-esteem. Scoring on this 10-point scale, which consists of five-point positive and five-point negative expressions, is performed in accordance with the Guttman scaling technique. The scale is a 4-point Likert type, and five of the questions are reverse-coded. According to the scale's self-assessment

system, items 1, 2, 4, 6, and 7 query positive self-assessment by scoring ranging from 3 to 0; Also, items 3, 5, 8, 9, 10 query negative self-assessment, and scoring ranges from 0 to 3. The total point range is between 0-30, the score from 15 to 25 shows that self-esteem is sufficient, and below 15 points show low self-esteem (21).

Body Perception Scale

The scale, developed by Secord and Jourand (1953), aims to measure how satisfied people are with the various parts of their bodies and various body functions (22). Hovardoğlu (1989) conducted a study of the validity and reliability of the scale in Turkey. The internal consistency coefficient of the entire scale is 0.95. The scale consists of 40 items, each of which questions an organ or part of the body (arm, leg, face) or a function (such as the level of sexual activity). There are scores ranging from 1 to 5 for each item on the scale, and the answer options are "I don't like it at all", "I don't like it", "I am undecided", "I like it" and "I like it very much", the total score of the scale varies between 40 and 200, the high score shows the high satisfaction level. The cut-off score of the scale is 135, and those with scores below 135 are defined as a group with low body perception (23).

36-Item Short Form Survey (SF-36)

The 36-Item Short Form Survey (SF-36) was developed by Ware et al. (1992). SF-36's validity and reliability studies in our country were carried out by Koçyigit et al. (1999). The internal consistency of the scale for reliability was examined and Cronbach alpha coefficients for each subscale were found to be between 0.73–0.76. Item total score correlations were calculated between 0.47-0.88 (25). SF-36 is a scale for self-assessment. The scale consists of 36 items and provides a measurement of eight dimensions of health, including physical function (10 substances), social function (2 substances), role restrictions due to physical problems (4 substances), role restrictions due to emotional problems (3 substances), mental health (5 substances), energy/vitality (4 substances), pain (2 substances) and general perception of health (5 substances). Questions are evaluated by taking into account the last four weeks. The fourth and fifth questions of the scale are answered as yes/no, while other questions are evaluated with Likert type (3, 5, and 6) ratings. The subscales assess health between 0 and 100, 0 indicates poor health and 100 indicates good health. The implementation of the scale takes 8-10 minutes (25).

Data Collection

The data were collected by the researcher in a face-to-face interview. Before the study, written permission was received from Firat University Scientific Research and Editorial Ethics Board (Decision No: 2019/24-12) and the

Head of The Department of General Surgery at Firat University Hospital. All participants were told they were free to participate and could withdraw from the study at any time without prejudice. All the involved patients gave written and oral informed consent before participating in this research. At all stages of the research, the articles of the Helsinki Declaration were taken into account.

Evaluation of Research Data

Statistical analysis of the data of the study was evaluated using the IBM SPSS 22 package software. In addition to descriptive statistical methods (frequency, percentage, mean, standard deviation), the normal distribution of the data was evaluated. ANOVA, Student t-test, and correlation tests were used in group comparisons. The statistical significance value was accepted as $p < 0.05$.

RESULTS

The mean age of obese and non-obese individuals was 37.15 ± 7.10 and 39.22 ± 5.81 , respectively. A statistically significant difference was found between the mean ages of the groups ($p=0.025$). Also, 53.0% ($n=106$) of the individuals who participated in the study were women and there was no significant difference between the groups in terms of gender ($p=0.202$), and 56.5% of individuals ($n=113$) were married and 35.0% ($n=70$) were high school graduates. There was no significant difference between any disease status of obese and non-obese individuals ($p=0.296$, Table 1).

Table 1. Comparison of the sociodemographic characteristics of obese and non-obese individuals ($n=200$)

	Obese Individuals n (%)	Non-Obese Individuals n (%)	<i>p</i>
Age	37.1 ± 7.10	39.2 ± 5.8	0.025
Gender			0.202
Woman	58 (29.0)	48 (24.0)	
Male	42 (21.0)	52 (26.0)	
Marital status			0.046
Married	49 (24.5)	64 (32.0)	
Single	51 (25.5)	36 (18.0)	
Education Status			0.000
Primary school graduate	7 (3.5)	33 (16.5)	
Secondary school graduate	25 (12.5)	19 (9.5)	
High school graduate	41 (20.5)	29 (14.5)	
University graduate	25 (12.5)	17 (8.5)	
Postgraduate	2 (1.0)	2 (1.0)	
Additional disease			0.296
Yes	38 (19.0)	30 (15.0)	
No	62 (31.0)	70 (35.0)	

The mean self-esteem score was 11.68 ± 6.33 for obese individuals and 16.22 ± 8.24 for non-obese individuals. When the status of obese and non-obese individuals was examined according to their self-esteem categories, 29.0% of the group ($n=58$) had low self-esteem, causing a

significant difference ($p < 0.001$, Table 2). The mean body perception score was 105.63 ± 21.32 for the obese group and 117.47 ± 21.99 for the non-obese group. Among the groups, body perception scores of 45.0% ($n=90$) of obese individuals were found to have a low relationship. There was a statistically significant relationship between the groups ($p < 0.001$, Table 2).

Table 2. Rosenberg self-esteem and body perception status of obese and non-obese individuals

	Obese Individuals		Non-Obese Individuals		p
	n	%	n	%	
Rosenberg SE Status					
SE Low (n=75)	58	29.0	17	8.5	0.000
SE High (n=125)	42	21.0	83	41.5	
Body Perception Status					
BP Low (n=157)	90	45.0	67	33.5	0.000
BP High (n=43)	10	5.0	33	16.5	

36-Item Short Form Survey (SF-36) scores of obese and non-obese individuals were compared, and there was a significant difference between the sub-scales of physical function and social function ($p=0.003$, $p=0.010$, Table 3).

Table 3. Score distribution of 36-item short form survey (SF-36) dimensions of individuals

Dimensions of 36-Item Short Form Survey (SF-36)	Obese Individuals (Mean±SD)	Non-obese individuals (Mean±SD)	p
Physical function	21.2±5.1	23.4±5.6	0.003 (t=-2.965)
Physical role difficulties	6.3±1.5	6.2±1.5	0.820 (t=0.227)
Pain	7.6±2.3	7.4±2.2	0.545 (t=0.607)
General health	15.0±3.6	15.9±4.0	0.078 (t=-1.774)
Vitality (Energy)	15.4±3.5	15.0±3.2	0.479 (t=0.710)
Social function	7.5±1.8	6.8±1.6	0.010 (t=2.614)
Emotional role difficulties	4.7±1.2	4.6±1.2	0.537 (t=0.618)
Mental health	20.1±4.0	19.8±3.9	0.546 (t=0.605)

Considering whether or not the participants were obese, there was a positive and statistically significant relationship between the variables "Rosenberg SE" and "Body perception" ($r = 0.207$, $p=0.003$). There was also a positive correlation between "Rosenberg SE Subgroups" and "Life Quality Scale Subgroups" based on whether participants were obese or not ($p < 0.05$, Table 4).

Table 4. Comparison of self-esteem of obese and non-obese with body perception and life quality

	Rosenberg SE	
	r	p
Body Perception Scale	0.207	0.003
36-Item Short Form Survey (SF-36)		
Physical function	0.394	0.000
Physical role difficulties	0.288	0.000
Pain	0.331	0.000
General health	0.322	0.000
Vitality (Energy)	0.236	0.001
Social function	0.226	0.001
Emotional role difficulties	0.186	0.008
Mental health	0.104	0.143

DISCUSSION

Obesity, which has significant effects on mortality and morbidity in developed and developing countries today, is one of the major health problems. Its prevalence is increasing day by day despite the effects of increasing social pressure on slimming, increased treatment opportunities, and easier access to treatment.

When the self-esteem of obese and non-obese individuals was examined, the difference between the groups was found to be statistically significant ($p=0.000$, Table 2). Studies have shown a negative relationship between Body Mass Index (BMI) and self-esteem (9,10). Another study found that obese individuals had lower self-esteem, and the value of self-esteem of obese people was associated with BMI, and self-esteem decreased as BMI increased (11).

Ahadzadeh et al. stated that there is a negative relationship between BMI and body perception scale scores and that the increase in BMI creates a negative sensation about the body and appearance (26). These results are in line with studies showing that obese individuals tend to have negative body perceptions and self-esteem.

When the groups were examined, it was found that there was a significant relationship between the body perception scores of individuals ($p=0.000$, Table 2). A linear association between BMI and perception of body perception dimensions was found by Ziser et al. (13). Weinberger et al. noted that obese participants rated their body appearance negatively, which was significantly higher than participants with normal weight (14).

In the systematic meta-analysis study, Chao investigated 7 research papers on whether weight loss interventions improve body image in obese/overweight individuals (15). The results of this systematic review/meta-analysis supported the idea that weight loss interventions can improve body perception. In the study of Hamurcu et al., it was observed that obese individuals have lower self-esteem and body perception compared to normal individuals (12).

The study found that there was a positive and statistically significant relationship between self-esteem and body perception variables based on whether or not the participants were obese ($p=0.003$, Table 4). Considering whether or not the participants were obese, there was also a significant positive relationship between self-esteem and life quality ($p<0.05$, Table 4). There are studies that found a negative relationship between obesity and life quality, and a decreased life quality as BMI increased (16,17). Kolotkin and Andersen reported that obese individuals had lower self-esteem and life quality compared to non-obese people (27). Our research is in line with the literature showing that obese individuals have a lower quality of life than non-obese individuals.

LIMITATIONS OF THE STUDY

The only limitation of this study is that it was carried out in a hospital. We recommend that it should be done in larger populations for the generalizability of the data.

CONCLUSION

It was found that the self-esteem of obese and non-obese individuals positively affects body perception and life quality.

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