

ORIGINAL ARTICLE

Social Media Addiction among Women who Underwent Cosmetic Breast Augmentation Surgery

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Main Points

- There is a growing belief that people who undergo aesthetic procedures are more prone to social media addiction.
- This study aimed to compare the level of social media addiction between women who underwent breast augmentation surgery and healthy controls.
- The case group had significantly higher scores on the SMAS than the control group.
- Surgeons should screen the psychological status of women who undergo this surgical procedure.

Abstract

There is a growing belief that people who undergo aesthetic procedures such as rhinoplasty and breast augmentation are more prone to social media addiction. In the present research, we aimed to compare the level of social media addiction between women who underwent breast augmentation surgery and age- and education-matched controls. Based on the inclusion and exclusion criteria, 52 women who underwent breast augmentation surgery and 50 age- and education-matched healthy women participated in the study. These groups were compared with respect to social media addiction, self-esteem, and body satisfaction. The case group had significantly higher scores on the social media addiction scales (SMAS) than the control group ($p = .001$). A total of 40 (76.93%) patients in the case group scored above the cutoff point of 74 on the SMAS, compared to 21 (42%) individuals in the control group. The prevalence of addiction was higher in the case group ($p = .001$). The present study is the first to demonstrate a higher rate of social media addiction in the special population of breast augmentation surgery patients. As this surgery is elective rather than vital, surgeons should screen the psychological status of women who undergo this surgical procedure.

Keywords: Addiction, cosmetic, social media, surgery

Introduction

In recent decades, technology has developed quickly, and the use of technology has spread to every aspect of life. Having easy access to the internet via computers, smart phones, and other communication devices allows people to communicate at any place and time (Kiran, Küçükboşancı, & Emre, 2020). Moreover, online services have been commonly used in education, health, shopping, banking, and entertainment. The Turkey Statistics Institute's Household Information Technology Use Survey was administered to individuals between the ages of 16 and 74 in 2018, and revealed that the prevalence of

computer use and internet use are 59.6% and 72.9%, respectively (TÜİK (Türkiye İstatistik Kurumu), 2018). In addition to the advantages of using the internet for every aspect of life, there are several problems with such access, including social media use.

Social media applications are platforms where individuals can create personal profiles, share content, and interact with others. In recent years, people have started to visit social media sites to spend time communicating, playing games, and participating in many social and entertainment activities (Allen, Ryan, Gray, McInerney, & Waters, 2014). While

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these platforms or sites manage to attract people's attention for purposes such as news, communication, education, sharing information, and following friends, they also offer a space where ideas and achievements can be shared (von Muhlen & Ohno-Machado, 2012). Each platform has specific properties. For example, Instagram is for sharing photos and videos, whereas Twitter is for sharing ideas and limited documents (Sheldon & Bryant, 2016). In recent years, the term social media addiction has become more widespread. Social media addiction is defined as "poor sleep quality, excessive mental preoccupation, repetitive thoughts about controlling or limiting usage, failure to prevent access requests, spending more time on the internet, craving the internet when not using it, decreased real-life activities, and deterioration of relationships." Moreover, social media addiction has been reported to be associated with several psychological and physiological problems (Kuss & Griffiths, 2017).

There is a growing belief that people who undergo aesthetic procedures such as rhinoplasty and breast augmentation are more prone to social media addiction (Brooks, Bauer, & Wildman, 2017). However, there is no evidence of this association. Recently, we demonstrated that the levels of social media addiction among people who underwent cosmetic rhinoplasty were similar to those of the control group (Öztürk, Albayrak, & Beyazyüz, 2020). Moreover, no study has investigated social media addiction with validated tests in women who have undergone cosmetic breast augmentation surgery. In the present research, we aimed to compare the levels of social media addiction between women who underwent breast augmentation surgery and age- and education-matched controls.

Methods

Participants

The study was performed at two centers. Patients were selected from the private clinic of one of the authors. The inclusion criteria were as follows: having undergone breast augmentation surgery for aesthetic purposes at least one year ago, ability to understand the assessment tools in the study, and willingness to participate in the study. Patients who had a history of psychiatric disorders and who were not willing to participate in the study were excluded. Additionally, women who had a chronic disease, who had another cosmetic problem, or whose body mass index was greater than 25 or lower than 20 were also excluded from the study. Based on the inclusion and exclusion criteria, 52 women participated in the study. The control group was selected from staff members of the university hospital. The exclusion criteria for the control group were as follows: having a history of psychiatric disorders, being unwilling to participate in the study after receiving detailed information, having chronic disease, having another cosmetic problem, or having a body mass index greater than 25 or lower than 20. All participants submitted written informed consent before participating in the study. The study was approved by the Nişantaşı University Research Ethical Committee (Date and Approval Number: January 21, 2021 and 2021/01).

Tools

Demographic data

Sociodemographic data were collected, including the participants' age, years of education, and type of social media use.

The Social Media Addiction Scale (SMAS)

The SMAS was adapted to Turkish culture and used to measure the types of engagement with social media addiction. The adapted self-reported SMAS comprises 41 items that are rated on a 5-point Likert scale ranging from 1 (never) to 5 (always). Overall scores of at least 74 indicate social media addiction. The validity and reliability of the instrument for the Turkish sample were confirmed, with the scale exhibiting good internal consistency (Cronbach's alpha ranging from 0.89 to 0.96) and acceptable test-retest reliability (ranging from 0.59 to 0.89) (Ünal-Aydın, Balıkçı, Sönmez, & Aydın, 2019).

Rosenberg Self-Esteem Scale (RSES)

The RSES was created by Rosenberg in 1965, and the validity and reliability of the scale were confirmed by Çuhadaroglu in 1986 (Cuhadaroglu, 1986; Petersen, 1965). The first ten items of the scale are used for the evaluation of self-esteem. A total score of 0 – 1 on these items indicates high self-esteem, a total score of 2 – 4 indicates average self-esteem, and a total score of 5 – 6 indicates low self-esteem. Lower scores indicate higher levels of self-esteem (Cuhadaroglu, 1986).

Body Cathexis Scale (BCS)

The BCS was created by Secord and Jourard in 1953 and has 40 items. The items are ranked using a 5-point Likert-type scale that ranges from 1 (I don't like at all) to 5 (I really like). The scores on each item are summed. The lowest possible score is 40, the highest is 200, and higher scores indicate more positive evaluations (Secord & Jourard, 1953).

Statistical Analysis

Statistical analyses were performed with the Statistical Package for the Social Sciences Version 23.0 (IBM SPSS Corp.; Armonk, NY, USA). The normality of data was checked with the Shapiro – Wilk test. Comparisons between quantitative variables were performed with the Student's *t*-test. Categorical variables were compared with the chi-squared test. If the normality assumption was met, Pearson's correlation analysis was used. A regression model was set up to indicate whether there would be associations between social media addiction and the scores of RSES and BCS and having undergone to breast augmentation surgery. The values were expressed as the mean \pm SD. The tests were two-sided, and differences were considered significant when $p < .05$.

Power Analysis

The power analysis of the present study was calculated with two different methods. First, the independent sample *t*-test statistic was performed. With this first calculation, sample sizes of 50 and 52 achieved 91.92% power. Second, multiple linear regression was used. The results of multiple regressions with effect size 0.16 showed that at $n/4100$, the power of the test was already 93%.

Results

Normality Test

According to the normality test results, all quantitative variables were found to be normally distributed.

Comparisons of basic characteristics between groups

The mean ages were 24.21 ± 5.21 Age and years of education were similar between the groups. The prevalence of Instagram use was significantly higher in the case group (Table 1).

Table 1.
Descriptive Statistics

	Categories	n	%	x	s	Statistics	p
Age	Control	50		33.71	6.81	0.71	0.34*
	Patients	52		31.69	7.92		
Education (Year)	Control	50		16.74	2.21	0.60	0.48*
	Patients	52		15.93	2.53		
Facebook	Control	50	30			0.93	0.72**
	Patients	52	25				
Instagram	Control	50	70			2.44	0.001**
	Patients	52	100				
Twitter	Control	50	45			1.28	0.08**
	Patients	52	53.8				

*Independent Samples t-Test, **Chi squared test

Comparisons of SMAS, RSES, and BCS scores between groups

The case group had an SMAS score of 79.02 ± 14.33 , whereas the control group had a score of 64.13 ± 10.21 . The case group had a significantly higher SMAS score than the control group ($p = .001$). A total of 40 (75.93%) patients in the case group scored above the cutoff point of 74 (76.93%) compared to 21 (42%) individuals in the control group. The prevalence of addiction was higher in the case group ($p = .001$). The RSES score was 0.77 ± 0.21 in the case group and 0.71 ± 0.19 in the control group. The RSES score was found to be similar between the groups. The BCS scores were 90.77 ± 16.23 and 88.17 ± 14.33 in the case and control groups, respectively. The BCS score was also found to be similar between the groups (Table 2).

Pearson’s correlation analysis was performed for each group to determine the correlation between the SMAS, RSES, and BCS scores. In the case group, there was a significant and

positive correlation between SMAS and RSES scores ($p = .001$; $r = 0.71$). The other correlations were found to be insignificant (Table 3).

In regression analysis, there were significant associations seen between social media addiction and the RSES score, the BCS score, and having undergone breast augmentation surgery (Table 4).

Discussion

In the present research, we found that the SMAS scores and the prevalence of social media addiction (as indicated by the SMAS) were significantly higher in women who underwent breast surgery, than in the control group. In addition, Pearson’s correlation analysis indicated that there was a significant correlation between the SMAS scores and the RSES scores. The other variables were found to be similar between the groups.

Table 2.
Comparisons of study subjects (Patients vs Control) by using Independent Samples t-Test

	Group	n	\bar{X}	s	t	p
Social Media Addiction Scale	Control	50	64.13	10.21	20.83	.001
	Patients	52	79.02	14.33		
Rosenberg’s Self-Esteem Scale	Control	50	.71	.19	1.02	0.70
	Patients	52	.77	.21		
Body Image Scale	Control	50	88.17	14.33	1.02	0.16
	Patients	52	90.77	16.23		

Table 3.
Correlation Analysis Between Rosenberg’s Self-Esteem Scale, Body Image Scale and Social Media Addiction Scale

	Rosenberg’s Self-Esteem Scale	Body Image Scale	Social Media Addiction Scale
Social Media Addiction Scale	$r=0.71, p=0.001$		
Rosenberg’s Self-Esteem Scale		$r=0.44, p=0.06$	
Body Image Scale			$r=0.49, p=0.07$

Table 4.
Results of Step-wise Regression

		Model 1 (Social Media Addiction)			
		<i>B</i>	<i>s.e.</i>	<i>t</i>	p-value
Step 1	Constant	16.88	2.779	5.91	p < 0.001
	Social Media Addiction	0.77	0.12	5.2	p < 0.001
Step 2	Constant	23.21	3.23	7.06	p < 0.001
	Social Media Addiction	0.51	0.12	4.01	p < 0.001
	Rosenberg's Self-Esteem Scale	- 2.88	0.86	- 3.22	0.001*
Step 3	Constant	17.99	4.01	4.72	p < 0.001
	Social Media Addiction	0.51	0.12	4.11	p < 0.001
	Rosenberg's Self-Esteem Scale	- 2.69	0.74	- 3.41	p < 0.001
	Body Image Scale	0.21	0.44	3.01	0.009*
	Being Underwent Breast Augmentation Surgery	0.66	0.29	4.17	0.001
<i>n</i>				102	
<i>F</i> Statistic				17.294	
p-value				0.001	
<i>R</i> ²				0.51	

Breast augmentation surgery is one of the most common cosmetic procedures among women (Patrick Maxwell & Gabriel, 2017; Zaborski, Rzepa, Pastucha, Modrzejewski, & Grzesiak, 2019). Approximately 300,000 women undergo breast augmentation surgery each year (The American Society for Aesthetic Plastic Surgery's Cosmetic Surgery National Data Bank: Statistics, 2018 2019). Some studies have reported the beneficial psychological effects of breast augmentation surgery, including improved self-esteem and decreased depressive symptoms, higher subtraction with their breasts, enhanced body image, and increased well-being (McCarthy et al., 2012; Penaud & De Mortillet, 2013; Saariniemi, Helle, Salmi, Peltoniemi, Charpentier, & Kuokkanen, 2012). Despite these findings, several other studies have demonstrated higher rates of smoking and alcohol use, higher anxiety levels, and higher levels of neuroticism in women who underwent cosmetic breast augmentation surgery (Coombs, Grover, Prassinis, & Guranluoglu, 2019; Larson & Gosain, 2012). Thus, surgeons must assess patients' motivations for surgery and determine their emotional status to screen for body dysmorphic disorder or unrealistic expectations.

Social media addiction has become a serious behavioral addiction in recent decades. As seen in other types of dependency, social media addiction seriously impairs functionality (Brevers & Turel, 2019). Specifically, selfies have been widely studied because of their effects on the motivation to change one's physical appearance (Özgür, Muluk, & Cingi, 2017). The selfie issue been studied with interest in scientific research (Sajjadian & Guyuron, 2010). Selfies were reported to motivate adverse conduct, including unhealthy forms of dietary practices/restrictions and cosmetic surgery. Moreover, the habit of taking selfies was reported to be a cause of maladaptive and dangerous behavior (Özgür, Muluk, & Cingi, 2017; Ünal-Aydın et al., 2019). Despite this intense interest in the association between social media addiction and cosmetic procedures, no study has used validated scales to investigate social media addiction in women who underwent breast augmentation surgery. Montemurro

and colleagues researched the association between social media use and breast augmentation surgery (Montemurro, Cheema, & Hedén, 2018). However, they focused on the effect of social media on admission for breast augmentation surgery. Thus, our study is the first to show increased social media addiction among women who underwent breast augmentation surgery. Additionally, our results indicate that social media addiction is negatively associated with self-esteem. Moreover, in regression analysis, we demonstrated that there were significant associations between self-esteem, body perception, having undergone breast augmentation surgery, and social media addiction. Thus, our results reveal that these factors could lead to social media addiction.

Limitations and Directions/Suggestions for Future Research

There are several limitations of the present study. First, the sample size can be considered too small to generalize the results. Second, although the scales that were used in the present study were validated, the subjective nature of self-reported scales can be considered another limitation. The present study is the first to demonstrate an increased rate of social media addiction in a special population of breast augmentation surgery patients. As this surgery is elective rather than vital, surgeons should screen the psychological status of women who are undergoing this surgical procedure. Otherwise, unexpected conditions may arise, depending on the unrealistic expectations of the patients. Further studies are needed to confirm our preliminary results.

Ethics Committee Approval: Ethics committee approval was received for this study from the Ethics committee of Nişantaşı University (Date and Approval Number: January 21, 2021 and 2021/01).

Informed Consent: All participants submitted written informed consent before participating in the study.

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Processing - E.B.; Analysis and/or Interpretation - E.B., Y.A.; Literature Review - G.Ö., Y.A.; Writing - Y.A.; Critical Review - G.Ö., Y.A.

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