A Study of the Psychiatric Profile of Females undergoing Minor Cosmetic Interventions

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Abstract

Background : Cosmetic interventions have been popular in the last 10 years. The results of these interventions can be affected by the prevalence of psychiatric disorders among those candidates. Which may fake the need for the intervention especially disorders which affect body image.

Aim of the study: to detect psychiatric disorders in those females who had cosmetic procedures and to investigate the relationship between it and degree of satisfaction of results of the intervention and even avoid more unnecessary non satisfying interventios .

Methods and Results: In this comparative cross-sectional study, eighty three females (83 females) that undergone minor cosmetic procedures attending to dermatology department and outpatient clinic and eighty three age matched control subjects were recruited.Psychiatric assessment was assessed according to The Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders IV (I , II) (DSM IV) and The Body Dysmorphic Disorder Questionnaire-Dermatology Version (BDDQ-DV). The presence of psychiatric disorders was examined by SCID I , II and the degree of satisfaction of self image and the result of the procedure was assessed by semi structured questionnaire and BDDQ score. Present, Past or Family history of any trials to have cosmetic procedures was evaluated by a Semi-structured Interview. In the current study psychiatric disorders was higher in females who had cosmetic procedures when compared to controls.

Conclusion: Higher degree of psychiatric disorders in females undergone or seeking minor cosmetic procedures lead to many unnecessary procedures due to lack of self esteem or poor satisfaction of body image.

Key words: Cosmetic procedures, psychiatric disorders, Body dysmorphic disorder questionnaire.

1. Introduction

Human beings have long been interested in beauty **(1).** The ancient Egyptians regarded beauty as a sign of holiness. Everything the ancient Egyptians used had a spiritual aspect, including cosmetics. Traders used to trade makeup, especially in the upper classes. In tombs, cosmetic palettes were found buried in gold with the deceased as grave goods which further emphasized the idea that cosmetics were not only used for aesthetic purposes but rather magical and religious purposes **[2].**

Different cultures have always valued the attractive appearance of the people since the dawn of history. Based on the evidence, individuals with attractive appearances have benefited from this gift and solved their problems using their charm **[3].** In addition, a beautiful face will improve and increase the individual's self-image and self-confidence. As a result, they usually perform their social activities at a more acceptable level **[1].**

In the 20th century, especially in recent decades, new interpretations have been brought about beauty and it has been defined as a set of components such as fitness, cosmetics, clothing, attractiveness, and perfection **[4].**

Integration of beauty with industrial and medical advances has changed the attitudes toward beauty; therefore, beauty is not a mere congenital gift anymore but can be acquired **[1].**

Nowadays, cosmetic intervention is one of the most common procedures throughout the world and ever-increasing number of people using it **[5].**

2. Patients and Methods:

This is a cross-sectional comparative study, conducted from was started at the beginning of September 2020 and it was continued till the number of patients needed for study is fulfilled in Benha University Hospital. Study subjects were informed of the possibility of using the data obtained for academic purpose. Confidentiality was assured to all participants and data used for this study were stripped of personally identifiable information.

Patients:

Study participants were in the age group of 18-55 yrs. Patients (n=83) and control subjects (n=83) were recruited for the study. Patients were randomly selected from the dermatology department or a the outpatient clinic and controls were matching females working at the hospitals or relatives of the patients. It was ensured that all females participating didn't suffer from any underlying medical condition that neccisitates dermatological cosmetic interventions, mental retardation, developmental disability or a neurological disorder. History of a dermatological cosmetic intervention for the control group.

Methods:

All patients were subjected to the following: Semistructured Interview that included (Name - Age - Sex - Occupation - Marital status - Residence - Special habits of medical importance – Medical history- cause of visit – having cosmetic procedure or not – degree of satisfaction about the result) , The Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders IV (I , II) (DSM IV; SCID I , II) (First.et al,2008) (El missiry.et al,2004) The SCID is a semi structured interview used for diagnosing the

major Axis I DSM-IV disorders. It uses a decision tree approach, guiding
the clinician through an interview testing diagnostic hypotheses , The Body Dysmorphic Disorder Questionnaire-Dermatology Version (BDDQ-DV). Danesh.et al, 2015**.**

The Body Dysmorphic Disorder Questionnaire is a validated, self-administered, brief (1-2 minutes) screening instrument that patients can easily complete.

The questionnaire has 34 questions which asses the degree of body image satisfaction as each question has to answered by one of five answers . Always (4) , Often (3) ,Sometimes (2) , Seldom (1) , Never (0) with the whole degree added to find the total score and noticing that questions 6,11,13,19,22,24,25 should be corrected inversely. With the higher score referring to more body image satisfaction and less possibility of having Body dysmorphic disorder.

Statistical analysis:

With the help of Statistical package for Social Science (IBM Corp. Released 2017), the obtained data was cleaned, coded, tabulated, and imported onto a personal computer. Armonk, New York: IBM Corp., 2015, IBM SPSS Statistics for Windows, Version 25.0. Each parameter's data was displayed and analysed appropriately for its kind of data. The statistical significance of the disparity between the means of the two research groups was determined using the Student T Test. One way analysis of variance (ANOVA) was employed, followed by a post hoc test, to investigate the significance of the differences in means across three or more groups. The statistical significance of a difference in a non-parametric variable between the two research groups was determined using the Mann Whitney Test (U test).

To determine whether or not a difference between more than two research groups on a non-parametric variable is statistically significant, the Kruskal-Wallis test is used.

The correlation between two qualitative factors was analysed using the Chi-Square test. When the predicted count is less than 5 in more than 20% of cells, Fisher's exact test was employed to investigate the connection between two qualitative variables.

The purpose of a correlation analysis is to determine how strongly two numerical variables are related to one another.

Predicting risk variables using generalised linear models necessitated regression analysis, namely logistic and linear regression studies. In this study, a probability of less than 0.05 was deemed significant.

3. Results:

The current study included 83 patients with minor cosmetic procedures , their mean (±SD) age was 32.65 (±10.05) years and 83 control(no-intervention) subjects who were selected to be matched in age, with mean (±SD) age 35.13 (±11.19) years, and were selected to be matched regarding address, marital status and offsprings in the two

studied groups. With females from urban areas more than rural areas which may be explained by culture differences and increased level of education and more medical and cosmetic serves as shown in table (1). patient group was significantly associated with highly educated subjects and higher level jobs (p<0.001 for each). While social class did not differ significantly between both groups (p>0.05).

Regarding jobs, there was a statistically significance difference between the patient group that has (27.7% of cases housewives, 16.9% doctor, 7.2% nurse, 4.8% advocates, 9.6% engineer, 4.8% journalist, 12% teachers, 16.9% students) and control group that included 21.7% doctor, 71.1% nurse and only 7.2% teacher. And showed significant difference between patient group that included 69.9% highly education patients versus 12% in control patients. Patient group was significantly associated with highly educated subjects (p<0.001) as shown in table (2) and figure (1). As regard Distribution of psychiatric disorders in the studied groups There was significant differences among patient and control groups as regard the diagnosis of depression with about 45.8% of the patient group versus 30.0% in the control group. With mild cases represent about 18% and cases with mixed anxiety and depression represent about 16% of patient group which is statistically significant .While regarding anxiety, no significant difference was found between both groups as shown in table (5) . Regarding Bipolar affective disorder there was aprevelance of 14.5% in patient group versus 9.6% in control group which is statistically different but not significant here Unlike the diagnosis of Schezophrenia which was not diagnosed here in both groups and was statistically insignifiacant as shown in table (6). Regarding the prevalence of personality disorders, there were significant difference between the patient group that has 7.2% borderline, 14.5% histrionic, 7.2% dependant, 4.8% paranoid, 2.4% for each category obsessive, avoidant and narcissistic, versus control group that has 4.8% borderline and histrionic, 2.4% dependent and obsessive which is statistically significant with (P value = 0.004).Patient group was associated with significantly higher proportions of Histrionic, Borderline personality disorder as shown in table (7). In table(8) as regard the result of Body Dysmorphic Disorder Questionnaire (BDDQ) which show the degree of satisfaction about self image was significantly higher in control group when compared to patient group (mean=88.1 versus 81.67, p=0.039). Regarding patients with no depression among the intervention group, BBDQ showed significant negative correlation with age (p=0.001), number of visits (p<0.001). While no significant correlations were found regarding number of interventions. And regarding depression patients in intervention group. BBDQ showed no significant correlations were found with age, number of visits, and number of interventions as shown in table (9).

Table (1) Comparison of studied groups regarding demographic data.

	Intervention (patient) n = 83	control n = 83	Test (p)
Age (years)			
Mean ± SD.	32.65 ± 10.05	35.13 ± 11.19	t-student=1.503
Median (Min. – Max.)	32.0 (19.0 – 55.0)	33.0 (22.0 – 58.0)	p=0.135
Address			
Rural	12(14.5%)	18(21.7%)	X^2=1.465
Urban	71(85.5%)	65(78.3%)	MCp=0.226
Marital status			
Single	26 (31.3%)	20 (24.1%)	X^2=2.785
Married	44 (53.0%)	53 (63.9%)	MCp=0.428
Divorced	10 (12.0%)	6 (7.2%)	
Widowed	3 (3.6%)	4 (4.8%)	
Offspring's	N = 57	N = 63	
Median (Min. – Max.)	2.0 (0.0 – 5.0)	2.0 (0.0 – 5.0)	Mann-Whitney U=1995, p=0.267

Table (2) Comparison of studied groups regarding job, education and social data.

	Intervention (patient) n = 83	Control (n = 83)	Test (p)
Job			
Low	23(28.0%)	0(0.0%)	X^2=45.8
Intermediate	20(24.4%)	59(71.1%)	p<0.001*
High	39(47.6%)	24(28.9%)	
Education			
Low	4(4.8%)	5(6.0%)	X^2=16.9
Intermediate	21(25.3%)	46(55.4%)	p<0.001*
High	58 (69.9%)	32 (38.6%)	
Social class			
Intermediate	69 (83.1%)	73 (88%)	X^2=0.779
High	14 (16.9%)	10 (12%)	p=0.377

*:   Significant ≤0.05

Table (3) Comparison of studied groups regarding visits cause and number.

	Intervention (patient) n = 83 No.	%	No intervention (control) n = 83 No.	%	Test (p)	P
Cause of visits						
medications with no intervention						
No	0	0.0	34	41	X^2=187.358	<0.001*
Acne	0	0.0	8	9.6	MCp<0.001*	0.004*
Stria	0	0.0	2	2.4		0.155
Sunburn	0	0.0	11	13.3		0.001*
Hair fall	0	0.0	4	4.8		0.043*
Allergy	0	0.0	6	7.2		0.013*
Face pigment	0	0.0	6	7.2		0.013*
Skincare	0	0.0	10	12		0.001*
Face scar	6	7.2	2	2.4		0.147
Cosmetic procedures						
Big naveus	2	2.4	0	0		0.155
Nose filler	8	9.6	0	0		0.004*
Face wrinkles	17	20.5	0	0		<0.001*
Hair removal	38	45.8	0	0		<0.001*
Lip augmentation	12	14.5	0	0		<0.001*
Number of visits						
Median (Min. – Max.)	5.0 (0.0 – 10.0)		2.0 (0.0 – 6.0)		Mann-Whitney U=3281, p=0.0580*	

*:   Significant ≤0.05

Table (4) Distribution of intervention types in patients group

	Intervention n = 83	
	No.	**%**
Intervention types		
Filler	22	26.5%
Botox	15	18.1%
Laser (fractional laser – laser for hair removal)	44	53.0%
Steroid injection	2	2.4%
Number intervention		
Mean ± SD.	5.04 ± 1.76	
Median (Min. – Max.)	5.0 (1.0 – 10.0)	

Table (5) Comparison of studied groups regarding depression and anxiety.

	Intervention n = 83		No intervention n = 83		Test (p)
	No.	**%**	**No.**	**%**	
Depression					
No	45	54.2	58	69.9	X^2=4.323
Yes	38	45.8	25	30.1	p=0.038*
Mild	15	18.1	15	18.1	X^2=11.876
Moderate	9	10.8	10	12.0	p=0.003*
Mixed anxiety &dep	14	16.9	0	0.0	
Anxiety					
No	67	80.7	61	73.5	X^2=1.229
Yes	16	19.3	22	26.5	p=0.268

*:   Significant ≤0.05

Table (6) Comparison of studied groups regarding other psychiatric disorders.

	Intervention n = 83		No intervention n = 83		Test (p)
	No.	**%**	**No.**	**%**	
Bipolar disorders					
No	71	85.5	75	90.4	X^2=0.910
Yes	12	14.5	8	9.6	p=0.340
Schizophrenia					
No	83	100.0	83	100.0	-
Yes	0	0.0	0	0.0	
Delusional disorders					
No	77	92.8	83	100.0	X^2=6.225
Yes	6	7.2	0	0.0	FEp=0.028*
OCD					
No	79	95.2	79	95.2	X^2=0.0
Yes	4	4.8	4	4.8	FEp=1.0
BDD					
No	58	69.9	77	92.8	X^2=14.319
Yes	25	30.1	6	7.2	p<0.001*
Eating disorders					
No	75	90.4	82	98.8	X^2=5.757
Yes	8	9.6	1	1.2	p=0.034*
Somatoform					
No	75	90.4	82	98.8	X^2=5.757
Yes	8	9.6	1	1.2	p=0.034*

*:   Significant ≤0.05
BDD: Body Dysmorphic Disorder.

Table (7) Comparison of studied groups regarding personality disorders.

Personality disorders	Intervention (patient) n = 83		No intervention (control) n = 83		Test (p)	
	No.	%	No.	%		
Nos	49	59.0	71	85.5	X^2=17.36	<0.001*
Borderline	6	7.2	4	4.8	p=0.004*	0.514
Histrionic	12	14.5	4	4.8		0.035*
Dependant	6	7.2	2	2.4		0.147
Paranoid	4	4.8	0	0.0		0.043*
Obsessive	3	2.6	2	2.4		0.05*
Avoidant	1	2.2	0	0.0		0.155
Narcissistic	2	2.4	0	0.0		0.155

*Significant P value ≤0.05

Table (10) Comparison of studied groups regarding Body Dysmorphic Disorder Questionnaire (BDDQ) score.

	Intervention (patient) n = 83	No intervention (control) n = 83	Test (p)
BDDQ			
Mean ± SD.	81.67 ± 20.40	88.1 ± 19.35	t-student=2.081
Median (Min. – Max.)	85 (40 – 120)	87 (45 – 125)	p=0.039*

Significant P value ≤0.05

Table (9) Correlation between BDDQ score with different parameters in patient group (n = 83)

	Intervention			
	No Depression n=45 BDDQ		Depression n=38 BDDQ	
	R	p	R	P
Age	-0.494	0.001*	-0.197	0.236
Number of visits	-0.636	<0.001*	0.047	0.777
Number of interventions	0.204	0.179	0.140	0.400

*:   Significant ≤0.05; r, correlation coefficient.
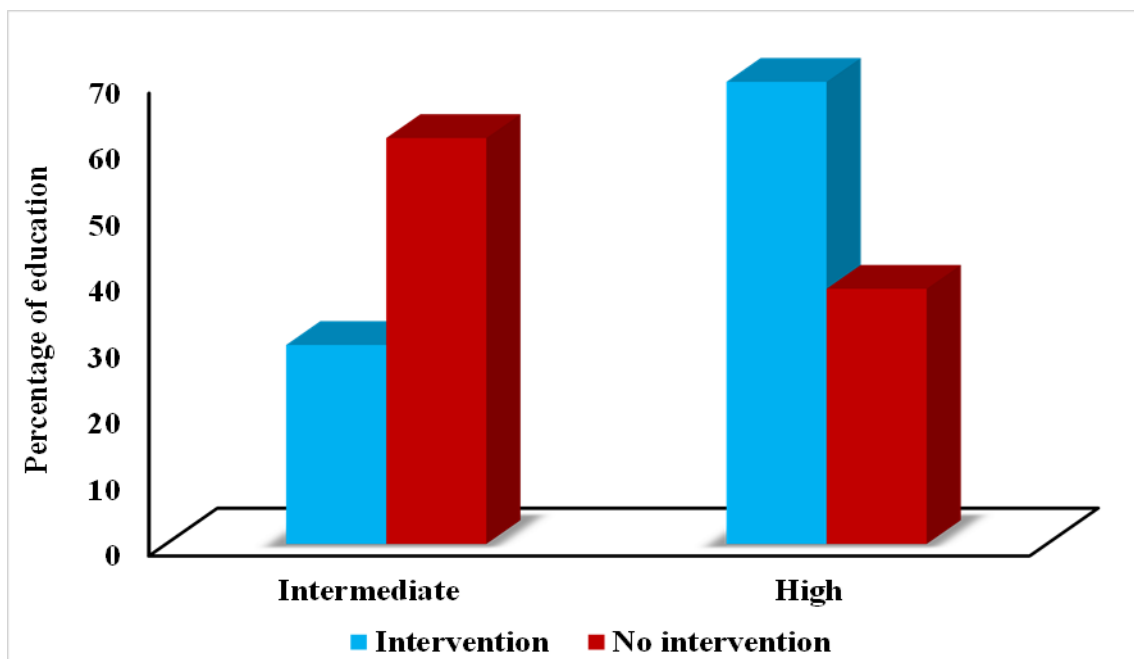

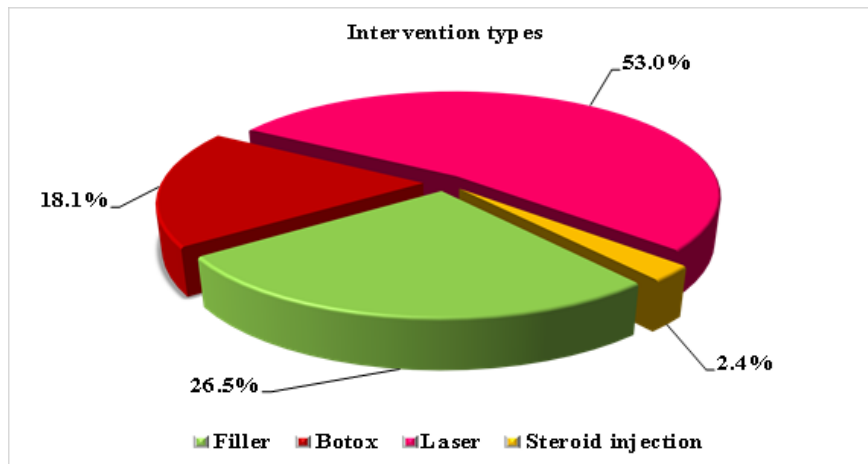**Fig. (1)** Comparison of studied groups regarding education.

Fig. (2) Distribution of intervention types in patients group.
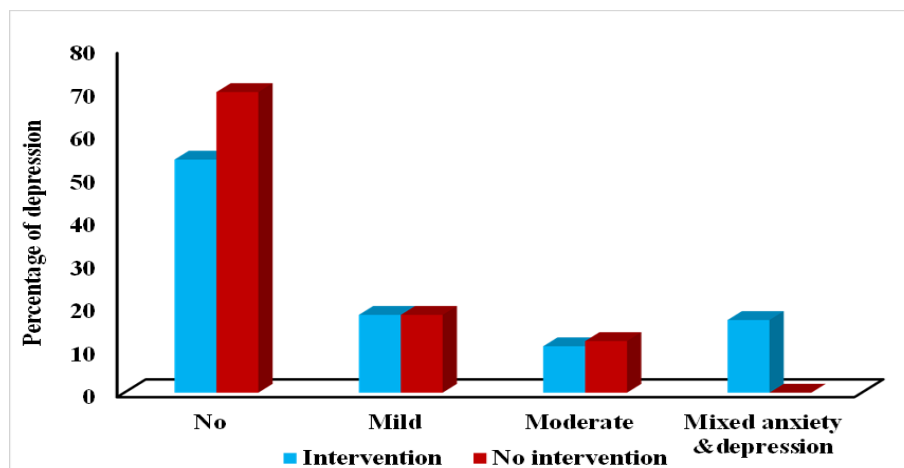

Fig. (3) Comparison of studied groups regarding depression.

4. Discussion:

Cosmetic procedures are increasingly being accepted among youth in the Middle East, with skin and nasal procedures being the most popular. The youth's concept of ideal body shape is in alignment with the Western ideas of beauty **[6].** Healthcare practitioners performing cosmetic procedures need to consider demographic and cultural differences of the patients in order to enhance their understanding of their patients' aesthetic goals and expectations and improve their results.**[7]**

Psychiatric morbidities are commonly encountered in patients seeking cosmetic procedures in general. In our study The rates and patterns of psychiatric morbidity were in partial concordance with previous findings. Thus, recognizing those patients before having the intervention should be considered to improve the patients satisfaction with intervention results and avoid misunderstanding of impaired self image due to psychiatric like body dysmorphic disorder that could make the patient not satisfied with the results and seeking more and more procedures **[8].**

Our present study was conducted to study the correlations between the possibility of psychiatric disorders among females undergoing minor dermatological cosmetic interventions In addition to study the degree of self-esteem and body image satisfaction and rate of cosmetic interventions. Therefore, we can detect the correlations between incidence of psychiatric disorders and the need for minor dermatological cosmetic interventions.

Our study showed that mean age of cases who had intervention was 32.65 (±10.05) years with non-significant difference compared with the control group 35.13 (±11.19) years.

Our results agreed with **[9]** study which comprised 200 participants from a naturalistic, prospective study of Body Dysmorphic Disorder in patients having surgical or minimally invasive cosmetic procedures. Mean age of patients who received surgical or minimally invasive cosmetic procedures was 37.2 ± 9.9.

Our result was higher than reported in **[10]** study which was conducted to find out how a media literacy training intervention affected a sample of female university students' attitudes regarding elective cosmetic surgery, body dysmorphic disorder, self-esteem, and body dissatisfaction. In the study, the mean age of intervention group and control group was 21.42±1.73 and 21.62±21.20, respectively. And we can explain this difference of age by the culture

differences and the progress in these procedures in foreign countries which allow easy access.

A significant portion of patients seeking cosmetic procedures may experience age-based discrimination, which could negatively affect their health and well-being. Patients might benefit from expectation management about how their procedure may or may not address their concerns about age-based discrimination, which in fact may be a good reason and reliable to ask for such procedures that could be sometimes antagonizing the process of aging for many females. **[11]**

Interest in cosmetic procedures continues to grow among young adults in the United States **[12]**.The younger population is increasingly accepting of cosmetic procedures. However, there is a general lack of understanding of the risks associated with such procedures **[13]**. Healthcare practitioners performing cosmetic procedures need to consider demographic and cultural differences of the patients in order to enhance their understanding of their patients' aesthetic goals and expectations **[7]**.

Our current study revealed that majority of the intervention group was married followed by single, divorced and widowed with non-significant difference compared with the control group. The median offspring was 2 in both groups. This can be explained by the age group and the place of case recruitment from university patients and staff and our culture beleifs which enhance marriage.

Our result agreed with **[14]** study which presented the demographic characteristics of Saudi patients undergoing cosmetic procedures. The higher percentage of the included population (46.8%) was married followed by single (45.2%) and widowed (8.0%).

Similar results reported by **[15]** study which analyzed findings from in-depth interviews with 44 women aged 50-70 regarding their perceptions of and experiences with non-surgical cosmetic procedures. Twenty-two patients were married, 14 patients were divorced/separated, 4 patients were widowed and 4 were never married.

In contrary to our result, most of the intervention group was single 65 (92.9%) followed by married (7.15) in **[10]** study and similar result was in the control group. This difference may be attributed to the selection method of the included population because the forementioned study included university students. Similar result reported in in **[16]** study where 58.5% (n=117) of participants were single and 41.5% (n=83) were married.

The present study showed that most of the intervention group about (69.9%) of patients were satisfied with the results after intervention with mean satisfaction of 62.17 (±20.84). This satisfaction showed significant negative correlations with age, number of visits, and significant positive correlation with the score of Body Dysmorphic Disorder Questionnaire. While no significant correlations were found regarding number of interventions.

Conceding with our results, **[10]** study reported that body dissatisfaction before intervention (105.46±13.70) showed significant difference compared with after intervention (87.92±24.03).But in our study the estimation for satisfactipon was only done after procedure in the patient group and was about both body image satisfaction and also the results of procedure.

[17] study showed that understanding and psychiatric evaluation prior to procedure was necessary, and screening could reduce the number of unnecessary procedures and may enhance satisfaction with procedure results.

narcosis"). Other symptoms present in both conditions are depression, and hypertension (high blood pressure) that is difficult to control

We ran across a few problems when doing this research. (1) It's not a representative sample of the general public. The hospital where the research was conducted is tiny, and the sample size means that the results may not be representative of the general population. (2) Cases and controls were matched for age and sex, but not for workplace or residential factors, which might have affected the findings. Third, in order to properly evaluate the measures we took and the temporal change of symptoms, we should have evaluated patient cases before, during, and after the intervention. (4) Boredom caused by the length of the surveys may have an impact on the reliability of the responses.

Conclusion and recommendation:

The results of our study showed that patients and the control group differed significantly (p 0.001) in terms of marital status and occupation, that there was a statistically significant difference between the two groups in terms of consanguinity, and that there was a highly statistically significant difference (p 0.001) between the two groups in terms of Body dysmorphic disorder questionnaire score.

Both groups differed significantly from one another in terms of the prevalence of mental health diagnoses including depression and anxiety as well as conditions like body dysmorphic disorder, binge eating disorder, and personality disorder (p 0.001).

The prevalence of somatoform disorders and bipolar affective disorder is similar among both patients and controls.

In addition, there was a statistically significant positive association formed between the body dysmorphic disorder questionnaire score and the level of satisfaction with the intervention's outcomes (p=0.019).

Intervention rates are higher and patients are less satisfied with the outcomes when mental disorders, such as Body dysmorphic disorder, are present.

Which are indicators of discontent with one's physique and medical intervention when none is needed.

We advocate regular mental examination of female patients prior to any intervention due to the association between the existence of a psychiatric disease and the necessity for aesthetic operations. The dermatologist should think about assessing the patient's level of body image satisfaction after the intervention and about patients who may have trouble being happy with the intervention's outcome. Reducing wasteful medical treatments and costs may be accomplished by referring patients to rehabilitation programmes.

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