

The effect of social support on anxiety, depression, stress and quality of life in obesity surgery

Quality of life in obesity surgery

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Abstract

Aim: Determining the effect of social support on anxiety, depression, stress and quality of life in patients undergoing bariatric surgery is important for the health of individuals. This study was conducted to determine the effect of social support on anxiety, depression, stress and quality of life after bariatric surgery. **Material and Methods:** This retrospective study included 155 patients who underwent bariatric surgery. Data were collected using the Introductory Information Form, Multidimensional Scale of Perceived Social Support (MSPSS), Depression, Anxiety, Stress Scale-21 (DASS-21), SF 12 Short Form of Quality-of-Life Scale.

Results: The mean total score of depression was 6.75 ± 5.76 , the mean total score of anxiety was 6.90 ± 5.38 , the mean total score of stress was 6.72 ± 5.91 , the mean total score of the MSPSS was 58.30 ± 22.54 , the mean total score of Physical Component Summary Score (PCSS) was 44.52 ± 8.75 , and the mean total score of Mental Component Summary Score (MCSS) was 49.95 ± 8.35 .

Discussion: There was a difference between the mean subscale scores of "stress" and "a special person" according to gender, between the total MSPSS scores and PCSS -12 subscale scores of the patients according to marital status, and between the mean scores of the PCSS -12 and MCSS-12 subscale scores of the individuals according to having a chronic disease, reflecting the quality of life. In improving the quality of life of patients undergoing bariatric surgery, it is important to understand the social support, physical and mental experiences of the patients in this process and to determine their quality-of-life levels.

Keywords

Obesity, Obesity Surgery, Social Support, Life Quality

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Introduction

Obesity is a rapidly increasing public health problem worldwide. This problem has serious consequences due to comorbidities. Obesity negatively affects all physical and mental aspects of the body. In addition to comorbid diseases, it can cause anxiety and depression and negatively affect self-esteem and quality of life [1-4].

In addition to somatic consequences, obesity is also known to have a negative impact on patient well-being. It is known that people with obesity often suffer from social problems, as well as stigmatization, depression, anxiety, eating disorders and body image [3, 5].

Studies have shown that bariatric surgery is associated with improved mental health, mental well-being and quality of life. At the same time, psychological and social support has been shown to significantly affect weight loss and mental health [4]. For this reason, many studies on obesity treatment have been conducted all over the world. Bariatric surgery has been shown to be the gold standard for the fastest, permanent and long-term treatment of obesity [6]. Obesity surgery not only provides weight loss but also helps to improve mental health [7].

Increasing obesity in a globalizing world brings with it anxiety, stress and depression. For this reason, new studies are needed to reveal the psychosocial impact of obesity. In our study, we aimed to determine the effect of social support on anxiety, depression, stress and quality of life after bariatric surgery.

Material and Methods

Design and Sample of the Study

The study included patients who underwent bariatric surgery in a private hospital in Samsun between 01.01.2020-01.12.2022. Data were collected from all patients willing and voluntarily to participate in the study between December 2022 and included in the study. In the retrospective study, patients were contacted by telephone and asked the survey questions. After obtaining the verbal consent of the individuals who underwent bariatric surgery, an introductory information form and scale questions were applied to the individuals. Multidimensional Perceived Social Support Scale (MSPSS), Depression, Anxiety, Stress Scale-21 (DASS-21), SF 12 Short Form of Quality of Life Scale were applied. The study included patients who were ≥ 18 years of age, had undergone bariatric surgery, could read and write, and did not have moderate or severe psychosis and dementia.

Data Collection Tools and Variables

Descriptive Information Form consists of questions such as age, marital status, height, weight, and BMI.

Multidimensional Perceived Social Support Scale (MSPSS): The scale was developed by Zimet et al. in 1988 and its validity and reliability in Turkish were validated by Eker and Arkar in 1995 (Eker & Arkar, 1995; Zimet, Dahlem, Zimet, & Farley, 1988). The scale consists of 12 Likert-type items. The scale has three subscales reflecting sources of support: family, friends and special person support. The lowest score that can be obtained from the subscales is 4 and the highest score is 28. The total scale score is obtained by summing the scores obtained from the subscales and the lowest score is 12 and the highest score is 84. A high score obtained from the scale indicates high perceived social support [8].

Depression, Anxiety, Stress Scale-21 (DASS-21) was validated by Sarıçam et al. The 21-item scale is divided into three sub-dimensions [9]. Depression, Anxiety and Stress are evaluated separately. In clinical samples, Cronbach's alpha internal consistency reliability coefficient was $\alpha=0.87$ for the depression subscale, $\alpha=0.85$ for the anxiety subscale and $\alpha=0.81$ for the stress subscale. In our study, the scores for depression, anxiety and stress were $\alpha=0.93$, $\alpha=0.94$ and $\alpha=0.96$, respectively.

SF-12 Short Form of Quality-of-Life Scale: SF-12 consists of 8 subscales and 12 items, including physical functioning (2 items), physical role (2 items), body pain (1 item), general health (1 item), energy (1 item), social functioning (1 item), emotional role (2 items) and mental health (2 items). Items related to physical and emotional role are answered as (yes or no), while other items have Likert-type options ranging between 3 and 6. The Physical Component Summary Score -12 is obtained from general health, physical functioning, physical role and body pain sub-dimensions, whereas the Mental Component Summary Score -12 is obtained from social functioning, emotional role, mental health and energy sub-dimensions. Both the Physical Component Summary Score -12 and Mental Component Summary Score-12 scores ranged from 0 to 100, with a higher score representing better health [10].

Statistical analysis

Number, percentage, mean, standard deviation, median, minimum and maximum statistics were used to analyze the quantitative data. In addition, Cronbach's alpha statistics were performed for the scale scores. For quantitative measurements, independent two-sample comparisons were made with the Welch t-test. Independent two-multiple sample comparisons were performed by one-way analysis of variance (ANOVA), and in cases where homogeneity of variance was not achieved, the Welch ANOVA test was used. Post Hoc tests were performed to determine the differences between means when ANOVA test results were significant. When homogeneity of variance was ensured, pairwise comparisons were made with the Tukey HSD test, and when homogeneity of variance was not ensured, this was done with Games-Howell tests. A significance level of 0.05 was accepted. Statistical analyses were performed using the SPSS (version 26) program.

Ethical Approval

Written permission for the study was obtained from Sinop University's Human Research Ethics Committee on 17.11.2022 under decision number 2022/190-218. The purpose of the study was explained by the researchers before data collection and verbal consent was obtained for participation. The study was conducted in accordance with the Declaration of Helsinki.

Ethical Approval

Ethics Committee approval for the study was obtained.

Results

A total of 155 people were included in the study. Among the participants, 55.48% were female, 48.39% were single and approximately 58% had higher education. The mean age of the participants was 40.41 ± 9.71 years and the mean BMI was 23.84 ± 2.58 . In addition, 60% of the participants had chronic diseases (Table 1).

Descriptive statistics related to scale scores are given in Table

2. The mean total score of the participants was 58.30±22.54, the mean total score of depression was 6.75±5.76, the mean total score of anxiety was 6.90±5.38, the mean total score of stress was 6.72±5.91, the mean total score of PCSS was 44.52±8.75, and the mean total score of MCSS was 49.95±8.35 (Table 2).

When the scale scores were compared with gender groups, the mean score of men (46.36±5.43) was higher than the mean score of women (43.03±10.49) in terms of PCSS -12; the mean score of men (51.92±5.82) was higher than the mean score of women (48.36±9.67) in terms of MCSS-12; the mean score of men (21.35±5.22) was higher than the mean score of women (18.55±8.36) in terms of friend dimension; the mean score of the private person sub-dimension was statistically significantly higher for men (21.26±5.19) than for women (18.02±8.84) as

well as that of MSPSS (62.94±15.09) compared to women (54.58±26.59) (p=0.012; p=0.005; p=0.012; p=0.005 and p=0.015, respectively) (Table 3).

When the married and single groups were compared in terms of scale scores, the mean score of the married group for anxiety (8.1±6.33) was significantly higher than the mean score of the single group (5.63±3.76), and the mean score of the married group for stress (8.14±7.12) was significantly higher than the mean score of the single group (5.2±3.75) (p=0.003 and p=0.002, respectively). The mean score of MCSS-12 (48.68±9.95) was significantly higher than the mean score of singles (51.3±5.98); the mean score of the friends sub-dimension was significantly higher for the married (18.13±8.38) than for the singles (21.57±5.3); the mean score of the private person sub-dimension was statistically lower in the married group (18.26±9.4) than among singles (20.75±4.73) and the total score from MSPSS was statistically lower in the married group (54.33±27.66) than among singles (62.55±14.35) (p=0.047; p=0.003; p=0.038 and p=0.021, respectively) (Table 3). When those with and without chronic disease were compared in terms of scale scores, the mean MCSS-12 score of those with chronic disease (52±7.26) was statistically significantly higher than that of those without chronic disease (46.87±8.97), while the mean PCSS-12 score of those with chronic disease (43.19±10.32) was statistically lower than that of those without chronic disease (46.51±5.09) (p<0.001 and p=0.009, respectively) (Table 3).

Table 1. Socio-demographic characteristics of the participants.

	n	%
Gender		
Female	86	55.48
Male	69	44.52
Education		
Primary school	14	9.3
Middle school	7	4.52
High school	44	28.39
Bachelor's Degree	85	54.84
Graduate	5	3.23
Marital status		
Single	75	48.39
Married	80	51.61
Chronic disease		
No	62	40
Yes	93	60
	Mean±SD	Median (Min-Max)
Age	40.41±9.71)	40 (23-59)
Height	1.68±0.08)	1.65 (1.55-1.84)
Weight	67.3±10.38)	64 (50-88)
BMI	23.84±2.58)	23.15 (18.59-30.11)
Weight (Old)	111.73±18.66)	100 (87-144)
BMI (Old)	39.55±4.63)	38.37 (32.08-54.2)

Table 2. Descriptive statistics on scale scores.

	Ave	Std Deviation	Median	Min	Max	CA
Depression	6.75	5.76	6.00	0.00	20.00	0.939
Anxiety	6.90	5.38	5.00	1.00	18.00	0.941
Stress	6.72	5.91	6.00	1.00	20.00	0.960
PCS12	44.52	8.75	45.45	26.19	58.03	0.853
MCS12	49.95	8.35	50.19	22.20	62.11	0.787
Family	19.5	7.90	22.00	5.00	28.00	0.958
Friend	19.79	7.25	22.00	4.00	28.00	0.957
Private Person	19.46	7.59	22.00	4.00	28.00	0.957
MSPSS Total	58.30	22.54	66.00	13.00	84.00	0.986

CA: Cronbach Alpha

Table 3. Comparison of scale scores.

	Female (n=86)	Male (n=69)	t	p	Single (n=75)	Married (n=80)	t	p	No CD (n=62)	Yes CD (n=93)	t	p
Depression	6.87±6.92	6.59±3.91	0.315	0.753	6.03±3.97	7.43±7	-1,542	0.126	6.65±5.75	6.82±5.8	-0.182	0.856
Anxiety	7.4±6.53	6.29±3.39	1,359	0.176	5.63±3.76	8.1±6.33	-2,978	0.003	6.47±5.84	7.19±5.05	-0.799	0.426
Stress	7.07±7.3	6.28±3.49	0.890	0.375	5.2±3.75	8.14±7.12	-3,242	0.002	6.18±6.32	7.08±5.63	-0.905	0.367
PCS12	43.03±10.49	46.36±5.43	-2,548	0.012	45.75±4.95	43.36±11.11	1,744	0.084	46.51±5.09	43.19±10.32	2.66	0.009
MCS12	48.36±9.67	51.92±5.82	-2,832	0.005	51.3±5.98	48.68±9.95	2,008	0.047	46.87±8.97	52±7.26	-3,753	0
Family	18.01±9.61	20.33±4.77	-1,96	0.052	20.23±4.52	17.94±9.99	1,856	0.066	18.47±6.89	19.43±8.52	-0.774	0.440
Friend	18.55±8.36	21.35±5.22	-2,55	0.012	21.57±5.3	18.13±8.38	3,081	0.003	20.18±6.93	19.54±7.48	0.545	0.586
Private Person	18.02±8.84	21.26±5.19	-2,841	0.005	20.75±4.73	18.26±9.4	2,098	0.038	19.13±6.66	19.69±8.18	-0.467	0.641
MSPSS Total	54.58±26.59	62.94±15.09	-2,463	0.015	62.55±14.35	54.33±27.66	2,344	0.021	57.77±20.23	58.66±24.06	-0.246	0.806

Discussion

Social relationships and social support in obesity have positive effects on the health of individuals [11]. In our study, multidimensional perceived social support scale sub-dimension and total scores were above average. Social ties, especially close ties between friends and spouses, are an important factor in reducing obesity [11]. Obesity has an important place in the socialization process [12]. Interventions can positively affect individuals' daily life activities and social relations [2].

We determined that depression and anxiety scores in the study were moderate, and the stress level was normal. Depression, anxiety and social isolation can be seen in obese patients, and as a result, their quality of life can be affected [1, 3]. A study has shown that anxiety disorders and depressive symptoms are more common in obese individuals compared to healthy individuals [13]. Surgical intervention in obesity patients was found to be effective in perceived depression, anxiety and stress symptoms [4]. At the same time, depression and eating disorders have been found to affect the quality of life [2].

In our study, the mean scores from the total quality of life, physical and mental component subscales were found to be close to the average. Poor quality of life is the primary factor in patients' decision to undergo bariatric surgery. Improvements in patients' quality of life and social life in the postoperative period support this [14]. Bariatric surgery has a significant impact on the long-term assessment of the quality of life [5]. Improvements have been observed in the psychological, physical and social relations aspects of individuals' lives in the postoperative period [15].

In our study, men had higher scores in the physical dimension of quality of life and perceived social support sub-dimension (friends and special person) compared to women. Psychosocial problems may accompany the treatment process in individuals undergoing bariatric surgery [1]. One study showed a relationship between emotional eating and quality of life in women. Women who did not gain weight were reported to have higher physical quality of life scores [16]. It is essential to follow up patients for a longer period of time before and after surgery in order to obtain a more realistic assessment of the quality of life [16]. Obesity surgery can play an effective role in the mental health and socialization of patients. Gender and weight loss are important variables in psychological health and important determinants of depression in patients with obesity [4].

In our study, anxiety and stress scores of married individuals were found to be high. At the same time, the mental quality of life score, total multidimensional perceived social support, friend and special person sub-dimension scores of married individuals were low. This result is in parallel with the literature [4]. A study has shown that the family support and assistance received by individuals is effective in making them feel good about themselves [1].

In our study, it was determined that individuals with chronic diseases had high mental component scores and low physical component scores for quality of life. Both physical and mental quality of life scores are thought to be associated with other diseases in relation to weight loss [16].

Conclusion

This present study determined that social support, depression,

anxiety, stress and quality of life scores were affected in individuals who underwent bariatric surgery. Determining the level of social support provided to patients undergoing bariatric surgery and understanding the physical and psychological experiences of individuals are decisive in improving their quality of life. The paucity of studies on this topic provided the starting point for our study.

Consequently, it may be recommended to conduct qualitative studies to better understand patients and increase the number of quantitative studies to contribute to the literature.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

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