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Title: Perceived Social Support and Social Appearance Anxiety After Bariatric Surgery

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Abstract

Background: Patients undergoing bariatric surgery may need much more psychological and social support from their family and friends to maintain weight loss, recovery, and cope with social appearance anxiety. This study aims to determine the relationship between perceived social support and social appearance anxiety after bariatric surgery.

Methods: This descriptive, correlational study was conducted between October and December 2022 in Turkey through voluntary response sampling technique. A total of 121 bariatric surgery patients generated the sample. The Multidimensional Scale of Perceived Social Support (MSPSS) and the Social Appearance Anxiety Scale (SAAS) were used for data collection. Descriptive statistics, Mann Whitney U and Kruskal Wallis tests were performed to analyze the data. Statistical Package for the Social Sciences for Windows version 21.0. was used for data analysis. A p value <0.05 was considered statistically significant.

Results: The average total score of perceived social support of the patients was 60.28 ± 19.62 and the mean scores of family, friends, and significant others regarding the source of the support were 24.88 ± 7.19 , 19.70 ± 7.06 and 18.69 ± 8.69 , respectively. The average total score of social appearance anxiety was 38.53 ± 16.95 . There was a statistically non-significant negative correlation between total scores of perceived social support and social appearance anxiety ($\rho: -0.102$ p: 0.27). The social appearance anxiety total score differed according to gender, preoperative, and postoperative body mass index ($p < 0.05$).

Conclusion: The results showed that perceived social support does not affect social appearance anxiety after bariatric surgery. Multicenter studies with more homogeneous samples in terms of time elapsed after bariatric surgery are recommended.

Keywords: Bariatric surgery, Perceived social support, Physical appearance, Anxiety

Highlights

- Bariatric surgery is considered as a permanent treatment for obese people.
- Bariatric surgery patients tend to experience more social appearance anxiety levels than those undergoing other types of surgeries.
- No significant correlation was found between perceived social support and social appearance anxiety after bariatric surgery.

Plain Language Summary

In addition to treating the complications of obesity, bariatric surgery is performed to eliminate patients' dissatisfaction with body image and self-confidence. Recovery and weight loss after bariatric surgery is a challenging process. During this period, patients experience social appearance anxiety and may need more social support. However, the findings of this study revealed no meaningful association between perceived social support and social appearance anxiety after bariatric surgery.

Introduction

Obesity is a disease that needs to be treated for reasons such as psychosocial problems, additional diseases, and high mortality rates. Although weight loss could be achieved by non-surgical methods, it is known that 66% of patients regain weight in 24 months. Therefore, bariatric surgery is generally considered as an everlasting treatment for the complications of obesity (Hilgendorf *et al.*, 2021).

It is known that a total of 507,298 bariatric or metabolic surgery procedures are performed annually and Italy, United Kingdom, and Sweden are the three countries with the most reported bariatric or metabolic surgery procedures, respectively. It is noted that 1,878 bariatric or metabolic surgery procedures have been performed in Turkey in 2021 (Brown *et al.*, 2021). It is estimated that a total of 198,651 bariatric surgery procedures were carried out in 2020 in the United States (American Society for Metabolic and Bariatric Surgery, nd).

One of the most important reasons why patients prefer bariatric surgery is to eliminate dissatisfaction with body image and improve self-esteem (Hart *et al.*, 2008; Hilgendorf *et al.*, 2021). Having a body dissatisfaction is associated with experiencing social appearance anxiety (SAA) (Ayhan *et al.*, 2022). SAA is “*the anxiety about physical visual aspect and concerns about others' evaluation*” (Hart *et al.*, 2008). People suffering from SAA have concerns about being negatively judged regarding their bodies visual aspect (Doori *et al.*, 2022).

Studies have reported that patients feel reborn, increase self-confidence and self-esteem in parallel with weight loss in the postoperative period. In a way, this situation reflects the effect of changes in body image. People with improved body image feel more positive. But this process takes a long time. In addition, the occurrence of sagging skin in various parts of the patient's body due to weight loss may cause patients to choose to be obese again by experiencing psychosocial problems (Hart *et al.*, 2008; Hilgendorf *et al.*, 2021). Therefore, bariatric surgery patients tend to experience more SAA levels than patients undergoing other types of surgeries (İnanır and Akkuş, 2022).

Bariatric surgery is a highly prevalent surgical procedure with a high incidence of complications. It is imperative that patients be subjected to rigorous monitoring throughout the postoperative period. This is necessary to guarantee that they lose weight in a safe and controlled manner and to forestall the occurrence of complications. Changes in eating patterns, self-esteem, body image, and interpersonal relationships that occur after bariatric surgery and experiencing SAA can negatively affect the individual's quality of life in the long run (Hart *et al.*, 2008; Atik *et al.*, 2015; Hilgendorf *et al.*, 2021).

Since social support is an effective coping strategy, these effects can be aggravated without it (Atik *et al.*, 2015; Ozkaraman *et al.*, 2015; Ayhan *et al.*, 2022). Social support is a psychological and social network that provides individuals with psychological and tangible resources to confront and cope with the problems that they may encounter in their lives (Doori *et al.*, 2022). It refers to the amount of affection, attention, and support received from family members, friends, and others (Hassani *et al.*, 2021). In accordance with the tenets of social support theory, the quality and quantity of social connections and relationships are of paramount importance for the well-being of individuals (Leahy-Warren, 2014). It is stated that social support provides the individual with a healthy coping, reduces the sense of hopelessness and depression, increases personal efficacy in times of stress, and also provides emotional balance, life satisfaction and psychological well-being (Atik *et al.*, 2015). It can be reasonably deduced that individuals may enhance their overall health outcomes and augment their capacity to cope with stress by cultivating robust social connections and relationships. The theory emphasizes that social support can come from a variety of sources. The sources can be classified into four principal categories: informational, emotional, instrumental, and appraisal support. It is important to note that the effectiveness of social support can vary depending on the individual's personality, cultural background, and social environment (Leahy-Warren, 2014).

Perceived social support (PSS) can be defined as a cognitive appraisal of the reliability of social support from others (Leahy-Warren, 2014). It is concluded that PSS plays a more significant role in predicting health and well-being outcomes than the actual receipt of support (Leahy-Warren, 2014; Cobo-Rendón *et al.*, 2020), because it has been demonstrated to influence the manner in which individuals perceive themselves and their surrounding environment (Cobo-Rendón *et al.*, 2020).

Patients undergoing bariatric surgery need much more psychological and social support from their formal and informal caregivers to maintain weight loss, recovery, and cope with SAA (Atik *et al.*, 2015). Data from several sources have identified that increased social support is associated with lower SAA (Ozkaraman *et al.*, 2015; Niroomand *et al.*, 2016; Spatuzzi *et al.*, 2016). Although there are studies on the anxiety level, self-esteem, and social support resources of bariatric surgery patients, studies reporting the relationship between the social support perceived by the patients and their SAA is lacking (Conceição *et al.*, 2020; Hilgendorf *et al.*, 2021; İnanır and Akkuş, 2022). The purpose of this study is to determine the relationship between PSS and SAA of patients after bariatric surgery in Turkey.

Materials and Methods

This descriptive and correlational study was conducted from October to December 2022 at an obesity and metabolic surgery unit of a university hospital in Turkey. The study population consisted of 600 patients who underwent bariatric surgery in that hospital. Inclusion criteria were patients who underwent obesity and metabolic surgery, were older than 18 years, and consented to participate. Exclusion criterion was undergoing surgery less than six months before study. The sample of the study consisted of 121 patients. The sample size was determined by the result of a priori power analysis using the G-Power 3.1 statistical program. In the power analysis based on the data in the research conducted by Hilgendorf et al., the type 1 error was 0.05, the power of the test was 0.90, while the required minimum sample was determined as 98 (with a 5% margin of error) (Hilgendorf *et al.*, 2021). Considering the potential of missing data, the minimum sample size was estimated at 108.

In this study, data were collected using the Data Collection Form, the Multidimensional Scale of Perceived Social Support (MSPSS), and the Social Appearance Anxiety Scale (SAAS). *The Data Collection Form* consisted of questions to determine the socio-demographic characteristics of the patients (i.e. gender, marital, educational and employment status), their chronic diseases, and the time elapsed after bariatric surgery.

MSPSS is a self-reported scale. It is composed of 12 items grouped into 3 sub-dimensions of family, friends and significant others (Zimet *et al.*, 1990; Eker *et al.*, 2001). Each sub-dimension consists of 4 items and the items are scored on a 7-point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). The scores of sub-dimensions and total scale are evaluated by summing up the responses to all the items. The range of total scores vary from 12 - 84. Higher scores denote high perceived support. The Cronbach's alpha value of the original scale is 0.88 (Zimet *et al.*, 1990). The Cronbach's alpha value of the Turkish version of MSPSS is 0.89 (Eker *et al.*, 2001). In this study, Cronbach's alpha of the MSPSS was 0.92. SAAS consists of 16 items. The items are scored on a 5-point Likert scale ranging from 1 (not suitable at all) to 5 (completely suitable). The total score ranges from 16 - 80 with higher scores indicating higher appearance anxiety. The validity and reliability studies of the scale were conducted in three different samples of university students and the internal consistency coefficients of the scale were obtained as 0.94, 0.95 and 0.94 for the three samples (Hart *et al.*, 2008). The Cronbach's alpha for the Turkish version of SAAS was 0.93 (Doğan, 2010). In this study, Cronbach's Alpha of the SAAS was 0.95.

After obtaining the necessary permissions to carry out the study, the data collection tools were published through a web-based survey. The subjects were contacted using the phone number information recorded in their files when bariatric surgery was performed. In this regard, a nurse in the research team called the eligible patients one by one and invited them to participate in the study. Phone calls were made between 09:00 and 17:00 on working days. Patients that could not be reached in the first call were called again on another day. An invitation letter containing the link of the study was sent to the patients who accepted to participate in the study.

The study data were analyzed using the Statistical Package for the Social Sciences for Windows version 21.0 (IBM SPSS Inc, Armonk, NY). Descriptive data on patients were expressed as frequency, percentages, and mean values. For numerical variables, the fit to the normal distribution of the data was assessed using the Shapiro-Wilk test. Mann Whitney U and Kruskal Wallis tests were performed to analyze nonparametric data. Also, Spearman's rho correlation coefficient (ρ) were used to examine the associations between variables. For these results, a p value <0.05 was considered statistically significant.

Results

In this study, the average age of the patients was determined as 39.07 ± 9.02 (min: 22, max: 67) years. The average body mass index (BMI) of the patients was 44.61 ± 6.60 (min: 26.3 max: 74.23) kg/m^2 in the preoperative period and 27.76 ± 4.58 (min: 20.28 max: 42.97) kg/m^2 in the postoperative phase. The patients had undergone bariatric surgery a median of 36 (Interquartile range [IQR]:157) months ago. The distribution of patients according to their sociodemographic characteristics is reported in Table 1.

Table 1. Sociodemographic characteristics of the patients

Characteristics	N	%
Gender		
Male	36	29.8
Female	85	70.2
Marital status		
Single	33	27.3
Married	88	72.7
Education Status		
Primary school	12	9.9
Secondary school	11	9.1
High school	43	35.5
Graduate	55	45.5
Employment status		
Employed	82	67.8
Unemployed	39	32.2
Comorbidities		
Yes	44	36.4
No	77	63.6
Chronic disease		
Cardiovascular disorder	3	2.5
Neurologic disorders	4	3.3
Chronic obstructive pulmonary disease	6	5.0
Endocrine disorders	12	9.9
Hypertension	13	10.7
Diabetes	22	18.2
Smoking		
Yes	64	52.9
No	57	47.1

The mean MSPSS score of the patients was 60.28 ± 19.62 (min: 12 max: 84). The mean score of family, friends, and significant others regarding the source of the support was 24.88 ± 7.19 , 19.70 ± 7.06 and 18.69 ± 8.69 , respectively. The mean SAAS score was 38.53 ± 16.95 (min: 16 max: 76). The distribution of MSPSS and SAAS mean scores by personal characteristics is given in Table 2. The SAAS total score of male patients was significantly higher than that of females ($p < 0.05$). There was a significantly positive relationship between preoperative BMI, postoperative BMI and SAAS total score ($p < 0.05$) (Table 2).

Table 2. Distribution of Perceived Social Support and Social Appearance Anxiety Mean Scores by Personal Characteristics

Characteristics	PSS Total Score	SAA Total Score
	M±SD	M±SD
Gender		
Male	64.53±15.35	44.64±18.63
Female	58.48±20.99	35.94±15.60
	U: 1299.00 p: 0.19	U: 1103.50 p: 0.02
Marital status		
Single	55.36±22.30	41.91±15.88
Married	62.13±18.31	37.26±17.25
	U: 1191.00 p: 0.13	U:1167.00 p: 0.10
Education status		
Primary school	49.25±24.56	36.58±15.51
Secondary school	59.73±20.05	43.00±19.89
High school	58.21±20.38	39.84±14.74
Graduate	64.42±16.93	37.04±18.41
	F: 4.666 p:0.20	F: 2.302 p: 0.51
Employment status		
Employed	62.28±19.28	38.38±17.76
Unemployed	56.08±19.90	38.85±15.33
	U: 1282.50 p: 0.08	U: 1519.50 p: 0.66
Comorbidities		
Yes	60.95±20.55	39.32±18.56
No	59.90±19.19	38.08±16.08
	U: 1645.50 p: 0.79	U: 1653.00 p: 0.83
Smoking		
Yes	57.95±20.40	35.70±15.22
No	62.89±18.53	41.70±18.32
	U: 1560.00 p: 0.17	U: 1514.50 p: 0.11
	ρ, p	ρ, p
Age	-0.096, 0.30	0.067, 0.47
Preoperative BMI	0.013, 0.89	0.203, 0.03
Postoperative BMI	-0.0128, 0.16	0.282, 0.002
Time elapsed after surgery	0.166, 0.07	-0.049, 0.60

BMI: Body Mass Index, U: Mann Whitney U test, F: Kruskal Wallis Test, ρ: Spearman's Rho Correlation Coefficient

There was a negative relationship between the social support perceived by the patients after bariatric surgery and their SAA, but this relationship was not statistically significant (ρ : -0.102 p: 0.27) (Table 3).

Table 3. The Correlation between Social Appearance Anxiety and Perceived Social Support

	PSS Total Score	Family Sub-dimension	Friends Sub-dimension	Significant Others Sub-dimension
SAA Total Score				
ρ	-0.102	-0.065	-0.054	-0.069
p	0.27	0.48	0.55	0.45

ρ : Spearman's Rho Correlation Coefficient

Discussion

Social support is an important component for patients to be successful in the lifestyle changes, especially in eating habits which they need to make in order to achieve weight management after bariatric surgery (Geraci *et al.*, 2014; Hilgendorf *et al.*, 2021). Also it is associated with improved post-surgery results and decreased levels of stress (Geraci *et al.*, 2014; Hilgendorf *et al.*, 2021). In this study, the mean PSS score of the patients was 60.28 ± 19.62 . This result is similar to the results of Conceição and colleagues' study. They noted that PSS total score was 59.14 after bariatric surgery (Conceição *et al.*, 2020). A current study reported similar PSS level (68.70 ± 18.18) six months after bariatric surgery (Yildiz and Karagözoğlu, 2021). Similar levels of PSS have been reported among cancer patients (58.48 ± 17.84) (Erdoğan and Cömert, 2015), oral cancer patients (60.17 ± 11.34) (Gao *et al.*, 2019), patients undergoing hemodialysis treatment (60.36 ± 7.32) (Atik *et al.*, 2015) and patients suffering from burn (68.34 ± 18.08) (Ayhan *et al.*, 2022).

The mean SAA score of the patients was 38.53 ± 16.95 . Accordingly, it can be argued that the SAA of the patients in our study group is below the moderate level. In Inanir and Akkuş study, the mean SAA score after bariatric surgery was 37.62 ± 16.48 among women and 33.8 ± 15.87 among men (İnanır and Akkuş, 2022). In agreement with our findings, similar levels of SAA scores have also been reported among women with breast cancer (34.30 ± 9.35) (Ozkaraman *et al.*, 2015), people with facial palsy (36.2 ± 16.3) (Siemann *et al.*, 2023), patients suffering from burn (39.38 ± 17.71) (Ayhan *et al.*, 2022), overweight young girls (43.36 ± 17.07) (Unver *et al.*, 2022), and patients undergoing hemodialysis treatment (45.90 ± 10.96) (Atik *et al.*, 2015).

Surprisingly, in this study the total SAA score of men was higher than those of women ($p < 0.05$). This result is contrary to previous studies which have suggested that male sex is associated with

lower SAA scores (Atik *et al.*, 2015; Siemann *et al.*, 2023). However, Ayhan *et al.* (Ayhan *et al.*, 2022) demonstrated no significant differences between SAA scores and gender. It seems that the difference observed in the present study may be due to the composition of the sample that included bariatric surgery patients. The results of this study demonstrated that preoperative and postoperative BMI were positively correlated with the total score of SAA ($p < 0.05$). Inanir and Akkuş (2022) also reported a significant weak positive correlation between the preoperative and postoperative BMI of bariatric surgery patients and their SAA score. In the present study, the PSS and SAA scores of the patients were inversely correlated. In other words, the SAA scores were found to increase with a decreasing in PSS scores; However, this correlation was not statistically significant ($p: -0.102$ $p: 0.27$). Ozkaraman and colleagues (Ozkaraman *et al.*, 2015) reported a negative association between PSS and SAA among women with breast cancer; However, this correlation was not statistically significant which is consistent with the present study results. According to the results of another study, the relationship between PSS and the evaluation of physical appearance was not significant (Gila *et al.*, 2005). Similarly, a previous research indicates that social support does not affect SAA of the patients suffering from burn (Ayhan *et al.*, 2022). These results pointed out that PSS is not effective in helping patients having severe appearance change to cope with SAA.

Some diseases or treatment modalities lead to the transformation of patients' perception of their own body and negatively affect body image which in turn result in psychological issues including depression, SAA, and low self-esteem (İnanir and Akkuş, 2022). It has been shown that prostate cancer patients with good body image tend to maintain lower social support than their counterparts (Scandurra *et al.*, 2022). It has been reported that there is a direct relationship between PSS and body image in women with breast cancer (Yilmazer *et al.*, 1994 ; Spatuzzi *et al.*, 2016; Wu *et al.*, 2021; Doori *et al.*, 2022). Similarly, burn patients who received more social support were reported to focus less on their appearance and were more satisfied with their body image (Hodder *et al.*, 2014; Niroomand *et al.*, 2016). A significant relationship was also reported between body satisfaction and PSS among patients suffering from multiple sclerosis (Ghodusi *et al.*, 2013). There are some limitations to be noted in this study. This is a single center study, consequently, the results cannot be generalized to all patients undergoing bariatric surgery. Also, the study was conducted in a bariatric surgery center in the eastern region of Turkey, so the results may have been influenced by the culture of the area. Also, the time elapsed after surgery (6 to 157 months) was heterogeneous, which could have affected the results.

Conclusions

The findings of this study revealed no statistically significant relationship between PSS and SAA after bariatric surgery. Considering the limitations of the study which could have been affected the results, multicenter studies with more homogeneous samples in terms of time elapsed after bariatric surgery are recommended.

Ethical Considerations

Complying with ethical guidelines

The present study was approved by non-interventional clinical Ethics Committee of Izmir Bakircay University (Date=14.09.2022 Number=700). The detailed information was provided in the introduction part of the data collection form. In accordance with the design of the study, online consent was obtained from the patients.

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References

American Society for Metabolic and Bariatric Surgery (no date) *Estimate of Bariatric Surgery Numbers, 2011-2020*. Available at: <https://asmbs.org/resources/estimate-of-bariatric-surgery-numbers>.

Atik, D. *et al.* (2015) 'The Effect of Perceived Social Support by Hemodialysis Patients on their Social Appearance Anxiety', *Medicine Science*, 4(2), pp. 2210–2223.

Ayhan, H. *et al.* (2022) 'Investigation of the relationship between social appearance anxiety and perceived social support in patients with burns', *Burns*. Elsevier Ltd and International Society of Burns Injuries, 48(4), pp. 816–823. doi: 10.1016/j.burns.2021.08.020.

Brown, W. A. *et al.* (2021) *The IFSO Global Registry IFSO Global Registry Report, 6th IFSO Global Registry Report*. United Kingdom: Dendrite Clinical Systems Ltd Fifth.

Cobo-Rendón, R. *et al.* (2020) 'Perceived Social Support and Its Effects on Changes in the Affective and Eudaimonic Well-Being of Chilean University Students', *Frontiers in Psychology*, 11(December), p. 590513. doi: 10.3389/fpsyg.2020.590513.

Conceição, E. M. *et al.* (2020) 'Perceived social support before and after bariatric surgery: association with depression, problematic eating behaviors, and weight outcomes', *Eating and Weight Disorders*, 25(3), pp. 679–692. doi: 10.1007/s40519-019-00671-2.

Doğan, T. (2010) 'Adaptation of the social appearance anxiety scale (SAAS) to Turkish: a validity and reliability study', *H. U. Journal of Education*, 39, pp. 151–159.

Doori, Z. *et al.* (2022) 'Investigation of the relationship between perceived social support and body image in women with breast cancer', *Middle East Current Psychiatry*. Springer Berlin Heidelberg, 29(1). doi: 10.1186/s43045-021-00165-x.

Eker, D., Arkar, H. and Yaldız, H. (2001) 'Factorial Structure, Validity, and Reliability of Revised Form of the Multidimensional Scale of Perceived Social Support', *Turkish Journal of Psychiatry*, 12(1), pp. 17–25.

Erdoğan, H. and Cömert, I. T. (2015) *Evaluation of the association between perceived social support and post traumatic stress disorder, depression, anxiety and stress with cancer patients*. Hasan Kalyoncu.

Gao, Y. *et al.* (2019) 'Resilience and associated factors among Chinese patients diagnosed with oral cancer', *BMC Cancer*. BMC Cancer, 19(1), pp. 1–9. doi: 10.1186/s12885-019-5679-0.

Geraci, A. A., Brunt, A. R. and Marihart, C. L. (2014) 'Social support systems: A qualitative analysis of female bariatric patients after the first two years postoperative', *Bariatric Surgical Practice and Patient Care*, 9(2), pp. 66–71. doi: 10.1089/bari.2014.0004.

Ghodusi, M., Heidari, M. and Hoseini, E. (2013) 'Correlation between body esteem and perceived social support in patients with multiple sclerosis (MS) referred to the MS Society in Tehran', *Sci J Ilam Univ Med Sci*, 21(6), pp. 215–223.

Gila, A. *et al.* (2005) 'Social and Body Self-esteem in Adolescents with Eating Disorders', *International Journal of Psychology and Psychological Therapy*, 5(1), pp. 61–69.

Hart, T. A. *et al.* (2008) 'Development and examination of the social appearance anxiety scale', *Assessment*, 15(1), pp. 48–59. doi: 10.1177/1073191107306673.

Hassani, S. F., Tizdast, T., & Zarbakhsh, M. R., 2021. The Role of Self-compassion and Hope in the Relationship Between Psychological Wellbeing, Maladaptive Schemas, Resilience, and Social Support in Women with Multiple Sclerosis. *Journal of Client-Centered Nursing Care*, 7(3), pp. 195-204. <https://doi.org/10.32598/JCCNC.7.3.372.1>

Hilgendorf, W. *et al.* (2021) 'Can a brief assessment of social support predict outcomes after bariatric surgery?', *Clinical Obesity*, 11(1). doi: 10.1111/cob.12419.

Hodder, K., Chur-Hansen, A. and Parker, A. (2014) 'A thematic study of the role of social support in the body image of burn survivors.', *Health Psychol Res*, 2(1), p. 1196.

İnanır, T. and Akkuş, Y. (2022) *The Relationship Between Social Appearance Anxiety and Sexuality in Individuals Undergoing Bariatric Surgery*. Kafkas University.

Leahy-Warren, P. (2014) 'Social support theory', in Fitzpatrick, J. and McCarthy, G. (eds) *Theories guiding nursing research and practice: Making nursing knowledge development explicit*. New York: Springer Publishing Company, pp. 85–101.

Niroomand, K. *et al.* (2016) 'Relationship between socio familial support with satisfaction of body image in patients with burn', *Iranian Journal of Psychiatric Nursing*, 3(4), pp. 1–9.

Ozkaraman, A. *et al.* (2015) 'Relationships between Social Support and Social Image Concerns in Turkish Women with Breast Cancer', *Asian Pac J Cancer Prev*, 16(5), pp. 1795–1802.

Scandurra, C. *et al.* (2022) 'Social Support Mediates the Relationship between Body Image Distress and Depressive Symptoms in Prostate Cancer Patients', *International Journal of Environmental Research and Public Health*, 19, p. 4825. doi: 10.3390/ijerph19084825.

Siemann, I. *et al.* (2023) "'Everybody is watching me": A closer look at anxiety in people with facial palsy', *Journal of Plastic, Reconstructive and Aesthetic Surgery*. Elsevier Ltd, 77, pp. 408–415. doi: 10.1016/j.bjps.2022.11.019.

Spatuzzi, R. *et al.* (2016) 'Evaluation of Social Support, Quality of Life, and Body Image in Women with Breast Cancer', *Breast Care*, 11(1), pp. 28–32. doi: 10.1159/000443493.

Unver, H., Kurt, N. and Bicer Sahin, F. (2022) 'Happiness and social appearance anxiety in

overweight young girls', *European Review for Medical and Pharmacological Sciences*, 26(18), pp. 6821–6826. doi: 10.26355/eurrev_202209_29784.

Wu, Q. *et al.* (2021) 'Body image and hopelessness among early-stage breast cancer survivors after surgery in China: a crosssectional study.', *Nurs Open*, 8(6), pp. 3384–3393.

Yildiz, E. and Karagözoğlu, S. (2021) 'The Effects of Nursing Education Constructed According to Roy Adaptation Model on Adaptation Process of Patients Undergoing Bariatric Surgery', *Bariatric Surgical Practice and Patient Care*, 16(2), pp. 98–108. doi: 10.1089/bari.2020.0030.

Yilmazer, N. *et al.* (1994) 'A comparison of body image, self-esteem and social support in total mastectomy and breast-conserving therapy in Turkish women', *Support Care Cancer*, 2(4), pp. 238–241. doi: <https://doi.org/10.1007/BF00365728>.

Zimet, G. *et al.* (1990) 'Psychometric characteristics of the Multidimensional Scale of Perceived Social Support', *Journal of Personality Assessment*, 55, pp. 610–617.

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