Journal of Media Horizons
ISSN: 2710-4060 2710-4052
Volume 7, Issue 6, 2026

SOCIODEMOGRAPHIC CORRELATES, CLINICAL CHARACTERISTICS AND PSYCHOSOCIAL QUALITY OF LIFE IN PEOPLE WITH ALOPECIA

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DOI: https://doi.org/10.5281/zenodo.20537088

Keywords
Alopecia, Quality of Life, Perceived Stigmatization, Social Appearance Anxiety, Generalized Anxiety, Hairdex, Psychosocial Factors.

Article History
Received: 31 May 2026
Accepted: 03 June 2026
Published: 04 June 2026

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Abstract

*A cross-sectional correlational research design was conducted to examine the role of sociodemographic characteristics, clinical factors, and psychosocial variables in predicting quality of life among individuals with alopecia. The study specifically explored the influence of perceived stigmatization, stigma-related behaviours, social appearance anxiety, and generalized anxiety on hair-related quality of life. It was hypothesized that perceived stigmatization and social appearance anxiety would be significantly associated with quality of life among patients with alopecia, and that anxiety would moderate this relationship. Furthermore, sociodemographic and clinical characteristics were expected to show significant associations with psychosocial factors and quality of life. A sample of 134 participants (N = 134), determined through G*Power analysis, was recruited using a convenience sampling technique.*

Data were collected from dermatology departments of various hospitals in Lahore and Jhelum, private dermatology clinics, social support groups, and online platforms.

Participants completed a demographic and clinical information sheet, the Hairdex Questionnaire (Fischer et al., 2001), the Social Appearance Anxiety Scale (Hart et al., 2005), the Perceived Stigmatization Questionnaire (Lawrence et al., 2001), and the Generalized Anxiety Disorder Scale (GAD-7).

The findings revealed significant positive correlations among perceived stigmatization, social appearance anxiety, generalized anxiety, and poorer quality of life. Multiple regression analysis demonstrated that perceived stigmatization ($\beta = 2.491$), social appearance anxiety ($\beta = .130$), and generalized anxiety ($\beta = .151$) significantly predicted quality of life, accounting for 18.6% of the variance ($R^2 = .186$, $F = 4.760$, $p < .001$). In addition, moderation analysis indicated that generalized anxiety significantly moderated the relationship between perceived stigmatization and quality of life. These findings highlight the substantial contribution of psychosocial factors to the quality of life of individuals with alopecia and underscore the importance of incorporating psychological interventions into dermatological care.

INTRODUCTION

Alopecia is a common dermatological condition characterized by partial or complete hair loss in areas where hair normally grows. Among its various forms, Androgenetic Alopecia (AGA), commonly referred to as male- or female-pattern hair loss, is the most prevalent type affecting both men and women worldwide. The condition is influenced by genetic predisposition and hormonal factors and typically manifests as progressive thinning of hair on the scalp. Epidemiological studies indicate that approximately 50% of men and 30% of women experience some degree of AGA by the age of 50, making it a significant public health and dermatological concern (Blume-Peytavi et al., 2011; Lee & Lee, 2019).Although alopecia is not a life-threatening condition, its psychological and social consequences can be substantial. Hair is often regarded as an important aspect of physical appearance, identity, and self-expression. Consequently, hair loss may negatively affect an individual's self-esteem, social interactions, and overall quality of life (QoL). The World Health Organization defines quality of life as an individual's perception of their position in life within the context of their culture, value systems, goals, expectations, and concerns (WHOQOL Group, 1995). This definition highlights the subjective and multidimensional nature of QoL, encompassing physical, psychological, and social domains (Carr & Higginson, 2020). Previous research has consistently demonstrated that individuals with alopecia experience greater psychological distress than the general population. A systematic review by Hunt and McHale (2005) reported that hair loss is associated with reduced self-confidence, social withdrawal, and emotional difficulties. Similarly, Cash et al. (1993) found that individuals experiencing hair loss often report dissatisfaction with their appearance and heightened concerns regarding social evaluation. These findings suggest that the psychosocial burden of alopecia extends beyond its physical manifestations.

One psychosocial factor frequently linked to alopecia is social appearance anxiety, which refers to the fear of negative evaluation based on one's physical appearance. Research has shown that individuals with visible appearance-related differences often experience elevated levels of appearance anxiety, leading to avoidance behaviors and impaired social functioning (Hart et al., 2008). In patients with alopecia, concerns regarding hair loss may intensify self-consciousness and contribute to poorer psychological adjustment.

Another important factor is perceived stigmatization, which involves experiences of rejection, discrimination, or negative social reactions due to one's appearance. Studies have demonstrated that perceived stigmatization is associated with increased psychological distress, anxiety, and diminished quality of life among individuals with visible dermatological conditions (Lawrence et al., 2001). The experience of stigma may further exacerbate appearance-related concerns and contribute to emotional difficulties. The theoretical foundation of the present study is informed by Bandura's Social Cognitive Theory, which emphasizes the role of cognitive processes and self-efficacy beliefs in shaping emotional and behavioral responses (Bandura, 1997).

Additionally, principles of positive psychology suggest that psychological well-being is influenced by individuals' strengths, coping resources, and perceptions of themselves and their social environment (Seligman & Csikszentmihalyi, 2000). These perspectives provide a useful framework for understanding how psychosocial factors influence quality of life among individuals living with alopecia.

Despite growing evidence regarding the psychological impact of alopecia, limited research in Pakistan has examined the combined influence of perceived stigmatization, social appearance anxiety, and generalized anxiety on quality of life. Therefore, the present study aimed to investigate the role of these psychosocial factors in predicting quality of life among individuals with alopecia and to explore the moderating effect of anxiety on the relationship between perceived stigmatization and quality of life.

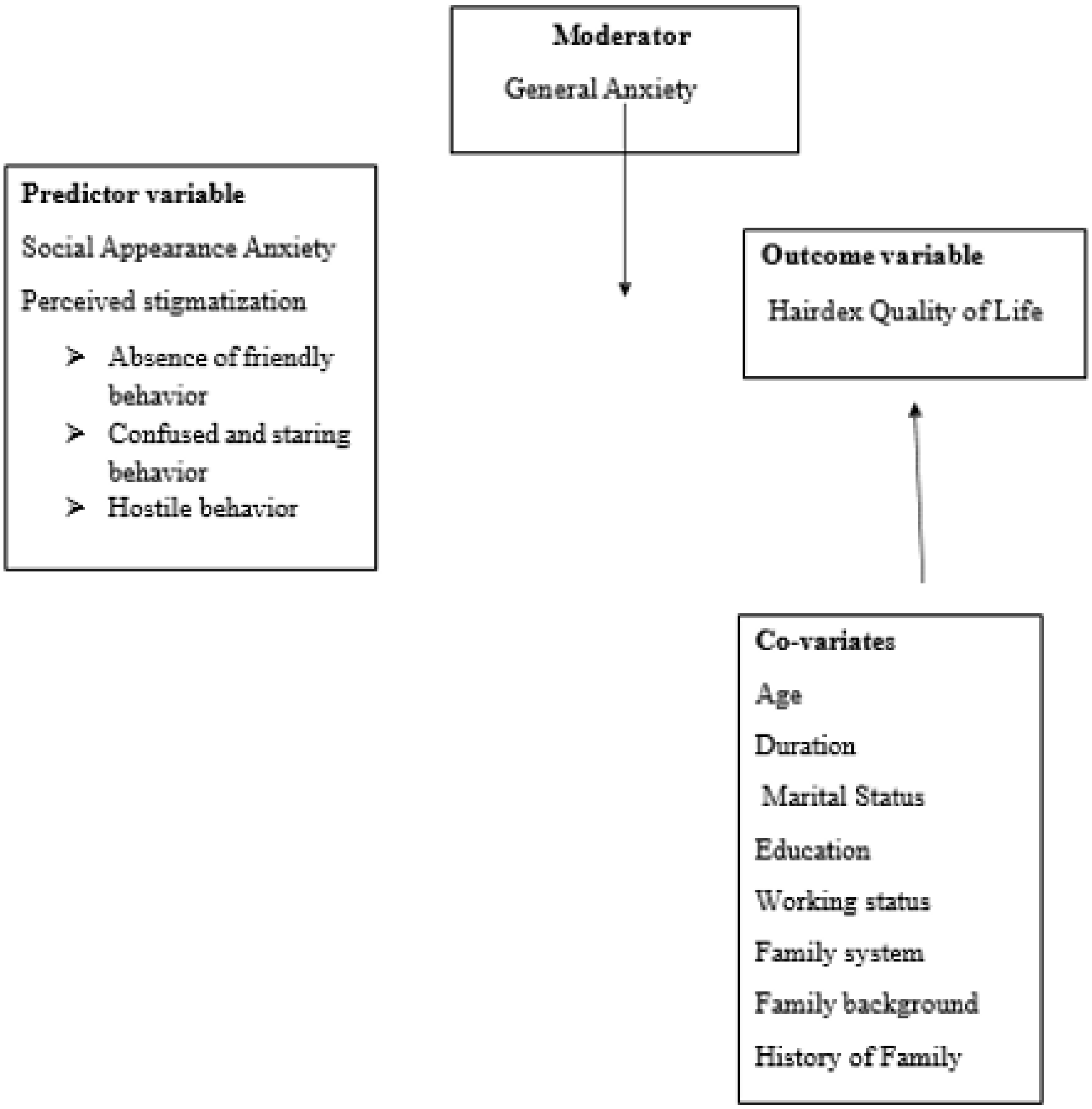

Figure I: Hypothesized model for proposed study

Rationale

Alopecia is a chronic dermatological condition that extends beyond physical hair loss and can substantially affect an individual's psychological well-being and quality of life. Hair is often associated with attractiveness, identity, self-confidence, and social acceptance; therefore, hair loss may result in emotional distress, reduced self-esteem, social withdrawal, anxiety, and depressive symptoms. Previous research has consistently demonstrated that individuals with alopecia experience greater psychological burden compared to healthy populations. For instance, Hunt and McHale (2005) reported that alopecia is associated with impaired self-image, emotional distress, and difficulties in interpersonal relationships. Similarly, Tucker (2009) found that individuals with hair loss frequently report lower self-esteem and poorer quality of life due to concerns about appearance and social evaluation.

Research further suggests that sociodemographic factors such as age, gender, educational level, marital status, and employment status influence the psychological adjustment of individuals with alopecia. Clinical characteristics including type, severity, duration, and progression of hair loss have also been shown to affect emotional functioning and quality of life. However, psychological responses to alopecia cannot be explained solely by demographic and clinical factors. Individuals with similar levels of hair loss often differ considerably in their emotional reactions and coping abilities. This variation may be explained by psychosocial factors such as perceived stigmatization, social appearance anxiety, and generalized anxiety. Studies have shown that perceived stigmatization is associated with feelings of rejection, social isolation, and reduced psychological well-being among individuals with visible appearance-related conditions (Lawrence et al., 2001). Likewise, social appearance anxiety has been identified as a significant predictor of emotional distress and impaired quality of life among individuals concerned about their physical appearance (Hart et al., 2008). Generalized anxiety may further intensify the negative impact of stigmatization and appearance concerns by increasing worry, avoidance behaviors, and psychological vulnerability.

In Pakistan, where hair is often regarded as an important symbol of beauty, femininity, youthfulness, and social desirability, the psychosocial impact of alopecia may be particularly profound. Cultural expectations regarding physical appearance may increase the risk of stigmatization and psychological distress, especially among women. Despite these concerns, limited indigenous research has examined the combined influence of sociodemographic, clinical, and psychosocial factors on the quality of life of individuals with alopecia.

The present study is therefore important in addressing this gap in the literature.

By examining the relationships among perceived stigmatization, social appearance anxiety, generalized anxiety, and quality of life, the study aims to provide a more comprehensive understanding of the psychosocial challenges faced by individuals with alopecia. The findings may contribute to the development of culturally relevant assessment and intervention strategies.

Furthermore, the study highlights the significant role of health psychologists in the management of alopecia. Health psychologists can help individuals develop effective coping strategies, improve self-esteem, address appearance-related concerns, reduce anxiety, and enhance psychological resilience. Through psychoeducation, cognitive-behavioral interventions, stress management techniques, and supportive counseling, health psychologists can work alongside dermatologists to provide holistic care that addresses both the physical and psychological aspects of alopecia. Such interdisciplinary approaches may ultimately improve patients' quality of life and overall psychological well-being.

Aim of study

The present study aimed to investigate the impact of sociodemographic (Age of onset, duration, Marital status ,Work Status), clinical, and psychosocial factors on the quality of life of individuals with alopecia, with particular emphasis on perceived stigmatization, social appearance anxiety, and generalized anxiety. Additionally, the research investigated how do patients with Alopecia tend to differ in Quality of Life, Perceived Stigmatization, and Appearance Anxiety across diverse sociodemographic. Moreover, it aims to examine the moderating roles of anxiety in the relationship between these psychosocial factors and quality of life.

Research Questions

- To what extent do perceived stigmatization, and appearance anxiety predict the quality of life in patients with Androgenetic Alopecia?
- How does anxiety moderate the relationship between psychosocial factors (perceived stigmatization and appearance anxiety) and quality of life in Androgenetic Alopecia patients?
- How do demographic factors (e.g., age, gender) and clinical factors (e.g., severity of hair loss, duration of symptoms) are associated with psychosocial factors and quality of life in patients with androgenetic alopecia?

Hypotheses

- Perceived stigmatization is likely to be a significant predictor of quality of life.
- Appearance anxiety is likely to be a significant predictor of quality of life.
- Anxiety tends to act as a moderator between perceived stigmatization and quality of life.
- Demographic factors and clinical factors exacerbate the impact of psychosocial factors on quality of life.
- Individuals from different sociodemographic groups (gender, age, and marital status) will differ significantly in levels of psychological adjustment, social functioning, and overall quality of life, with females, younger adults, and unmarried individuals expected to report higher psychosocial distress and lower quality of life.

Method Research Design

A cross-sectional with correlational research design were employed to examine how do Sociodemographic, clinical characteristics, and psychosocial factors tend to influence the quality of life in individuals living with alopecia.

Sample and Sampling Strategy

A non-probability purposive sampling technique was employed to recruit participants for this study. The target population includes individuals diagnosed with alopecia residing in the study area. Purposive sampling is appropriate in this context because the study aims to include participants who meet specific eligibility criteria, such as a confirmed diagnosis of alopecia, age range, and willingness to provide informed consent. This technique allows the researcher to intentionally select participants who are most likely to provide relevant and rich data regarding clinical characteristics, psychosocial factors, and quality of life outcomes. Using purposive sampling ensures that the sample includes individuals with varied types and severity of alopecia, as well as diversity in sociodemographic characteristics (e.g., age, gender, marital status, education). The sample size was estimated using G*Power, aiming to recruit approximately N = 134 participants, which is sufficient to detect medium effect sizes with adequate statistical power for correlational, regression, and moderation analyses.

Inclusion Criteria

- With a clinical diagnosis of Androgenetic Alopecia confirmed by a dermatologist.
- With an experience of symptoms of Androgenetic Alopecia for at least six months or more
- Those at the level 2-7 of Androgenetic Alopecia (identified through Hamilton Scale)
- Young and middle-aged participant
- Literate who can read, write and understand the questionnaires
- Those using hair fibers.
- Those who have undergone hair transplant.

- Only males were recruited.

Exclusion Criteria

- Patients with other types of hair loss.
- Those at Level 1 of Androgenetic Alopecia
- Having any other chronic or terminal condition as screened
- Having significant dermatological conditions affecting the scalp or hair (e.g psoriasis or eczema)
- Patients having co-existing medical conditions (Autoimmune or thyroid etc) that may influence their psychological wellbeing
- Have experienced major life events (e.g., bereavement, job loss) within the past 3 months
- Having any other co-morbid psychiatric disorder as screened
- Experiencing hair loss due to any medicine side effect
- Those who have undergone unsuccessful scalp surgeries
- Those using wigs as intervention
- Individuals unwilling or unable to provide informed consent

Assessment Measures Demographic Information Sheet

A demographic questionnaire created by the researcher was employed to gather participants' demographic data. This included information such as gender, age, years of formal education, marital status, employment status, familial background (rural/urban), household income, family structure (joint/nuclear) and other relevant details

Clinical Information Sheet

Medical information for alopecia patients included essential clinical details such as the estimated onset and duration of the condition, treatments and surgical procedures used, comorbid physical conditions, current and past medications, and family history of alopecia, among other relevant factors.

Hairdex Questionnaire (Fischer et.al 2001)

The Hairdex Questionnaire, created by Fischer et al. (2001), is a specialized instrument designed to evaluate the quality of life for individuals experiencing hair loss. It consists of 48 items divided into five subscales: Symptoms, Functioning, Emotions, Self-confidence, and Stigmatization. Respondents are given five choices from 0 (never) to 4 (always) for each item on the scale, reflecting the frequency and intensity of hair loss-related issues. The questionnaire offers a detailed view of the psychosocial and functional effects of hair loss, helping healthcare professionals tailor interventions to enhance the overall well-being of those affected. (Fischer et al., 2001).

The Social Appearance Anxiety Scale (Hart et al. 2005)

The Social Appearance Anxiety Scale (SAAS) is a self-report instrument used to measure the level of anxiety individuals experience in social situations related to their appearance. Raters are given a five- point scale from 0 (not at all) to 4 (extremely) to indicate how much someone worries about how they look. The SAAS assesses concerns such as fear of negative judgment, embarrassment, and self-consciousness across various social scenarios, including interactions with peers, romantic partners, and strangers. It is a useful tool for clinicians and researchers to gauge and understand how appearance-related anxiety affects individuals' social functioning and overall well-being.

The Perceived Stigmatization Questionnaire (PSQ) (Lawrence et al. 2001)

The Perceived Stigmatization Questionnaire (PSQ) is a self-report tool designed to gauge individuals' perceptions of stigma related to a particular health condition or attribute. This questionnaire includes items that assess various dimensions of perceived stigmatization, such as experiences of discrimination, social rejection, and negative attitudes from others. Respondents rate the frequency and intensity of these stigmatizing experiences on a Likert scale, offering valuable insights into the psychosocial impact of perceived stigma on individuals' well-being and quality of life. The PSQ serves as a valuable tool for researchers and clinicians in understanding the subjective experiences of stigmatization among individuals with diverse health conditions or attributes (Lawrence et al., 2001).

The Generalized Anxiety Disorder scale (GAD-7)

Many clinicians depend on the GAD-7 as a self-report measure for checking the intensity of generalized anxiety disorder symptoms. The scale consists of seven questions that check for symptoms of anxiety you have had over the last two weeks, for example, feeling anxious, worried or restless. The responses are given a score from 0 to 3 and the total range is 0 to 21. Usually, scores between 5 and 10 show mild anxiety, between 10 and 15 indicate moderate anxiety and anything over 15 indicates severe anxiety. The GAD-7 is effective in clinical settings for screening, diagnosing, and monitoring anxiety symptoms and evaluating treatment efficacy. It is straightforward to administer and has proven reliable and valid across different populations. (Spitzer et al., 2006).

Procedure

Participants were recruited from dermatology departments, private clinics, social support groups, and online platforms. They were informed about the purpose of the study and provided informed consent before participation. After consent, participants completed the study questionnaires. Confidentiality and anonymity were assured, and participants were informed of their right to withdraw at any time. The collected data were then coded and analyzed using appropriate statistical methods.

Results

The study looked into the psychosocial aspects that influence life quality in patients with Alopecia. Initially, the Cronbach's alpha was used to ensure that the scales could be trusted. After that, the Pearson Product Moment Correlation was applied to analyze how the different variables related. A multiple regression analysis was used next to find the reasons behind quality of life. To check if anxiety acts as a moderator, analysis of moderation was done by using a process macro. To find out if the groups were different, an independent sample t-test and One-way Anova was done.

Pearson Product Moment Correlation among covariates and study variables (N=134)

Variables	1	2	3	4	5	6	7	8	9	10
Age	-	.037	.921**	.200*	.090	-.147	.038	-.023	.018	.064
Family income		-	.088	.299**	.150	.088	-.073	-.082	-.291**	.130
Age of onset			-	.088	.232**	-.149	.057	-.084	.019	.154
Duration				-	-.145	.023	.158	.136	.172*	.113
SAAS					-	.259**	.496**	.238**	.248**	.633**

GAD	-	.358**	.378**	.281**	.218*
PSQ		-	.860**	.873***	.715**
AFB			-	.775**	.338**
CSB				-	.405**

A Pearson product–moment correlation analysis revealed significant associations among sociodemographic, clinical, and psychosocial variables. Age was strongly positively correlated with age of onset (r = .921, p < .01), while family income was positively associated with duration of alopecia (r = .299, p < .01) and quality of life (r = .262, p < .01). Social appearance anxiety showed significant positive correlations with generalized anxiety (r = .259, p < .01), perceived stigmatization (r = .496, p < .01), alopecia-related functioning and behaviours, and quality of life (r = .320, p < .01). Generalized anxiety was also positively associated with perceived stigmatization and alopecia-related functioning and behaviours (ps <.01). Perceived stigmatization demonstrated strong positive relationships with alopecia-related functioning and behavioural difficulties (rs = .715–.873, ps < .01). Furthermore, quality of life was significantly associated with hair-related behaviours (r = .231, p < .01). Overall, the findings suggest that greater perceived stigmatization, appearance anxiety, and generalized anxiety are linked with poorer psychosocial functioning and reduced quality of life among individuals with alopecia.

Multiple Regression Analysis Predicting Quality of Life

Predictors	*B*	S.E	B	t	p
Constant	152.546	7.122	-	21.42	<.001
SAAS	.153	.153	.130	1.00	.371
GAD	.411	.240	.151	1.71	.087
PSQ	2.396	1.13	2.491	2.12	.034*
AOB	-2.876	1.05	-1.423	-2.74	006**
CSB	-1.689	1.063	-.731	- 1.59	.112
HB	-2.653	1.358	-.919	-1.95	0.51
Model Summary					
R^2	.186				
F	4.760***				

The result revealed that social appearance anxiety, generalized anxiety, perceived stress, and other psychosocial variables collectively predicted quality of life and explained 18.6% of the variance in quality of life ($R^2 = .186$, $F = 4.760$, $p < .001$). Among the predictors, Perceived Stigmatization showed the negative predictive relationship with quality of life (β = 2.491), indicating that perceived stigmatization significantly influenced quality of life. Social Appearance Anxiety had a small positive effect (β = .130), suggesting that social appearance anxiety slightly predicted quality of life. Generalized Anxiety also negatively predicted quality of life (β = .151).The PSQ subscales: Absence of Friendly Behaviour β = -1.423),Confused and Staring Behaviour (β = -.731) and Hostile Behaviour (β = -.919) showed negative relationships with quality of life. This indicates that higher experiences of stigmatizing behaviours were associated with poorer quality of life among individuals with alopecia. Overall, the findings suggest that anxiety and perceived stigmatization play an important role in predicting the quality of life of individuals suffering from alopecia.

Moderation analysis (N=134).

	Quality of life				
				CI	
	B	*SE*	*T*	LL	*UL*
Constant	55.6327	18.609	2.9896		
SAAS	1.8287***	.2908	6.2879	1.253	.2.4042
GAD	8.6186***	1.5944	5.4057	5.46	11.7734
(SAAS*GAD)	-.1302***	.0244	-.5.3375	-.1785	-.0819
Total R² R² Change	.026				
Perceived Stigmatization	.1626***				
Constant	100.342	15.9374	6.2961	68.0878	131.8774
PSQ	1.1875	.2681	4.4299	.6571	1.71179
GAD	5.23	1.149	4.554	2.961	7.511
(PSQ*GAD)	-.0815	.0187	-4.362	-.118	-.044
Total R²	.152**				
R² Change	.126***				

Note. GAD=Gerenal anxiety scale, PSQ= Perceicved Stigmatization questionnaire β=standardized coefficient, S.E=standard error, p=significance value. **p<.05, **p<.01, ***p<.001, CI= confidence interval, ΔR²=R square change, ΔF=F change.*

The findings showed that both SAAS and

perceived stigmatization significantly predicted quality of life. General Anxiety Disorder (GAD) also emerged as a significant predictor in both models. Furthermore, the interaction terms (SAAS × GAD and PSS × GAD) were statistically significant, indicating that GAD significantly moderates these relationships. The negative interaction coefficients revealed that higher levels of anxiety weaken the relationship between SAAS, perceived stigmatization, and quality of life. This means that as anxiety increases, the influence of SAAS and perceived stigmatization on quality of life becomes weaker. Additionally, the significant R^2 change values indicated that the inclusion of the interaction terms significantly improved the explanatory power of the models. Overall, the results support the moderating role of General Anxiety Disorder in the relationship between psychological variables and quality of life. In other words, the impact of stigmatization on quality of life varies depending on the individual's anxiety level.

Independent samples t-test to compare study variables in the nuclear family system and joint family

	Joint (*n*= 92)		Nuclear (*n*= 42)				95% CI	
Measures	M	*SD*	M	*SD*	*T(144)*	*P*	*LL*	*UL*
SAAS	66.30	7.825	60.62	12.049	2.800	.007	2.244	9.127
HDQOL	174.94	10.71	175.76	13.02	-.381	.704	-5.066	3.431
PSQ	63.89	9.816	62.86	16.441	.378	.707	-4.449	6.517
GAD	14.61	3.576	11.48	4.784	3.788	.000	1.662	4.603
AFB	21.119	5.365	20.71	6.854	.371	.711	-1.7565	2.567
CSB	23.489	3.870	23.90	6.983	-.361	.719	-2.274	1.4436
HB	17.076	3.677	16.619	4.6797	.611	.542	-1.0221	1.9362

Results showed the mean differences in family system on social appearance anxiety, generalized anxiety, perceived stigmatization, and hair-related quality of life. Analysis produced significant results for social appearance anxiety (t = 2.800, $p < .05$) and generalized anxiety (t = 3.788, $p < .05$). However, non-significant differences were found for hair-related quality of life (t = −0.381, $p > .05$), perceived stigmatization (t = 0.378, $p > .05$), and behavioural stigma subscales including absence of friendly behaviour (t = 0.371, $p > .05$), confused and staring behaviour (t = −0.361, $p > .05$), and hostile behaviour (t = 0.611, $p > .05$). These findings indicate that individuals from joint family systems experienced higher social appearance anxiety and generalized anxiety compared to those from nuclear family systems, while no significant differences were observed in perceived stigmatization, behavioural responses, and quality of life.

One-Way ANOVA Analysis on Effect of working status on Social Appearance, Perceived stigmatization , general Anxiety and quality of life

	Working (*n*= 133)		Non - Working (*n*= 13)		Retired (*n*= 08)				95% CL	
Measures	M	*SD*	M	*SD*	M	*SD*	*F*	*P*	*LL*	*UL*
SAAS	65.02	9.391	65.46	7.102	56.00	13.89	3.433	.035	62.87	66.18
GAD	13.68	4.416	13.85	3.955	12.50	535.	.307	736	12.90	14.35
PSQ	62.19	10.92	75.69	18.62	63.25	5.651	7.838	.001	61.48	65.66
AFB	20.3274	5.01	26.38	10.19	21.62	2.82	6.855	.001	22.75	24.47
CSB	23.0442	4.43	27.07	8.60	26.12	2.29	5.094	.007	16.24	17.61
HB	16.6549	4.081	20.23	2.89	15.50	.534	5.544	.005	173.23	177.18
QOL	176.55	10.604	167.36	16.17	167.00	8.94	5.803	.004	173.23	177.18

Note. AFB=Absence of friendly behaviour ,CSB= Confused and staring behaviour, HB=Hostile Behaviour,PSQ=perceived stigmatization,SAAS=Social Appearance anxiety,GAD=Generalized Anxiety scale , HDQOL=Hairdex Quality of life $p < .5$.
$^{**}p < .0$

Mean differences are significant in perceived stigmatization (F=7.83, p<0.05), absence of friendly behavior (F=6.85, p<0.05), confused and staring behavior (F=5.09, p<0.05), hostile behavior (F=5.54, p<0.05), and quality of life (F=5.80, p<0.05). However, non-significant mean differences were found in social appearance anxiety (F=3.45, p>0.05) and generalized anxiety disorder (F=.307, p>0.05). Findings indicate that non-working participants experienced higher perceived stigmatization and stigma related behaviors as compared to working and retired participants, whereas working participants reported better quality of life. Thoroughly observing the mean differences, post hoc analysis has been done. Results of post hoc analysis indicate that working participants scored significantly lower on perceived stigmatization and stigma related behaviors, and significantly higher on quality of life as compared to non-working participants

Discussion

The research examined how psychological and social factors affect the quality of life in individuals with alopecia, using Pearson Correlation, Multiple Regression, Moderation Analysis, and Independent Samples t-test. Findings showed significant correlations among variables, such as the absence of friendly behavior, confused and staring behavior, and hostile behavior with perceived stigmatization, social appearance anxiety, general anxiety, and quality of life. Multiple regression analysis identified that social appearance anxiety and general anxiety were significant predictors of quality of life, Moderation analysis revealed that anxiety moderated the relationship between perceived stigmatization and quality of life, highlighting the varying impact of stigmatization based on anxiety levels. An independent samples t-test showed that participants from joint families experienced higher social appearance anxiety than those from nuclear families. The study underscores the importance of addressing negative social interactions and managing anxiety to improve the quality of life in individuals with alopecia. Future research should explore additional psychosocial factors that may impact well-being in this population.

Strengths of the Study

- The present study focused on socio-demographic correlates, clinical characteristics, and psychosocial quality of life in individuals with alopecia, an area that has received limited attention in Pakistan. Most previous studies mainly emphasized the medical aspects of alopecia, whereas the current research highlighted the psychological and social consequences associated with the condition.
- The study explored multiple psychosocial variables including perceived stigmatization, social appearance anxiety, stress, and quality of life, which provided a broader understanding of the experiences of individuals with alopecia.
- The analyses conducted in the present study were comprehensive and helped in identifying significant predictors and correlates of quality of life among individuals with alopecia.
- The study contributed to the existing literature by providing empirical evidence regarding the psychological impact of alopecia within the Pakistani cultural context.

Limitations

- No matter how well research is conducted, there are always certain limitations. The limitations of the present study are as follows:
- Since it is a Cross-sectional study, it cannot prove which variable influences the other.
- Data is taken at a particular time; it is difficult to know if a specific outcome happens first or second and how psychosocial factors relate to personal well-being.
- People in these studies need to draw from their memory to report about their past conduct or experiences. As a result, there may be errors in the data because some people find it hard to accurately remember and report what happened to them.
- It is possible that errors in measurement occurred because respondents were biased in their answers, did not interpret the questions correctly or if there were differences in the collecting methods which may influence how reliable and valid the whole study's findings are.
- Characteristics or behaviors of the participants might not really reflect the entire group being studied.
- The study focused mainly on individuals seeking treatment; therefore, findings may not generalize to individuals with alopecia who do not seek professional help.

Suggestions/Recommendations

The following suggestions may help future researchers:

- Future researchers should use a larger sample size to increase the generalizability of the findings.
- Data should be collected from multiple hospitals and dermatology clinics across different cities of Pakistan to obtain a more representative sample.
- Future studies may investigate the role of family support, social support, coping strategies, and resilience in improving the quality of life of individuals with alopecia.
- Longitudinal studies should be

conducted to better understand the long-term psychological effects of alopecia.

- Future researchers can design and implement psychological intervention programs, such as counseling and cognitive behavioral therapy, to reduce stress, appearance anxiety, and perceived stigmatization among individuals with alopecia.
- Future studies may compare psychosocial functioning among different types and severity levels of alopecia.

Implications

- The findings of the present study provide valuable information regarding the socio-demographic, clinical, and psychosocial factors associated with quality of life in individuals with alopecia.
- The study is beneficial in the field of clinical and health psychology as it highlights the psychological difficulties faced by individuals with alopecia, including stigmatization, stress, and appearance-related concerns.
- The findings may help mental health practitioners, dermatologists, and healthcare professionals in developing effective management and intervention strategies to improve the psychological well-being and quality of life of individuals with alopecia.
- The study also has theoretical implications as its findings are consistent with previous literature regarding the psychosocial impact of alopecia.
- The present research emphasizes the importance of integrating psychological care with dermatological treatment in order to address both the emotional and physical aspects of alopecia.

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