Original Article

The relationship between self-concept, self-esteem and perfectionism with the severity of acne in adolescents

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Abstract

Introduction: Acne is one of the most common skin diseases that affect nearly 85% of people in different periods of life. It can affect various individual and social aspects of personality, including self-concept, self-esteem and perfectionism. The purpose of this study was to investigate the relationship between self-concept, self-esteem and perfectionism with acne severity in adolescents.

Materials and Methods: This descriptive cross-sectional study was carried out on junior high school and high school students in Jolfa city, western part of Iran (2013). In this study, 200 adolescents with acne were selected through purposeful method of sampling. The instrument used in the study included Saraswot self-concept questionnaire (1984), Rosenberg Self-Esteem Questionnaire (1965), and Hewet and Felt Multidimensional Perfectionism (1991). Data were analyzed using descriptive statistics, Pearson correlation and regression analysis.

Results: The findings of the study showed that self-concept and self-esteem had a significant negative relationship with acne severity (r= -0.36, r= -0.83, $P \leq 0.01$ respectively). On the other hand, perfectionism has a significant positive relationship with the severity of acne (r= 0.58, $P \leq 0.01$). Also, the results showed that in predicting the severity of acne, self-esteem plays a very important role (β= -0.75, $P \leq 0.01$).

Conclusion: According to the findings of the study, adolescents are vulnerable to the psychosocial effects of acne. On this basis, considering mental health care along with medical treatment is necessary in acne treatment.

Keywords: Acne, Perfectionism, Self-concept, Self-esteem

Introduction

Vulgaris, commonly known as acne, is the most common skin condition in adolescents and teenagers treated by a doctor (1). Acne is a chronic inflammatory disease of the *pilosebase* unit, which is considered multifactorial. The main cause of acne is increased sebum secretion, increased crytinysis of follicular ducts, increased microbial flora in the duct, and inflammation (2). Several factors are effective in acne formation

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and exacerbation, including genetic inheritance, sebum volume, hormonal status, bacteria, follicles response, immunological processes, diet, ultraviolet sweating, and psychological factors such as stress (3). Studies on the outbreak of acne in different countries and communities have reported different and sometimes contradictory figures, which range from 10% to over 90% (4-7). Studies also show that 85% of people experience the disease between the ages of 12-25 years (8). Clinical manifestations of this skin disorder are polyphonic morphine and are presented as comedones, papules, pustules, and terms of the type and severity of nodules and cysts. The most common locations of acne are the face, chest, trunk, and upper arms (8). On the other hand, inflammatory changes have made acne a real disease, as social disabilities caused by acne are reported in 50 to 60% of the people around puberty (9) and may cause permanent emotional distress (1). The role of acne, like many other skin diseases, has always been the subject of mental health (10). On the other hand, the effect of acne on the mental health of adolescents is less known (11). These studies show that the emotional effects of acne are similar to those of patients with physical illnesses such as diabetes and epilepsy. In addition to the significant personal burden experienced by acne patients, acne also has a social and health care burden on these patients (12).

One of the factors that cause a person to act effectively in relation to the environment is self-esteem. It is easier for a person with low self-esteem to ignore his own goals and much easier to be in the direction that others choose for him (13). Individuals with high self-esteem and self-concept will be resistant to all types of mental stress, illness, and life incidents. Accordingly, not only does self-concept plays an extraordinary role in self-esteem, but it also greatly affects mental health because a person's self-concept of his/her personality determines his perception of the environment around him. If the self-concept is positive and balanced, the person has mental health, and if it is negative and unbalanced, he is not considered to be healthy (14). The underpinning of the self-concept is the sense of a person to himself and his own body, the whole body, gender, and age (9). In other words, self-concept is the description that a person has of

him/herself. However, self-esteem is the value of information within the self-concept of a person and results from the beliefs of the individual about all the traits and attributes that are in him/her. Dalgard et al. (15) found that adolescents with acne were significantly more depressed than other adolescents and had fewer self-esteem and physical satisfaction. Also, another study conducted showed that acne has significant negative psychosocial effects on self-esteem (16).

Another variable that appears to play an important role in the anthropology, maintenance, and clinical course of psychiatric pathologies is perfectionism (17). The term perfectionism refers to a person's strive to achieve high-performance standards, accompanied by critical self-evaluations and concerns regarding others' evaluations (12). Perfectionism can be regarded as normal and positive or abnormal and ineffective. If a person has great goals and pursues them in a functional and positive way, then he has positive and normal perfectionism. The fundamental difference between abnormal and inefficient perfectionism a positive and normal types is that in the former, despite the existence of conflicting evidence, perfectionist tendencies continue to persist. Since perfectionists constantly expect the requirements and expectations that they cannot attain, they are not satisfied with their own performance. Although most scholars have emphasized the role of perfectionism in psychopathology, little research has been done about it. Until now, perfectionism has been associated with disorders such as anorexia nervosa, depression, obsessive-compulsive disorder, and psychotic overeating (18). The findings of Williams et al. study showed that there is a significant relationship between high levels of perfectionism with a high degree of concern about acne and worry about appearance in general (19).

Overall, due to the little research done on the psychological factors associated with acne and the emergence of attributes such as perfectionism and idealism in adolescence, the identification of personality and identity in this sensitive period, the issue has high importance. Accordingly, the researchers of the study seek to find out whether psychological factors (self-concept, self-esteem, and perfectionism) are associated with the

severity of acne in adolescents or not and if the intensity of acne in adolescents is predictable through psychological factors (self-concept, self-esteem, and perfectionism).

Materials and Methods

The population of this cross-sectional and descriptive study includes all adolescents aged 14-18 with acne in the city of Jolfa in 2013. To select the number of statistical samples, the study used internal and external research papers. Based on the number of samples used in the study, 250 adolescents with acne in Jolfa were selected through a purposeful method. During the implementation of the study, participants who did not respond to the questionnaire or incompletely responded to them were excluded from the study. So, 18 participants and 32 subjects were also removed from the statistical sample due to high polygraph scale scores in the Eysenck personality questionnaire, so the final sample was 200, and the studies were done based on the data obtained from this sample number.

The inclusion criteria concluded normal mental ability and lack of children and adolescent psychiatric records and written consent forms, while exclusion criteria were lack of complete fulfillment of the questionnaires and consent form. Regarding ethical considerations, all participants were ensured about secreting their information.

Research instrument

A) Acne Global Severity Scale (AGSS): To measure the severity of acne, the global acne severity scale was cited. The questionnaire was adjusted according to the global acne severity scale. Also, the questionnaire, unlike all the tools in the study, was completed by the patients, the researcher, or with the advice of a dermatologist and evaluation of the current condition of the disease in the afflicted person (20).

Its formal reliability was reported as acceptable by 10 dermatologists, and its validity was calculated as 0.73 by Cronbach alpha.

B) Saraswat Self-concept Questionnaire: This questionnaire has six distinct dimensions, including physical, social, rational, moral, educational, and mood self-concept, and from the sum of its dimensions, the overall score of self-concept is obtained (48 questions). The answers

are in the order in which the scoring system for all questions is the same, that is, 1, 2, 3, 4, 5, whether the question is positive or negative. For the choice of the first option, a score of 5, and for the choice of the final option, a score of 1 is given. In the questionnaire, a higher score indicates a higher self-concept, and a lower score indicates a lower self-concept. The reliability of the questionnaire was obtained by the test-retest method, and the total score of self-concept was 0.91. The reliability of the scale was in the range of 0.67 to 0.88. One hundred questions were given to 25 psychologists to classify them according to different subjects (21).

In Iranian research, its reliability and validity were reported as 0.80 and 0.79, respectively (22).

C) Rosenberg Self-Esteem Scale (RSS): This scale was developed by Rosenberg in 1965 to measure self-esteem and is one of the most used scales in this field. It has high reliability and validity. It includes 10 statements, of which 5 are positive, and 5 are negative. The Rosenberg Self-Esteem Scale (1965) measures overall self-esteem and personal value. This scale consists of 10 general terms that measure the degree of life satisfaction and a good sense of self (16). This scale has stronger correlation coefficients than Copper Smith Self-esteem Questionnaire and has a higher validity in measuring self-esteem levels (17). According to Rosenberg, the reliability of the scale is 0.9 (16). Cronbach's alpha coefficients for the scale were calculated to be 0.87 for men and 0.86 for women, and for the second time, 0.88 for men and 0.87 for women (18). The test-retest correlation is 0.82-0.88, and the coefficient of internal consistency or Cronbach's alpha is in the range of 0.87 to 0.87 (17). Also, this scale has a satisfactory internal consistency (0.77) and has a high correlation with the New York and Gutman National Inventory for self-esteem evaluation. Therefore its content validity is confirmed.

The validity of this scale is estimated by the two-half-way between two Persian and English versions with the Spearman-Brown formula. Meanwhile, the validity of the Persian version was obtained with the retest method by Vahdatnia after ten days (2005), and the correlation coefficient was 0.74 (23).

D) The Multidimensional Perfectionism Scale (MPS): The Multidimensional Perfectionism

Scale was designed by Hewett and Feltt in 1991 and had 30 items that measure three dimensions self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. Each of the three dimensions with 10 items is measured on a Likert scale of 5 degrees from a score of 10 to 50. Hewett and Felt, in their research on a sample of 263 patients, declared their internal consistency to be acceptable, which were 0.88, 0.74, and 0.81 for self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism, respectively (24,25).

The reliability of the tool for self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism was 0.69, 0.66, and 0.60, respectively (25). In the preliminary validation of the Iranian form of the scale on a student sample by Basharat, the coefficients of correlation between the scores of subjects in two periods with a four-week interval were reported to be 0.88 for self-oriented perfectionism, 0.83 for other-oriented perfectionism, and 0.80 for socially prescribed perfectionism. Cronbach's alpha coefficient and retest reliability coefficient (after a month) were reported as 0.91 and 0.85, respectively. In another study conducted by Basharat on 480 students, the Cronbach's alpha coefficient for self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism was 0.89, 0.83, and 0.78, respectively, indicating a higher homogeneity of the scale. Coefficients of correlation between the score of 40 students in two periods with a four-week interval was 0.84 for self-oriented perfectionism, 0.82 for other-oriented perfectionism, and 0.80 for the socially prescribed perfectionism, indicating a high degree of retest reliability of the Iranian form of the scale (26). Descriptive statistics, Pearson correlation coefficient, and simultaneous regression analysis were used to analyze the data.

Results

The findings related to the descriptive statistics (mean, standard deviation, maximum and minimum) of the research variables are shown in Table 1.

Table 1. Descriptive data of the research variables

	Variable	Mean	Standard deviation	Min	Max
Self-concept	Physical self-concept	28.11	5.21	40	13
	Social self-concept	27.51	3.90	34	14
	Mood self-concept	13.60	4.47	39	14
	Educational self-concept	27.32	5.27	41	13
	Moral self-concept	27.33	4.02	38	16
	Rational self-concept	25.56	3.57	35	13
	Self-concept (whole)	161.43	20.14	218	97
Self-esteem		6.32	1.57	9	4
Perfectionism	Self-oriented perfectionism	34.11	5.92	49	20
	Other-oriented perfectionism	34.99	6.44	50	18
	Socially prescribed perfectionism	33.10	6.66	48	18
	Perfectionism (whole)	102.40	4.47	135	65

The results of self-concept dimensions showed that the dimension of physical self-concept with a mean of 28.1 had the highest score, and the social self-concept dimension with a mean of 25.5 had the lowest score. Also, the mean of self-concept (total) is 161.4, and self-esteem is 6.32. The study of dimensions of perfectionism showed that in the dimension of other-oriented perfectionism, the mean value was equal to 34.19, and in the dimension of socially prescribed perfectionism, the lowest mean was 33.1. The average perfectionism (total) is 102.4, which varies from a minimum of 65 to a maximum of 135.

Table 2. Correlation among variables with acne

	Variable	r	P
Self-concept	Physical self-concept	-0.437	0.01
	Social self-concept	-0.493	0.01
	Mood self-concept	-0.232	0.16
	Educational self-concept	-0.331	0.01
	Moral self-concept	-0.426	0.04
	Rational self-concept	-0.324	0.05
	Self-concept (whole)	-0.362	0.00
Self esteem		-0.839	0.00
Perfectionism	Self-oriented perfectionism	0.566	0.00
	Other-oriented perfectionism	0.246	0.00
	Socially prescribed perfectionism	0.508	0.00
	Perfectionism (whole)	0.581	0.00

The results of the correlation matrix table showed that there is a negative significant (inverse) relationships between acne position and physical self-concept (r= -0.437, P= 0.01), social (r=-0.493, P= 0.01), educational (r= -0.331, P= 0.01), ethical (r= -0.426, P= 0.04) and total (r= -0.324 and P=0.05). That is, as acne increases, each of the dimensions of self-concept decreases. Also, the correlation results showed that there is a significant negative (negative) relation between self-esteem and the severity of acne (r= -0.839

and P= 0.00). This means that with acne increases, the self-esteem of adolescents decreases.

Finally, the correlation results showed that there is a significant positive relationship between the intensity of acne with the dimensions of self-oriented (r=0.566, P= 0.00), and other-oriented perfectionism (r=0.246, P= 0.00), and socially prescribed perfectionism (r=0.508, P= 0.05). That is, with acne increases, these dimensions of perfectionism increase.

Table 3. Summary of regression analysis

F	P	R	R2	SE
121.290	0.000	0.845	0.713	0.6982

Considering the variables of self-concept, physical, social, temperamental, educational, moral, rational, and self-esteem based on the multivariate regression test (synchronous method) and according to table 3 in explaining the severity of the acne from the six dimensions

of self-concept and self-esteem it is suggested that multiple correlation coefficient is R= 0.84, the coefficient of determination is R2= 0.71, and the pure determination coefficient is R= 0.70. Effective predictor variables explain up to 70% of the variance in the severity of acne scores.

Table 4. Summary results of standardized regression coefficients

Variable	Unstandardized coefficients		Standardized coefficients	T	Sig
	B	Standard error	β		
Interaction	8.670	0.636	-	13.635	0.000
Physical self-concept	-0.091	0.021	-0.366	-6.253	0.000
Social self-concept	0.022	0.023	0.066	0.942	0.346
Mood self-concept	-0.042	0.024	-0.145	-1.771	0.078
Educational self-concept	-0.021	0.018	-0.88	-1.183	0.023
Moral self-concept	-0.037	0.021	-0.195	-1.803	0.043
Rational self-concept	-0.048	0.25	-0.189	-1.908	0.048
Self esteem	0.226	0.016	0.752	-14.492	0.000

Considering Table 4, according to standardized beta coefficients and significance level, the predictor variables affecting acne severity were (β= -0.366, *P*< 0.01) for physical self-concept, β= -0.195 and *P*< 0.05 for moral self-concept, b= -0.189 and *P*< 0.05 for rational self-concept, and β= 0.752 and *P*= 0.000 for self-esteem. The relationship between predictor variables and criterion variables is linear regression analysis (F= 23.05, *P*< 0.01). The study of the beta coefficients showed that social, mood, and education variables are not sufficiently effective on the severity of acne.

Discussion

The first finding of the study showed that there is a significant negative relationship between acne severity and all aspects of self-concept, including physical, social, mental, educational, moral, rational, and total self-concept. That is, with acne increases, each aspect of self-concept decreases in adolescents. These results are in line with Dalgard et al. (15). The results of a study showed that acne is a potential barrier to the social relationships of affected people due to the social anxiety that it creates in a person and also because it causes prejudice and preconception in the environment to the afflicted person, it heavily affects social self-concept and consequently all aspects of self-concept (20). The second finding of the study indicates a significant negative relationship between self-esteem and the severity of acne in adolescents. That is, with the increase in acne, the level of self-esteem in adolescents decreases. This is consistent with the present study (7,10). Based on Tan's study (27), effective acne treatment is associated with a significant improvement in self-esteem, obsession, embarrassment, body image, social expression, and self-esteem. In explaining these results, it can be said that individuals with controlled acne have more self-esteem, which can be explained by the mutual relationship between self-esteem and the severity of acne. Since the concepts of self-esteem and self-concept, despite the differences in conceptual and semantic terms, there are two very closely related and closely interrelated terms that in order to understand one's meaning, addressing another's nature is necessary, the explanation of these two hypotheses should be based on a single justification and inference. To understand the nation of self-esteem, there is a

need for a basic foundation. Therefore, self-concept is the foundation and basis for self-esteem, and these two, despite the differences between them, are correlative and need the same explanation. Self-esteem is the judgment of a person about things that exist in the person's self-concept; that is, self-esteem is the amount of value that has contents of self-concept for the person. Therefore, any change that occurs in the content of the self-image (the image of one's self) affects the self-esteem and the value attaches to the content of this image (14). So, when the physical changes caused by acne in the skin cause conflicting reactions in the people around the person, it changes the person's relationship with them, in a way that the person with acne is aware of changes in the behavior of others compared to their earlier behavior, and then many adolescents become sensitive about their own self-image. This leads to the formation of a negative self-concept which is one of the self-concepts formed in the midst of defeats and disappointments and causes insensibility, humiliation, and distrust (28). This negative image of the body and physical appearance gradually spreads to the other aspects of self-concept, especially to the social self-concept, and accordingly, adolescents with severe acne suffer from a severe disruption in social self-concept, and acne becomes a potential barrier to their social relationships (6). Gradually, the person suffering from acne spends much time hiding and covering the acne and its lesions and effects, and, as a result, the person deprives him/herself of community. Gradually, the individual escapes from the community and seeks refuge in isolation and seclusion. This situation gradually increases his/her stress. Since psychological stress has a role in acne development, it seems that a defective cycle of acne-negative self-concept-low self-esteem, and stress occur, which causes anxiety and depression in the person. As a result, the person avoids the community more than before and loses his/her self-esteem (20). Based on the results of the multivariate regression test (synchronous method), in explaining the severity of acne on the six dimensions of self-concept, it is seen that effective predictive variables explain up to 39% of the severity of acne variance. According to standardized beta coefficients and significance level, predictive variables affecting acne severity were physical self-concept (0.36), ethical self-

concept (0.19), and rational self-concept (0.18). The study of the beta coefficients shows that social variables, mood, and education are not sufficiently effective on the severity of acne. As expected, physical self-concept has the highest determination compared to other dimensions of self-concept because this is more related to physical appearance (15), and the mental obsession that adolescents have about their own appearance and their behaviors can be seen as further evidence that the adolescent's conception of their physical appearance (physical self-concept) is the strongest determinant of the severity of acne (12). Finally, the findings showed that there is a significant positive relationship between the dimensions of self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism with the severity of acne. That is, the more each of these dimensions increases in a person, the more severe acne is observed. These results are in line with the research by Hannetock and Omafoni (24). Based on various studies, perfectionism is associated with a variety of mental disorders, including obsession (27). On the other hand, obsession is one of the most common mental disorders that can be seen in patients going to skin clinics. People with acne appear to be more likely to have an increased risk of obsession symptoms such as checking their appearance, slowness, and rumination. Therefore, the more severe acne and the resulting lesions in one person are related to more perfectionism and its psychological consequences. To explain this finding, it can be said that since perfectionists are very sensitive to the opinions of others about them and it is very important for them to be considered perfect individuals, these people will always end up in the endless trap and will suffer from a variety of psychological injuries (17). In the sensitive period of adolescence, where perfectionism and idealism are among the prominent personality traits, acne sufferers, with increasing acne, gradually feel the need to be perfect, and acne actually becomes a barrier to it; then the person always finds him/herself in need to be perfect. In this regard, Horney calls the need for perfection and being unexceptionable the tenth need in his list of neurotic needs. The holder of this need constantly fears that his mistakes and defects will completely destroy his/her image. These people are immensely anxious and fearful, and they blame themselves for any mistakes that show them imperfect (29). Therefore, acne leads to the destruction of the perfectionism motive in itself, and, in fact, the person tries more than before to satisfy the needs of others and causes various changes in the behavior and reaction of others towards him/her, and this condition intensifies when the person has severe acne and becomes insatiable to meet the need for perfection, so another defective cycle is created. Since a perfectionist always is very afraid of criticism, and anything that causes criticism of others leads to his/her anxiety. As a result, the person tries more to be perfect for overcoming his/ her anxiety and does not notice the reverse effect of his actions (17). The anxiety and pressure exacerbate the acne, and this cycle continues until the person finds him/herself in endless trouble. The present research has some limitations that affect the generalizability of the results. In the first place, due to the use of self-reporting tools to collect data, it is necessary to interpret the results with caution. Also, the lack of investigation and control of other important factors affecting psychological factors such as parenting style, the culture of the study environment, and pre-existing psychological problems in participants of the study, which might consider acne merely as a companion for them. Finally, the application of the correlation method in this descriptive study describes only the mutual relationships among the variables and cannot indicate cause and effect relationships between the variables. It is recommended another study be conducted with a control group including homogeneous individuals with the experimental group without acne with experimental methods.

Conclusion

The conception of self-concept and development of self-esteem about acne can play an important role in the basic motivations of adolescents' behaviors. In other term, regarding adolescents' need for positive attention during the growth period and the role of acne in others' attention, the assessment of this disease has specific importance in adolescents' mental health.

Acknowledgments

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