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PSYCHOSOCIAL FACTORS OF QUALITY OF LIFE OF PATIENTS WITH ALOPECIA

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Abstract

The purpose of this study was to investigate the psychosocial factors of quality of life of individuals with Alopecia. Psychosocial factors under investigation included Life Orientation, Perceived Stigmatization, Appearance Anxiety, Perceived Stigmatization and Anxiety. Furthermore, the study aimed to evaluate relative contribution of demographic and clinical factors in the context. It was hypothesized that there exists a significant relationship between Life Orientation, Perceived Stigmatization, Appearance Anxiety and Quality of Life (Qol) of Patients with Alopecia and anxiety moderated the relationship. Furthermore, it was hypothesized that there is likely to be a significant relationship between sociodemographic and clinical factors and psychosocial factors of Qol. The research design was correlational, and the data was gathered using convenient sampling technique, with a sample size of 132 participants (N=132) estimated by G*Power. Several assessment measures were employed, including demographic and clinical information sheets, Life Orientation Test-Revised (LOT- R) (Scheier, Carver, & Bridges, 1994), Hairdex Questionnaire (Fischer et.al 2001), The Social Appearance Anxiety Scale (SAAS) (Hart et al. 2005), The Perceived Stigmatization Questionnaire (PSQ) (Lawrence et al. 2001), The Generalized Anxiety Disorder scale (GAD-7) were used. Data was collected from department of dermatology of different hospitals of Lahore and Islamabad as well as from different private clinics and social groups. Participants were also approached through social media. The results revealed significant correlations between perceived stigmatization, social appearance anxiety, general anxiety, and QoL. Perceived stigmatization ($M = 2.68$, $SD = 0.63$) was highly correlated with social appearance anxiety ($M = 43.95$, $SD = 11.65$) and general anxiety ($M = 9.75$, $SD = 5.52$). Multiple regression analysis showed that social appearance anxiety ($\beta = .38$, $p < .001$) and general anxiety ($\beta = .24$, $p < .001$) were significant predictors of QoL, explaining 64% of the variance. Additionally, moderation analysis demonstrated that anxiety significantly moderated the relationship between perceived stigmatization and QoL.

INTRODUCTION

Alopecia is a dermatological condition characterized by the absence of hair in an area where normally it

is expected to be present. Alopecia is a term derived from the Greek word "alopex" meaning "fox" (indicative of the hair shedding commonly associated with mange in foxes), encompasses various forms of hair loss affecting millions of individuals worldwide. Most people who suffer from Alopecia mainly experience what is called male or female pattern hair loss which is also known as Androgenetic Alopecia (AGA). The thinning process on the scalp is a main part of AGA. About half of men and a third of women deal with AGA by the time they are 50, so it is a major issue in the field of dermatology. (Blume-Peytavi et al., 2011; Lee & Lee, 2019).

To explain quality of life (QoL), we should consider how individuals and societies are doing physically, mentally, emotionally and socially. According to the World Health Organization (WHO), quality of life is measured by "knowing where you stand in life based on your culture and its values as well as your personal interests and worries" (WHOQOL Group, 1995). Such a broad meaning of QoL underlines that it is shaped by how individuals personally think about it. (Carr & Higginson, 2020).

Androgenetic alopecia (AGA) is the most common kind of hair loss that men and women experience and it's often called patterned hair loss. This problem is usually caused by both hormones and genes and it usually leads to hair loss at the front and thin strands on the top of the head. It is a progressive condition associated with patterned hair loss that typically follows a specific sequence on the scalp.

Men usually experience hair loss at the hairline and thinning at the top of the head. For women, it often shows up as scattered thinning at the top of the head, but the front hairline stays intact (Sinclair & Dawber, 2001; Kanti et al., 2018).

The concept of life orientation is grounded in several psychological theories that highlight the role of cognitive and emotional processes in shaping individuals' perspectives and behaviors. Cognitive- behavioral theories, for instance, highlight how thoughts and beliefs influence behaviors and emotional responses. Bandura's theory of self-efficacy suggests that individuals' confidence in their abilities to achieve goals significantly affects their motivation and performance (Bandura, 1997). Furthermore, positive psychology, as introduced by Seligman and Csikszentmihalyi, Emphasizes developing strengths and virtues that help individuals thrive. (Seligman &Csikszentmihalyi, 2000). Appearance anxiety, also known as body image anxiety or appearance-related distress, refers to the heightened concern and distress individuals experience regarding their physical appearance. In contemporary society, where appearance ideals are heavily emphasized and perpetuated through various media channels, the pressure to attain an idealized appearance can significantly impact individuals' mental well-being (Cash &Smolak, 2011).

Perceived stigmatization refers to the awareness or sense that an individual or a group is devalued by society based on certain characteristics or conditions. This phenomenon is particularly prevalent among marginalized populations and can have significant psychological, social, and health impacts.

Stigmatization can arise from various sources, including mental health issues, chronic illnesses, disabilities, racial or ethnic backgrounds, and socio-economic status. Recent studies have emphasized the pervasive nature of perceived stigmatization and its adverse effects. For instance, research indicates that perceived stigmatization contributes to increased stress, decreased self-esteem, and a sense of social isolation among affected individuals (Major &Dovidio, 2018). Emerging evidence suggests that the impact of perceived stigmatization extends beyond the individual level, influencing broader social dynamics and perpetuating systemic inequalities. (Puhl and Heuer, 2021)

Research Questions

- To what extent do life orientation, perceived stigmatization, and appearance anxiety predict the quality of life in patients with Androgenetic

Alopecia?

- How does anxiety moderate the relationship between psychosocial factors (life orientation, perceived stigmatization and appearance anxiety) and quality of life in Androgenetic Alopecia patients?.

Objectives

The aim of this research is to investigate the impact of psychosocial factors on the quality of life of patients with Androgenetic Alopecia. Additionally, the research investigated how do patients with Alopecia tend to differ in Quality of Life, Life Orientation, 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.

Hypotheses

- Life orientation is likely to be a significant predictor of quality of life.
- 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.

Method

To study the psychosocial factors related to quality of life in patients with Androgenetic Alopecia, this study applied a correlational research design

Sample and Sampling strategy

The sampling technique which was used to recruit sample was purposive sampling. The sample size was 132 as estimated by G-power. The participants were recruited from dermatologist clinics, support groups, and online forum. Participants were from diverse socio-demographic backgrounds.

- 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?

Inclusion Criteria

The study recruited participants

- 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 co-morbid psychiatric disorder as screened
- 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
- Experiencing hair loss due to any medicine side effect
- Those who have undergone unsuccessful scalp surgeries
- Those using wigs as intervention

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), number of dependents, 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.

Life Orientation Test-Revised (LOT-R) (Scheier, Carver, & Bridges, 1994)

The Life Orientation Test-Revised (LOT-R) is a validated psychological tool designed to assess dispositional optimism, which is the general expectation of positive outcomes in the future.

Every question offers answers ranging from 0 (total disagreement) to 4 (total agreement). Sum up the numbers from the six questions to find your score which can go from 0 to 24 or more and a higher score shows you are more optimistic. The LOT-R is commonly used in psychological research to examine the impact of optimism on health and coping strategies, including in conditions like androgenetic alopecia. (Scheier et al., 1994; Carver & Scheier, 2014).

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 (SAAS) (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 consist 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 clinics, support groups, and online forums for individuals with alopecia. They were first informed why the study was being conducted and given an information sheet. After choosing to join the study, they had to sign a consent form. After that, the questionnaires were administered. Participants were assured of the complete confidentiality of the information that they provide. Moreover, they were given the liberty to withdraw from the research whenever they want. Data collection was followed by the statistical analysis of the raw data.

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. To find out if the groups were different, an independent sample t-test was done. The values were sought and are presented in table 1.

Table 1: Descriptive characteristics and reliability analysis of study variables (N=131)

Scales	k	M	SD	Range	Cronbach's α	Skewness	Kurtos is
Perceived Stigmatization Questionnaire	21	2.68	.63	1.14-4.14	.82	-.70	-.24
Absence of friendly behavior	8	2.82	.75	1-5	.84	-.08	.17
Confused & Staring behavior	8	2.58	.84	1- 4.25	.92	-.24	-.66
Hostile behavior	5	2.62	.91	1- 4.8	.80	-.33	-.67
Social Appearance Anxiety Scale	16	43.95	11.65	16-80	.81	-.50	.66
General Anxiety Disorder	7	9.75	5.52	0-21	.78	-.05	-.59
Life Orientation	10	11.59	3.72	2-20	.72	-.35	.01
Hairdex Questionnaire	48	72.91	26.14	0-141	.92	-.78	.41

Note.M= Mean; SD= Standard Deviation; α= Cronbach alpha; k= no. of items

Table 1 shows the Cronbach Alpha reliability of values of scales used in the current study. The table presents descriptive statistics and reliability coefficients for various scales used in the study. Reliability coefficients (Cronbach's α) for perceived stigmatization was 0.82, for social appearance anxiety was 0.81, for general anxiety was 0.78, for life orientation was 0.72, and for the Hairdex Questionnaire was 0.92 indicating good to excellent internal consistency, demonstrating that these scales are reliable measures of their respective constructs.

Table 2: Pearson Product Moment Correlation among covariates and study variables (N=131)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	-												
2. Work Status [a]	.39**	-											
3. Marital Status [b]	.66**	.45**	-										
4. Family System [c]	-.02	-.06	-.15	-									
5. Family Background [d]	-.01	.02	-.03	-.05	-								
6. Absence of friendly behavior	.07	-.06	.01	.11	.04	-							
7. Confused and Staring behavior	.08	.01	.07	.01	-.08	.28**	-						
8. Hostile behavior	.09	.10	.13	-.12	-.13	.26**	.65**	-					
9. Perceived Stigmatization	.10	.02	.08	.02	-.07	.68**	.85**	.78**	-				
10. Social Appearance Anxiety	.11	.12	.13	-.23**	-.01	.25**	.62**	.64**	.64**	-			
11. General Anxiety	.11	.08	.17*	-.12	-.13	-.33**	.48**	.51**	.57**	.58**	-		
12. Life orientation	.08	.14	.16	-.16	-.08	.33**	-.19*	-.08	-.27**	.03	-.09	-	
13. Quality of Life	.14	.11	.11	-.01	-.07	.44**	.60**	.57**	.69**	.69**	.62**	-.06	-

Note. *p < .05, **p < .01, ***p < .001 M= Mean; SD = Standard Deviation; [a] 1=non-working, 2=working; [b] 1=married, 2=single; [c] 1=joint family, 2=nuclear family

A Pearson Product Moment correlation was run to find the association between the study variables i.e., the Absence of friendly behavior, Confused & Staring behavior, Hostile behavior, Perceived Stigmatization, Social Appearance Anxiety, General Anxiety, Life Orientation, and Quality of Life and demographics as covariates. Results (reported in the table) indicated that the family system is negatively correlated with social appearance anxiety which implies that participants who live in a joint family system exhibit higher social appearance anxiety as compared to those who lived in a nuclear family.

The absence of friendly behavior is positively correlated with perceived stigmatization, social appearance anxiety, general anxiety, and quality of life. Confused and staring behavior showed positive correlations with perceived stigmatization, social appearance anxiety, general anxiety, and quality of life. Hostile behavior also showed positive correlations with these variables.

Perceived stigmatization is positively correlated with general anxiety, and negatively correlated with life orientation. Social appearance anxiety has positive correlations with general anxiety and quality of life. General anxiety has positive correlations with quality of life. These correlations highlight the interconnectedness of personal characteristics, behaviors, and psychological states of patients with alopecia.

Table 3: Hierarchical Regression Analysis to establish the predictors of Quality of Life (N=131)

95.0% CI						
Variables	B	SD	LL	UL	Β	P
Family System [a]	5.26	3.04	-.75	11.28	.10	.09
Absence of friendly behaviors	7.77	2.16	3.50	12.04	.22	<.001
Confused & Staring behavior	5.17	2.49	.25	10.09	.17	.04
Hostile behavior	1.81	2.28	-2.69	6.33	.06	.42
Social Appearance Anxiety	.84	.19	.47	1.22	.38	<.001
General Anxiety	1.13	.33	.47	1.78	.24	<.001
Life Orientation	.55	.42	-.28	1.38	.08	.19

Note. *p<0.05; **p<0.01; ***p<0.001; CI= Confidence Interval; LL= lower limit; UL= upper limit; [a] 1=joint, 2=nuclear

The results of the multiple regression analysis for predicting quality of life in patients with alopecia are in the table suggesting that all predictors explained 64% variance. The multiple regression analysis reveals that the absence of friendly behaviors, confused and social appearance anxiety, and were significant predictors of quality of life in patients with alopecia. However, hostile behavior and life orientation do not significantly predict the quality of life in patients with alopecia.

Table 4: Moderation Analysis through Process to establish anxiety as a moderator in the relation of Stigmatization and Quality of Life (N=131)

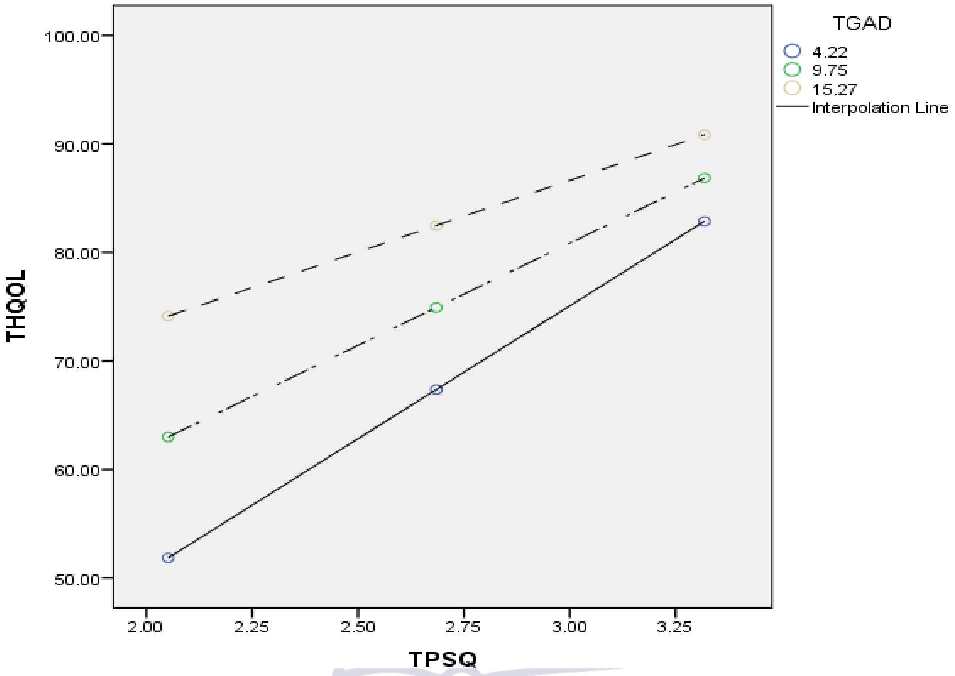
Model	B	SE	T	P
General Anxiety	4.11	1.15	3.58	<.001
Perceived Stigmatization	28.80	4.45	6.48	<.001
Interaction effect	**Effect**	**F**	**(df1, df2)**	**P**
Anxiety x Stigmatization	0.02	5.32	1, 127	.02

Note. B = unstandardized coefficient, SE = standard error, LL = lower limit, CI = confidence interval, UL = upper limit

The moderation analysis, conducted using the PROCESS macro, looks into how anxiety moderates the link between feeling stigmatized and the quality of life of patients with Alopecia.

Results show that higher anxiety usually reduces a person's quality of life. Also, having perceived stigma is strongly connected to quality of life.

The interaction effect between anxiety and stigmatization also significantly predicts the quality of life in patients with alopecia. This implies that the relationship between perceived stigmatization and quality of life is moderated by the anxiety. In other words, the impact of stigmatization on quality of life varies depending on the individual's anxiety level.



The interaction plot from the moderation analysis illustrates how the relationship between perceived stigmatization scores and quality of life is influenced by levels of the general anxiety. At lower levels of general anxiety, the slope of the line representing the relationship between perceived stigmatization and quality sof life is steep, indicating a strong positive relationship; as perceived stigmatization scores increase, quality of life scores increase significantly. Conversely, at higher levels of general anxiety, the slope is less steep, suggesting that the positive relationship between perceived stigmatization and quality of life is weaker. This interaction effect is significant, indicating that the influence of perceived stigmatization on quality of life varies depending on the level of general anxiety.

Table 5: Independent samples t-test to compare study variables in the nuclear family system and joint family system.

Nuclear (n=57)			Joint (n=74)				
Variables	M	SD	M	SD	t (131)	P	Cohen's d
Absence of friendly behavior	2.73	.74	2.89	.75	-1.20	.23	-.22
Confused & Staring behavior	2.57	.76	2.59	.89	-.16	.87	-.02
Hostile behavior	2.74	.89	2.53	.91	1.33	.18	.23
Perceived Stigmatization	2.67	.57	2.69	.68	-.17	.87	-.03
Social Appearance Anxiety	46.96	10.86	41.63	11.78	2.66	.01	.47
General Anxiety	10.47	5.36	9.19	5.62	1.32	.18	.23

Life Orientation	12.28	3.79	11.05	3.60	1.89	.06	.33
Quality of Life	73.12	25.78	72.72	26.59	.09	.93	.02

Note.M= Mean; SD = Standard Deviation

As shown in Table 5, an independent samples t-test was conducted to identify differences in the Absence of friendly behavior, sConfused & Staring behavior, Hostile behavior, Perceived Stigmatization, Social Appearance Anxiety, General Anxiety, Life Orientation, and Quality of Life in Nuclear (n=57) and Joint (n=74) family system. The assumption of Equality of variances was fulfilled and results show that there were no significant differences in the Absence of friendly behavior, Confused & Staring behavior, Hostile behavior, Perceived Stigmatization, General Anxiety, Life Orientation, and Quality of Life in participants from nuclear and joint families. There were significant differences in social appearance anxiety between participants from nuclear and joint families. And results indicate that participants who live in a joint family system exhibit more social appearance anxiety.

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, while life orientation was not. 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.

Conclusion

The present study investigated the impact of psychological and social factors on the quality of life of individuals with Alopecia. The key findings revealed significant correlations among perceived stigmatization, social appearance anxiety, general anxiety, and quality of life.

Perceived stigmatization was positively correlated with social anxiety and general anxiety, indicating that individuals who felt more stigmatized experienced greater anxiety and a lower quality of life.

Differences were observed in social appearance anxiety, with those from joint families reporting higher levels of worry compared to those from nuclear families. The dynamics within joint family systems may intensify the need to adhere to specific social norms, contributing to elevated anxiety levels. The frequency of social interactions significantly affected perceived stigmatization and anxiety, though post hoc analysis did not show significant pairwise differences.

Multiple regression analysis identified friendly behavior, confused and staring, social appearance anxiety, and general anxiety as significant predictors of quality of life, explaining 64% of the variance. The perceived stigmatization subscale, encompassing friendly, confused and staring, and aggressive behaviors, also significantly impacted the quality of life.

However, the moderation analysis revealed that anxiety exacerbates the negative impact of perceived stigmatization on quality of life, acting as a moderator in this relationship.

These findings align with existing literature, providing insights into the complex interplay of psychosocial factors influencing the quality of life in individuals with Alopecia. The study points out that specially designed interventions are needed to reduce anxiety and stigma in this group, since social behaviors, family life and the amount of social interactions play vital roles. Further research could explore these connections in other types of alopecia and examine additional psychosocial variables.

Limitations and Suggestions

1. Since it is a Cross-sectional study, it cannot prove which variable influences the other.
2. 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
3. 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.
4. 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.
5. Characteristics or behaviors of the participants might not really reflect the entire group being studied.

Implications of the Study

1. Although the data cannot prove cause and effect, the study is able to highlight any relationships that exist at a single moment. As an instance, those who said they felt stigmatized or had anxiety about their appearance could have a lower quality of life.
2. The study can teach us things about patients with alopecia and prepare the way for further studies using experiments or assessments spread over time.
3. In health research, the study plays a helpful role in many applications. Knowing what patients with Alopecia live through, researchers can work on creating new studies that further investigate relationships among psychosocial aspects and life quality.

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