

Acne Vulgaris: Effect of Body Image and Life Satisfaction on Rejection Sensitivity

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Abstract

Background: Students suffering from acne vulgaris have different views about their body image and have different levels of life satisfaction and rejection sensitivity.

Objective: To explore the relationship between body image, life satisfaction and rejection sensitivity among acne vulgaris students and investigate the effect of demographic variables weight, eating pattern (bias towards junk/processed food or healthy/ natural food), and other physical problems on body image, life satisfaction and rejection sensitivity among acne vulgaris students.

Study type, settings and duration: A cross-sectional study was conducted at COMSATS university, International Islamic university, Bahria university, Riphah International university, Fatima Jinnah Women university from November 2017 to February 2018.

Methodology: The sample size consisted of 250 students suffering from acne vulgaris. These students were selected from 5 different universities of Rawalpindi and Islamabad using purposive sampling technique. The sample size was calculated using Slovin's formula, by keeping margin of error at 0.05. Body image was assessed by using Body Esteem Scale (BES), life satisfaction was assessed by using Satisfaction With Life Scale (SWLS) and rejection sensitivity was assessed by using Rejection Sensitivity Questionnaire, Adult version (A-RSQ).

Results: Out of 250 students, 44% were males and 56 % were females. Their ages ranged from 18-32 years. Results revealed significant weight satisfaction ($p < 0.01$), attribution ($p < 0.01$), and life satisfaction ($p < 0.01$). There was 78% variance in life satisfaction, while weight satisfaction ($p < 0.01$), and attribution ($p < 0.01$) showed 12% variance in rejection sensitivity.

Conclusion: Students with acne vulgaris having low body image and life satisfaction will suffer more from rejection sensitivity.

Key words: Acne vulgaris, body image, weight, attribution, appearance, life satisfaction, rejection sensitivity.

Introduction

Acne vulgaris is the name given to a common chronic skin disorder affecting face and scalp where inflammation occurs in spots.¹ Acne is one of the most common problem that dermatologists find in patients and among them most are adolescents.² Acne vulgaris has shown a persistent growth in

prevalence despite existence of potent treatment. Acne causes a psychosocial burden on the sufferer though it does not cause direct physical impairment as it affects young people at a time of increasing social and physical change, the result of which can be significant to psychological disfiguring. A global survey in 2015 revealed that approximately 633 million people were affected by acne worldwide, ranking it the 8th most common disease. Acne is found in about every fifth individual aged 13-35 who visits dermatologists in Pakistan.³ The hormones produced during stage of development trigger many changes, both physical and emotional. In the age group of 16-29, from a sample set of 630 medical students in Karachi, 55.9% were affected with acne vulgaris.⁴ Acne vulgaris is an extremely common skin disease. Students who have even mild acne have shown symptoms which indicate an effect on their quality of life despite acne's lack of effect on general health status, morbidity.⁵

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Authors Contribution

RZ & HFC conceptualized the project. RZ, HFC & AS did the statistical analysis, drafting, revision & writing of manuscript. Data collection was done by HFC, AS, IT & MB. AS, IT & MB also performed the literature search.

Body Image is the cognitive-behavioral perception, an individual has of one's overall appearance.⁶ It has an effect on our emotional, behavioral and psychological well-being and reflects in our social interactions as well. Furthermore, it contributes significantly to overall quality of life.⁷ Body image is considerably affected by our countenance and subsequently skin diseases which causing elevated concerns regarding self-perception.⁸ An individual's perception of body image significantly factors in facial appearance.

Life satisfaction is a personal judgement criterion by one consciously and cognitively determines some factor of life quality. Life satisfaction has a correlation with measures of mental health and depicts anxiety, stress and depression with individuals scoring high on average.⁹ Psychologically healthy students tend to appreciate their environment considerably more and perform better in academics. Poor psychological health results in interpersonal and intrapersonal relationships issues.¹⁰ Life satisfaction and health-concerns affect each other bi-directionally in a way that increased in life satisfaction is observed in individuals who undertake measures to care for their health.¹¹

Desire to be accepted and dislike of rejection from people who are important is a key social construct. In a social construct, acceptance by others compounded with belonging, is a philosophical human motivation that one feels to varying extents from birth throughout the entire lifespan. Some people, however, are more concerned with rejection, a quality known as rejection sensitivity. Peer rejection in young population results in an increase in anxious and angry expectations of being rejected which can subsequently cause an amplification of social anxiety and withdrawal along with increased aggression.¹² University students perceive acceptance and rejection to varying degrees affecting processes of cognitive and social learning possibly being a stimulus to change in normal learning activities.¹³

Body image has a significant correlation with overall life satisfaction as indicated by a study that individuals who were less satisfied with their marital life and reported a general reduction in self-esteem were unhappy with their weight. Style of personal attachment in a relationship was also linked with the individual's feeling about their body in a manner of negative fear and were more likely to be prone to worry, anxiety, depression and frustration, thereby scoring high on the neuroticism scale. On the contrary, those who were satisfied with their body image were significantly more secure

in relationship style of attachment, scored higher on extraversion scale (more open and outgoing) and were found to have high self-esteem and life satisfaction.^{14,15}

Appearance-based Rejection Sensitivity (Appearance-RS), actively correlates with concerns regarding body image allowing one to determine levels of social acceptance. Those who are more sensitive to rejection from people on their physical appearance often have excessive body image concerns.¹⁶

Many researches have been carried out on body image and life satisfaction, body image and rejection sensitivity, but to best of our knowledge none have been carried out on body image, life satisfaction and rejection sensitivity. For this reason, the current study was an attempt to explore the predictive effect of body image and life satisfaction on rejection sensitivity among university students suffering from acne vulgaris.

Methodology

The present cross-sectional study was conducted on university students suffering from acne vulgaris. Study comprised of 250 students aged between 18-32 years, from different universities of Rawalpindi and Islamabad. The sample of the study was selected using purposive sampling technique. The sample was taken from Bahria university, Comsats university, Foundation university, International Islamic university, Riphah university, and Foundation university medical campus, Islamabad. The student having moderate or severe acne vulgaris were included in sample and the students with minor acne vulgaris were not included in the sample. Students having more than 5 pseudocysts and 125 lesions on face were considered as suffering from severe case of acne vulgaris while a total lesion count of 30 to 125 classified the student as a mild acne case. Students with prolonged duration of acne vulgaris were included in the sample. Those suffering from acne vulgaris for six months or more were included in the study.

Eating pattern of a person is a consideration of general bias towards consumption of food type based on its processing altering its natural prevalence. For example, a nutritionally balanced diet with appropriate cooking is considered to be healthy food while packed/ processed consumable items such as chips, cola, pizza, burger, pizza etc. come in the category of junk food. Students which were taken as sample population were not suffering from other physical problems such as disability

(visual/ speech/ hearing/ cognition impairment), visible scars or burns.

The Body Esteem Scale (BES)¹⁷ was used to assess weight satisfaction, appearance, and attribution. The scale consists of 23 items comprising of 3 subscales namely weight satisfaction, appearance, and attribution. Appearance (general feelings about appearance) comprises of 10 items, weight satisfaction consists of 8 items, and attribution consists of 5 items. It is a 5-point Likert scale ranging from (0= never to 4= always).

The Satisfaction With Life Scale (SWLS)⁹ was used to assess life satisfaction in our population sample. It consists of 5 items and is a 7-point scale that ranges from (7- strongly agree to 1- strongly disagree).

The Rejection Sensitivity Questionnaire, Adult version (A-RSQ)¹⁸ was used for assessing rejection sensitivity in students. It measures the phenomenon as the disposition to anxiously expect, readily perceive, and intensely react to rejection. The scale has 8 items and is a 6-point Likert scale ranging from (1- very unconcerned/ unlikely to 6- very concerned/ likely).

After taking permission for data collection from the all university authorities, the questionnaires BES, SWLS and (A-RSQ) were distributed among 250 university students. Once filled, all questionnaires were personally collected and analyzed using SPSS-21. The regression analysis was used for exploring the predictive effect of body image and life satisfaction on outcome variable, rejection sensitivity among acne vulgaris students.

Results

Multiple regression analysis showed that the subscale of body image, weight satisfaction ($p < 0.01$), negatively, and attribution ($p < 0.01$) significantly positively forecasted rejection sensitivity. The value of R^2 change showed that the subscales of body image elucidated 12% modification in rejection sensitivity (Table-1).

Table 1: Prediction effect of body image on rejection sensitivity among acne vulgaris.

Variables	Rejection sensitivity	
	Model 1	
	B	95 % CI
Constant	74.21	[62.64, 85.79]
Weight satisfaction	-.98	[-1.40, -.56]
Attribution	.67	[-.24, 1.10]
Appearance	.36	[-.03, .75]
R^2	.12	
F	11.27	

Table-2 on multiple regression analysis showed that the decrease in life satisfaction ($\beta = -3.1$, $p < .01$) significantly increased rejection sensitivity with R^2 showing level of 78% change in rejection sensitivity by life satisfaction.

Table 2: Prediction effect of Life satisfaction on rejection sensitivity among acne vulgaris.

Variables	Rejection sensitivity	
	Model 2	
	B	95 % CI
Constant	123.62	[120.48, 126.77]
Life satisfaction	-3.1	[-3.39, -2.98]
R^2	.78	
F	909.64	

As shown in Table-3, students eating healthy food have higher attribution as compared to students eating junk food. The mean difference showed that people who ate healthy food have higher rejection sensitivity as compared to those who ate junk food.

As shown in Table-4, weight satisfaction was higher among students who don't have any other physical problem apart from acne vulgaris, as compared to those having other physical problems. Attribution is also higher among those who do not have other physical problems in comparison to those having other physical problems. Appearance concern was

Table 3: Mean differences of eating patterns on (weight, attribution and appearance), life satisfaction, and rejection sensitivity among eating patterns of acne vulgaris students. (N = 250)

Scales	Junk Food (n = 111)		Healthy Food (n = 138)		t	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
Weight satisfaction	22.05	5.07	22.73	4.29	-1.14	.25	-1.84	.49	0.14
Attribution	21.13	5.63	22.78	4.94	-2.46	.01	-2.97	-.33	0.31
Appearance	29.00	6.11	29.28	5.33	-.37	.70	-1.70	1.15	0.04
Life satisfaction	14.77	4.60	14.18	4.13	1.05	.29	-.50	1.67	0.13
Rejection sensitivity	76.66	16.19	78.19	15.26	-.76	.44	-5.46	2.40	0.09

Table 4: Mean differences of physical problem on (weight, attribution and appearance), life satisfaction, and rejection sensitivity among eating patterns of acne vulgaris students. (N = 250)

Variables	Physical problem (N = 21)		No physical problem (N = 228)		t	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
Weight satisfaction	20.95	4.46	22.56	4.66	-1.52	.12	-3.70	.47	.35
Attribution	20.28	5.10	22.21	5.31	-1.59	.11	-4.30	.45	.37
Appearance	26.09	4.96	29.44	5.67	-2.61	.01	-5.87	-.82	.62
Life satisfaction	14.42	4.41	14.45	4.35	-.02	.98	-1.98	1.93	.00
Rejection sensitivity	79.66	15.6	77.31	15.69	.65	.51	-4.69	9.39	.15

Table 5: Mean, standard deviation, f- values of weight difference on body image, life satisfaction and rejection sensitivity. (N = 250)

Scales	45-50 Kgs (n = 47)		51-55 Kgs (n = 33)		56-60 Kgs (n = 43)		61-65 Kgs (n = 45)		66-70 Kgs (n = 30)		71 Kgs (n=52)		F	η^2
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Weight Satisfaction	22.4	4.6	23.8	3.88	22.5	3.94	23.2	4.55	20.2	5.00	22.1	5.2	.11	.09
Attribution	22.23	4.9	21.9	4.0	21.9	5.77	22.6	5.91	20.7	5.02	22.2	5.7	.22	.09
Appearance	29.9	5.7	29.0	5.0	29.0	5.49	29.9	5.95	27.4	5.76	29.1	6.0	.12	.09
Life Satisfaction	14.1	4.3	13.8	4.0	14.5	5.15	14.5	4.40	13.2	3.95	15.8	3.9	1.95	.12
Rejection sensitivity	78.7	13.8	79.4	13.4	76.	17.4	77.8	15.8	81.7	16.9	74.1	16.1	1.37	.19

higher among those who don't have other physical problems as compared to those who have other physical problems. Rejection sensitivity was higher among those who have other physical problems in contrast to other with no other physical problems.

Mean value of weight satisfaction was higher in students with weight ranging from 51 to 55 kilograms as compared to other weight categories (Table-5). The attribution is higher in weight group 61-65 kgs, as compared to other weight categories. Appearance concern was higher in the 61-65 kgs weight category as compared to other weight categories. The life satisfaction means was higher in students having weight above 70 kgs. Rejection sensitivity was higher in weight category of 66-70 kgs as compared to other categories.

Table-6 shows that prevalence of acne vulgaris in students of age group 18-22 years was 78.8% whereas in students of ages ranged from 23 to 32, prevalence was 18.0%. Of the sample, 43.3% of the male population and 56.0% of female population was affected by acne. The effect of acne vulgaris on students who consume junk food was 44.4% whereas effect of acne vulgaris on healthy food consumers was 55.2%. The effect of acne vulgaris on students those who have any other physical problems was 8.4% whereas effect of acne vulgaris on students those who do not have any physical problems was 91.2%. The effect of acne vulgaris on students weighing 45-50 kg was 18.8%, for 51-55 kgs was 13.2%, from 56-60 kg was 17.2%, from 61-65 kg was 18.0%, from 66-70 kg was 12.0% and from 70 kg above was 20.8%.

Table 6: Prevalence of demographic characteristic in acne vulgaris.

	Variable	Frequency	%
Age	18-22	197	78.8
	23-32	45	18.0
Gender	Male	109	43.3
	Female	140	56.0
Eating Pattern	Junk food	111	44.4
	Healthy food	138	55.2
Other Physical	YES	21	8.4
	NO	228	91.2
Weight	45-50kg	47	18.8
	51-55kg	33	13.2
	56-60kg	43	17.2
	61-65kg	45	18.0
	66-70kg	30	12.0
	70kg+	52	20.8

Discussion

The present study explored the relationship between body image, life satisfaction and rejection sensitivity among the students suffering from acne vulgaris. It highlighted the effects of demographic variables (weight, eating pattern, and other physical problems) on body image, life satisfaction and rejection sensitivity among acne vulgaris affected students.

Acne Vulgaris is shown to have a negative impact on psychosocial health leading to psychological abnormalities.¹⁹ When considering that psychosocial variables are significantly related to Life Satisfaction²⁰ and Quality of Life⁹, it is

deduced that student suffering from Acne Vulgaris have lesser life satisfaction or worse Quality of Life.²¹

Acne Vulgaris is a dermatological condition that appears on the most apparent part of one's body and thus actively relates to self-representation and body image. Academic learning of university students' is a part of social learning phenomenon. Cognitive and social learning processes of university students are affected by their perception of self of acceptance and rejection socially and can influence their normal learning activities.¹³

Findings from our study showed that weight satisfaction negatively predicts rejection sensitivity (Table-1) in students having acne vulgaris. Students who are more satisfied with their weight while having Acne Vulgaris will have less rejection sensitivity. It has been observed that obese adolescents suffer more from rejection sensitivity and have less self-worth.²² In our study, attribution positively predicts rejection sensitivity. Students will have higher rejection sensitivity when they are more concerned about others' opinion regarding to their body and appearance. It was found that increased sensitivity of participants to appearance rejection resulted in reduced willingness to engage in social interaction (such as attending social gatherings, meeting new people etc.), exhibiting only after reception of negative criticism about their appearance.²³

The findings from our study showed that life satisfaction negatively predicts rejection sensitivity (Table-2). Students who were less satisfied with their lives will be more prone to the fear of being rejected. Some of the negative consequences of rejection sensitivity (poor relationship satisfaction, increased depression levels) may depend on the level of self-compassion.²⁴

The findings of this study revealed that the students who ate healthy food have slightly more weight satisfaction as compared to those who take junk food (Table-3). Somewhat similar results can be seen in a study regarding relationship of body satisfaction, with nutrition and weight control behaviors, where a quarter of participants were dissatisfied with their weight with 60.5% exhibiting a desire to shed weight, 92.15% of women who participated in that study underwent a healthy dieting regimen while 10.8% of them did not take balanced nutritional diet devoid of junk food during the past six months.²⁵

As indicated in our study findings, weight satisfaction is higher among the students who do not have other physical problems other than acne vulgaris (Table-4). Satisfaction of men and women with their weight was found to result in an increased

tendency to partake in physical activity and was associated with considerably healthy food habits leading to an overall better health status.²⁶ Attribution was also higher among those students who do not have other physical problems, apart from acne vulgaris. A similar study indicates that there exists a relationship between prejudice among people and standard of beauty with those not considered attractive or discriminated against and can be rejected or even excluded from society.²⁷ Life satisfaction of students having any physical problem other than acne vulgaris was less than those who do not have any other physical problem. Individuals with health problems have shown lesser levels of life satisfaction.²⁸ Rejection sensitivity was higher among students who have other physical problems apart from acne vulgaris, in contrast to those with no other physical problems. Results of another study showed that participants scoring high on appearance based rejection sensitivity who often thought of their personal strengths (self-affirmation) or were part of a secure, caring relationship with positive attachment style were safe from the negative effects of an appearance threat on subsequent state of self-esteem and mood.²⁹

The findings from this study revealed that weight satisfaction was higher in students having weight between 51-55 kgs (Table-5). Over time, younger individuals were less likely to perceive themselves to be overweight, with no secular change observed among older individuals.³⁰ Appearance concerns were higher in students having weight between 61-65 kgs and life satisfaction was higher in students having weight between 66-70 kgs. Whereas, the findings from another research showed that high body mass index was associated with low life satisfaction and wellbeing.³¹ Rejection sensitivity was higher in weight category of 66-70kgs. Those who have high tendency to apprehensively expect rejection based on weight were found to be at additional risk for compromised psychological and physical well-being over time.³²

The present study investigated the relationship between body image, life satisfaction and rejection sensitivity. The study inspected that appearance and attribution (subscale of body image) has positive predictive effect on rejection sensitivity. Weight satisfaction (subscale of body image), and life satisfaction has negative predictive effect on rejection sensitivity. Findings from the study showed that students with acne vulgaris having low body image and life satisfaction will suffer more from rejection sensitivity. Preventive programs should be developed for the population affected from acne vulgaris. Those areas should be

highlighted that can help in the improvement of life satisfaction of people having high rejection sensitivity and bodily concern. Counselors should focus on lowering the fear of rejection among students suffering from acne. This research will help cosmetic surgeons in identifying psychological effects of acne, on the lives of the students suffering from acne vulgaris and will also help in assessing concerns of those students.

Findings of this study highlight the areas of concern that need to be targeted while assessing psychosocial impact of acne vulgaris on university students. As rejection sensitivity lowers life satisfaction, it is imperative that body image concerns be counselled appropriately for prevention of depression, anxiety and general hopelessness among students.

Conflict of interest: None declared.

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