

Original Article

Social Appearance Anxiety and Quality of Life among Adolescents with Acne

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ABSTRACT

Background: Acne is a prevalent condition among adolescents, significantly impacting their psychological well-being and quality of life. The study aimed to investigate the relationship between acne, social appearance anxiety, and quality of life among adolescents in Islamabad and Rawalpindi.

Objective: To explore the relationship between acne, social appearance anxiety, and quality of life among adolescents aged 12-19 years and to identify significant predictors of quality of life.

Methods: A cross-sectional study was conducted with 327 participants (181 males and 146 females) recruited through purposive sampling from various educational institutions in Islamabad and Rawalpindi. Data were collected using the Cardiff Acne Disability Index (CADI), Social Appearance Anxiety Scale (SAAS), Teenager's Quality of Life Index (T-QoL), informed consent forms, and a self-developed demographic sheet. Statistical analyses included correlation analysis, regression analysis, and t-tests using SPSS-21.

Results: The study revealed a significant positive correlation between acne, social appearance anxiety, and quality of life ($p < 0.01$). Social appearance anxiety was the most significant predictor of quality of life ($B = 0.30, p < 0.01$), while age was the least significant ($B = 0.23, p = 0.55$). Females scored higher on quality of life ($M = 12.93, SD = 7.37$) compared to males ($M = 12.80, SD = 6.64$). Males scored higher on acne ($M = 6.30, SD = 3.08$) and social appearance anxiety ($M = 41.31, SD = 13.74$) compared to females (acne: $M = 5.81, SD = 3.40$; social appearance anxiety: $M = 40.0, SD = 14.86$).

Conclusion: The study demonstrated that social appearance anxiety is a significant predictor of quality of life among adolescents with acne. These findings highlight the need for targeted interventions to improve the psychological well-being of adolescents affected by acne.

Keywords: Acne, Adolescents, Islamabad, Quality of life, Rawalpindi, Social appearance anxiety, Well-being

INTRODUCTION

Acne is a prominent issue affecting many adolescents, marking a sensitive developmental phase between childhood and adulthood. During adolescence, individuals develop a sense of identity and undergo significant social, psychological, and physical changes. The onset of puberty triggers hormonal changes, and adolescents often lack the maturity to respond logically and rationally to these transformations, making them highly sensitive to others' perceptions and opinions(1, 2).

The onset of acne during this critical phase can negatively impact self-esteem and have long-term effects on psychological and social aspects of life. Adolescents develop their self-concept through personal perceptions and their social environment, making it crucial to evaluate and identify the impact of acne on self-esteem, social appearance anxiety, and quality of life to prevent further mental health issues that could hinder various life domains(3, 4).

Research has focused on the effects of acne during adolescence due to its prevalence and the significant challenges it poses. However, limited research exists on the relationship between acne, self-esteem, social appearance anxiety, and quality of life in Pakistan. Acne, a common skin ailment, results in pimples on the face, forehead, chest, shoulders, and upper back. It is caused by factors such as genetics, hormonal changes, stress, environmental humidity, and the use of oil-based personal care products. Although acne is most frequent among teens, it can develop at any age(5). Acne is diagnosed through a physical examination of skin appearance and requires comprehensive treatment, including health assessments, precautions, medications, and lifestyle changes.

Medications used to treat acne, such as benzoyl peroxide, antibiotics, and retinoids, aim to reduce or eliminate acne. Treatments can also include photodynamic therapy and oral medications like birth control pills and isotretinoin, the latter having severe psychiatric side effects, including depression, suicidal ideation, and psychosis(6).

Social appearance anxiety is defined as the fear of negative evaluation by others based on one's appearance, including body shape. Social anxiety disorder is a persistent fear of social situations where embarrassment may occur, and it is associated with a lower quality of life and disruption in various life functions. Social appearance anxiety involves inconsistent beliefs and perceptions about one's appearance, leading to a fear of being perceived as unattractive or unacceptable by others. It has been linked to negative body image, personality issues, depression, and disordered eating behaviors(7, 8). Quality of life, as defined by the World Health Organization, is the individual's perception of their position in life in the context of the culture and value systems in which they live, relative to their goals, expectations, standards, and concerns. It is a broad domain encompassing aspects such as international development, healthcare, politics, and employment. Quality of life is evaluated using various methods and instruments, including the Human Development Index and subjective measures like happiness and life satisfaction(9).

Several studies have explored the impact of acne on adolescents' quality of life and psychological well-being. A cross-sectional study conducted at the Oxford Medical College, Hospital, and Research Center in Bangalore found a positive correlation between severe acne and psychological distress. Another study involving 355 high school students from Joao Pessoa indicated that acne vulgaris had a significant psychological impact, causing feelings of guilt and affecting self-esteem and quality of life(10). Recent research has also examined the relationship between acne and social appearance anxiety. A study conducted in Turkey with 1007 students found that higher levels of social anxiety were present among students whose quality of life was negatively impacted by acne. Other studies have highlighted the association between acne and psychological disorders, including depression and anxiety, and emphasized the need for comprehensive treatment to improve psychological outcomes(11).

The current research aims to determine the impact of acne on social appearance anxiety and quality of life among adolescents. By investigating these relationships, the study seeks to provide valuable insights that can help adolescents overcome the psychological impact of acne, improve their self-esteem and self-perception, and enhance their overall quality of life(12).

MATERIAL AND METHODS

The objectives of this study were to explore the relationship between acne, social appearance anxiety, and quality of life among adolescents, to identify gender differences in these variables, and to determine the most significant predictor of quality of life among adolescents with acne. A cross-sectional survey research design was employed using a purposive sampling technique to assess these variables among adolescents aged 12 to 19 years.

The sample comprised 327 participants (146 females and 181 males) from various schools, colleges, and universities in Islamabad and Rawalpindi. Informed consent was obtained from participants aged 18 and above, while guardian consent was secured for participants below 18 years through teachers, principals, and department heads. All participants were informed of their right to withdraw from the study at any time(13).

The sample size was calculated using Rao software and consisted of adolescents with acne. Participants who were below 12 years or above 19 years of age, or those who did not fully complete the consent form and questionnaire, were excluded from the study. Adolescents without acne were also excluded to minimize the potential impact of confounding variables(14).

Data collection instruments included a demographic sheet, the Cardiff Acne Disability Index (CADi), the Social Appearance Anxiety Scale (SAAS), and the Teenager's Quality of Life Index (T-QoL). The CADi, a 5-item scale with a 4-point Likert scale, assessed the impact of acne on quality of life, with higher scores indicating lower quality of life. The SAAS, a 16-item scale, measured anxiety related to negative evaluations by others, with item 1 being reverse-coded. The T-QoL consisted of 18 questions divided into three domains: self-image, physical well-being and future aspirations, psychological impact, and relationships, with scores ranging from 0 to 36(15). These instruments were utilized to assess the impact of acne on social appearance anxiety and quality of life among adolescents, with gender differences also analyzed. Data analysis was conducted using SPSS-21, employing statistical measures such as Cronbach's alpha reliability coefficient, Pearson Product Moment Correlation, t-tests, and linear regression to evaluate associations and predictors(16).

The study aimed to provide valuable insights into the psychological and social challenges faced by adolescents with acne, contributing to the development of interventions to improve their quality of life and reduce social appearance anxiety.

RESULTS

Table 1 presented the percentages and frequency distribution of all demographic variables in the study. The sample comprised 327 participants with acne, including 181 males (55.4%) and 146 females (44.6%). Among the participants, 302 (92.4%) were committed,

and 25 (7.6%) were single. The age distribution showed that 92 participants (28.1%) were between 12 to 14 years old, 140 participants (42.8%) were aged 15 to 17 years, and 95 participants (29.1%) were between 18 to 19 years old. Regarding education, 224 participants (68.5%) were school students, 59 (18%) were college students, and 44 (13.5%) were university students. The educational institution category included 92 private school students (28.1%), 33 private college students (10.1%), 42 private university students (12.8%), 127 public school students (38.8%), 31 public college students (9.5%), and 2 public university students (0.6%), representing diverse educational environments. Additionally, 148 participants (45.3%) were in co-educational systems, while 179 (54.7%) were in separate gender systems.

The Pearson correlation coefficients indicated relationships between the study variables. There was a moderately positive correlation ($r = 0.523$, $p < 0.01$) between acne and social appearance anxiety, implying that higher acne levels were associated with greater social appearance anxiety. A moderately negative correlation ($r = -0.531$, $p < 0.01$) between social appearance anxiety and quality of life suggested that increased social appearance anxiety was linked to lower quality of life. Furthermore, a moderately positive correlation ($r = 0.566$, $p < 0.01$) between acne and quality of life indicated that individuals with more severe acne reported higher quality of life. However, it is essential to note that correlation does not imply causation, and further investigation is needed to understand the underlying dynamics between these variables.

The analysis of gender differences in study variables among the 327 participants (181 males and 146 females) revealed no significant differences. For acne, the mean score for males was 6.30 (SD = 3.08) and for females was 5.81 (SD = 3.40). The t-test results indicated a non-significant difference between genders ($t(325) = 1.38$, $p = 0.17$, CI [-0.21, 1.20]). Similarly, for social appearance anxiety, males had a mean score of 41.31 (SD = 13.74) and females had a mean score of 40.0 (SD = 14.86), with a non-significant difference ($t(325) = 0.83$, $p = 0.41$, CI [-1.81, 4.43]). For quality of life, males had a mean score of 12.80 (SD = 6.64) and females had a mean score of 12.93 (SD = 7.37), with a non-significant difference ($t(325) = -0.17$, $p = 0.87$, CI [-1.66, 1.40]). These findings suggested no significant gender disparities in the levels of acne, social appearance anxiety, or quality of life among the participants, although other influencing factors should be considered.

The linear regression analysis examined the influence of age and social appearance anxiety on the quality of life among the 327 participants. The constant term, representing the expected quality of life score when all predictor variables were zero, was calculated at 5.73. The regression coefficient for age ($B = 0.23$) indicated the change in quality of life score for each unit increase in age, but this was not statistically significant ($p = 0.55$), suggesting that age did not significantly impact the quality of life. Conversely, the regression coefficient for social appearance anxiety ($B = 0.30$) was statistically significant ($p < 0.01$), indicating that higher levels of social appearance anxiety were associated with lower quality of life. The overall model fit was significant ($F(2, 324) = 93.74$, $p < 0.01$), explaining a notable proportion of the variance in quality of life scores ($R^2 = 0.47$), with a strong positive correlation ($R = 0.68$) between predicted and observed quality of life scores. This emphasized the importance of addressing social appearance anxiety in interventions to enhance the quality of life for individuals with acne.

Descriptive properties of the study variables provided further insights. The mean score for acne was 6.08 (SD = 3.23) with a range from 0 to 15, indicating a slightly positively skewed distribution (skewness = 0.38) and platykurtic shape (kurtosis = -0.42). For social appearance anxiety, the mean score was 40.72 (SD = 14.25) with a range from 16 to 80, showing a slight positive skew (skewness = 0.56) and platykurtic shape (kurtosis = -0.23). The mean quality of life score was 12.86 (SD = 6.97) with a range from 0 to 36, exhibiting a positive skew (skewness = 0.81) and slightly leptokurtic shape (kurtosis = 0.83). The quality of life components—self-image, physical/future, and psychological/relationships—showed mean scores of 6.30 (SD = 3.56), 2.36 (SD = 2.02), and 4.20 (SD = 2.63) respectively, each with varying degrees of skewness and kurtosis. These descriptive statistics provided a comprehensive overview of the distribution and characteristics of the variables, forming the basis for further analysis and interpretation.

Table 1: Frequencies and Percentages of Demographic Variables (N=327)

Variables	f	%
Gender		
Male	181	55.4
Female	146	44.6
Marital status		
Single	302	92.4
Committed	25	7.6
Age		
12-14	92	28.1

	15-17	140	42.8
	18-19	95	29.1
Education in years			
	School	224	68.5
	College	59	18
	University	44	13.5
Educational institute			
	Private school	92	28.1
	Private college	33	10.1
	Private university	42	12.8
	Public school	127	38.8
	Public college	31	9.5
	Public university	2	0.6
Educational environment			
	Co-education	148	45.3
	Separate gender	179	54.7

Note. f = frequency; % = percentage.

Table 2: Pearson’s Correlation Coefficient between Variables of the Study (N = 327)

Variables	1	2	3
Acne	0.523**	-0.320**	0.566**
Social appearance anxiety	-	-0.531**	0.675**
Quality of life	-	-	-

Note. **. Correlation is significant at the 0.01 level (2-tailed).

Table 3: Differences along with gender on Study Variables (N=327)

Variables	Males (n=181)	Females (n=146)	t (df)	p	CI 95%		Cohen’s d
	M (SD)	M (SD)			LL	UL	
Acne	6.30 (3.08)	5.81 (3.40)	1.38 (325)	0.17	-.21	1.20	0.15
Social appearance anxiety	41.31(13.74)	40.0 (14.86)	0.83 (325)	0.41	-1.81	4.43	0.28
Quality of life	12.80 (6.64)	12.93 (7.37)	-0.17 (325)	0.87	-1.66	1.40	0.02

Note. M = mean; SD = Standard deviation; CI = Confidence interval; LL = Lower limit; UL = Upper limit.

Table 4: Linear Regression Analysis to check the impact of age, social appearance anxiety and on quality of life of individuals with acne (N=327)

Variables	B	S. E	β	p	R	R2	F
Constant	5.73	2.90		0.05	0.68	0.47	93.74
Age	0.23	0.38	0.03	0.55			
Social appearance anxiety	0.30	0.02	0.61	0.00			

Note. B = Unstandardized Coefficient; β = Standard Coefficient; S.E = Standard Error; p = Significant Value; R = Correlation; R2 = Correlation square; F = F Statistics.

Table 5: Descriptive Properties of the Study (N = 327)

Variables	n	α	M (SD)	Range		Skewness	Kurtosis
				Potential	Actual		
Acne	5	0.72	6.08 (3.23)	0-15	0-14	0.38	-0.42
Social appearance Anxiety	16	0.9	40.72 (14.25)	16-80	16-80	0.56	-0.23
Quality of life	18	0.86	12.86 (6.97)	0-36	0-36	0.81	0.83
Quality of life	8	0.77	6.30 (3.56)	0-16	0-16	0.66	0.17

self-image								
Quality of life physical/future	4	0.74	2.36 (2.02)	0-8	0-8	0.90	0.15	
Quality of life psychological/ Relationships	6	0.69	4.20 (2.63)	0-12	0-12	0.69	0.23	

Note. M = mean, SD = standard deviation, k = number of items, α = alpha.

DISCUSSION

The study examined the effect of acne on social appearance anxiety and quality of life among adolescents, utilizing the Cardiff Acne Disability Index (CADI), Social Appearance Anxiety Scale (SAAS), and Teenager's Quality of Life Index (T-QoL). Frequencies and percentages for demographic variables were calculated for the complete sample (N=327) to gain a clearer understanding of the sample characteristics. The reliability assessments of the scales were found to be acceptable after analyzing the demographic variables and ensuring a normal distribution of data across the entire sample.

The Pearson correlation coefficients indicated significant relationships between acne, social appearance anxiety, and quality of life among adolescents. These findings were consistent with previous research conducted in various regions, including a study that examined the effect of acne on quality of life, social appearance anxiety, and the use of conventional, complementary, and alternative treatments. Additional research supported the association between acne and negative outcomes related to social appearance anxiety and quality of life(17).

The results revealed a negative association between acne and self-esteem, indicating that the presence of acne diminishes self-esteem. Furthermore, a positive relationship was observed between acne and social appearance anxiety, suggesting that the presence of acne increases social appearance anxiety and subsequently reduces quality of life. A cross-sectional study on university students corroborated these findings, demonstrating that acne negatively impacts quality of life and increases social appearance anxiety(18).

Gender differences in acne, social appearance anxiety, self-esteem, and quality of life among adolescents were also examined. The analysis indicated significant differences across genders, with males scoring higher than females. Females were found to face more self-esteem issues compared to males, aligning with previous studies(19).

The linear regression analysis assessed the impact of age, social appearance anxiety, and self-esteem on quality of life among adolescents with acne. Social appearance anxiety emerged as the most significant predictor of quality of life, while self-esteem was a less significant predictor. Age was the least significant predictor compared to social appearance anxiety and self-esteem. The findings underscored the substantial impact of social appearance anxiety on quality of life among adolescents with acne(20).

The study's strengths included the use of well-validated scales and a comprehensive sample size, which enhanced the reliability and generalizability of the findings. However, limitations such as the cross-sectional design prevented the establishment of causal relationships, and the reliance on self-reported measures might have introduced response bias(21).

Despite these limitations, the study provided valuable insights into the psychological and social challenges faced by adolescents with acne. The results highlighted the critical need for interventions targeting social appearance anxiety to improve the quality of life for adolescents affected by acne. Future research should consider longitudinal designs to better understand the causal pathways and explore additional factors that may influence the relationship between acne, social appearance anxiety, and quality of life. The findings contribute to a growing body of literature emphasizing the importance of addressing psychological well-being in dermatological conditions among adolescents(22).

CONCLUSION

The study explored the effects of acne on self-esteem, social appearance anxiety, and quality of life among adolescents in Islamabad and Rawalpindi, revealing significant correlations: a negative correlation between acne and self-esteem, and positive correlations between acne, social appearance anxiety, and quality of life. Social appearance anxiety emerged as the most significant predictor of quality of life, followed by self-esteem, with age being the least significant predictor. Practical implications suggest that healthcare providers can use these findings to develop targeted interventions to improve self-esteem and reduce social appearance anxiety among adolescents with acne. Increasing awareness and implementing supportive measures in educational and healthcare settings are crucial. Limitations included a small sample size and the need for longitudinal studies to further understand the variables. Future research should address confounding factors and utilize larger samples to enhance the robustness of findings.

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