

Social anxiety and psychological distress among polycystic ovarian syndrome patient's in Pakistan

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Abstract

Objective: To examine the fear of negative evaluation as a predictor, and to explore the association of social anxiety with psychological correlates among women with polycystic ovaries.

Method: The cross-sectional study was conducted from August 2020 to November 2021 after approval from the University of Central Punjab, Lahore, Pakistan, and comprised unmarried women aged 18-26 diagnosed with polycystic ovary syndrome. The sample was raised from different clinics and hospitals based in Lahore and Gujranwala cities. The sample was divided into obese, hirsutism and acne vulgaris groups. Data was collected using a demographic proforma along with standardised Derriford Appearance Scale, Brief Fear of Negative Evaluation Scale, University of California, Los Angeles, Loneliness Scale and the Social Interaction Anxiety Scale. Data was analysed using SPSS 24.

Results: Of the 180 patients, 60(33.3%) were in each of the 3 groups. The overall mean age was 21.4+/-2.27 years. A significant association of fear of negative evaluation was found with appearance distress, social anxiety and loneliness ($p<0.05$). The fear of negative evaluation and appearance distress also significantly predicted loneliness in the subjects ($p<0.01$). The obese group scored significantly higher in terms of fear of negative evaluation and social anxiety compared to the other groups ($p<0.05$).

Conclusion: Women with polycystic ovaries were found to be suffering from adverse psychological outcomes and social anxiety.

Key Words: Social anxiety, Hirsutism, Acne vulgaris, Obesity, PCOS, Distress.

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Introduction

The polycystic ovarian syndrome (PCOS) is a hormonal problem which is commonly seen in women of reproductive age. The exact cause of PCOS is still unclear as it exists with several physiological features, such as reproductive, metabolic, endocrine as well as psychological aspects. Despite the diagnostic uncertainty, it has understood that excess production of androgens, which also play a significant role in female fertility, is the clinical feature of PCOS.¹

Higher production of androgens is related to elevated levels of male sex hormone testosterone in female bodies. This condition is characterised as hyperandrogenism.² Both androgen and testosterone are also responsible for various bodily functions and health conditions. For instance, individuals with excessive production of androgens are likely to develop insulin resistance (IR) which leads to high cholesterol level and diabetes.

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Additionally, increased testosterone levels may result in menstrual irregularities, high blood pressure (BP) and infertility in women.³ The hormone also determines the distribution of hair growth in body and their excessive production results in extra hair growth in women, i.e. in male-like-pattern, or hirsutism.² The women seeking help for problems, such as skin inflammation, weight fluctuations, amenorrhoea, hirsutism and infertility, usually receive a diagnosis of PCOS. In the 1990s, PCOS was a rare occurrence, but in recent times it has become more common, and is present in 10% women around the globe⁴.

As far as the symptoms of PCOS are concerned, hirsutism is frequently reported which is a male-pattern growth in women⁵. Obesity is the second most common feature in PCOS women. There are several mechanisms that depict the link between PCOS and obesity, and, among them, IR is frequently observed. More than 70% of obese women with PCOS have IR, which affects body weight. These women often report excessive accumulation of fat in the body, and have trouble managing their regular body weight.⁶ The third common feature of PCOS is acne-vulgarism, which is the result of cystic inflammation or papules formed on the skin. It is basically a cutaneous manifestation of PCOS. Dermatological conditions, such

as acne in PCOS, have gained substantial importance as they jeopardise feminine identity.¹

According to the prevailing beauty standards, a clear skin is considered a symbol of attraction. However, it is an unfavourable stereotype against the sufferers of disorders, such as PCOS, for they face stigmatisation. Individuals who have increased level of anxiety about social appearance are more dissatisfied with their body image⁷.

Adolescent girls and young women tend to associate their self-esteem with their body image and appearance as shaped by culture and media. Cultural stereotypes develop and persist to create a favourable societal bias towards individuals who are perceived as physically attractive⁸. A failure to meet society's beauty norms and stereotypes related to physical appearance negatively impacts emotional attitude of women as they fear negative evaluation by others, and experience personal dissatisfaction with their bodies, which consequently affects the quality of their sleep as well⁹.

Women who suffer health conditions that affect their bodily appearance, such as in case of PCOS, are likely to suffer from low self-esteem. PCOS is one of the physiological conditions that have an impact on women's bodies and skin, and affects women globally, with Pakistan being no exception (52%).¹⁰

Evidence suggests increased psychological impacts of PCOS on women's health. Such women are more vulnerable towards psychological problems than those without such a diagnosis. A number of women with PCOS often present with psychological distress. Women who are suffering from hirsutism are at higher risk of developing psychiatric conditions, like anxiety disorders, depressive disorders, bipolar disorders and sleep disorders¹¹. Avoidance and distress often result in severe pathologies among these women, such as symptoms of anxiety, depression (especially among infertile women with PCOS), poor self-esteem (more frequently among obese), social anxiety¹² and self-harm.¹³ This is in particular because there is a lack of improvement in the quality of life due to PCOS.¹²

Evidence also suggests the presence of suicidal behaviours along with poor self-esteem and dissatisfaction with life among acne sufferers.¹⁴ Recent research related to coronavirus disease-2019 (COVID-19) reported an increase in preexisting psychological problems with life uncertainty in women with PCOS due to inaccessibility to treatment services and support strategies during the pandemic.¹⁵

The current study was planned to examine the fear of negative evaluation as a predictor, and to explore the association of social anxiety with psychological correlates among PCOS women.

Subjects and Methods

The cross-sectional study was conducted from August 2020 to November 2021 after approval from the University of Central Punjab (UCP), Lahore, Pakistan. After obtaining approval from the ethics review boards of UCP and Lahore Care Hospital, Lahore, the sample size was computed in context of systematic literature that ranged from minimum of 15 patients to maximum of 180 patients in different cross-sectional researches conducted between 2002 till 2015¹⁶. The sample was raised using non-probability, purposive sampling technique from different private and public hospitals and clinics based in Lahore and Gujranwala cities after agreement from their respective administrations. Those included were unmarried women aged 18-26 diagnosed with PCOS who were under treatment for at least one year. Patients with prior history of any psychological disorder, or family history were excluded. The patients were screened for high anxiety using the Beck Anxiety Inventory (BAI)¹⁷ and those with high scores indicating social phobia were excluded.

After taking informed consent from the participants, they were divided into acne, hirsutism and obesity groups.

The data was collected using a demographic information form and the Urdu versions of standardised scales¹⁸⁻²¹.

The demographic form included questions related to personal information, routine, treatment and strategies used for managing PCOS. The Derriford Appearance Scale (DAS)¹⁸ is a standardised 24-item scale designed to measure psychological distress due to appearance concerns. The items are scored on a 4-point Likert scale, and a high score reflects more anguish and concerns related to personal appearance. In the current study, the scale indicated adequate internal consistency ($\alpha=0.71$). One of the items was removed for its irrelevance in relation to the study sample.

The Brief Fear of Negative Evaluation Scale (BFNE)¹⁹ is a 12-item self-report tool rated on 5-point Likert scale, and assesses tolerance for the possibility that others may judge them. In the current study, it examined the fear related to negative evaluation in the participants, and was found to have a reasonable internal consistency ($\alpha=0.64$).

The University of California, Los Angeles (UCLA) Loneliness Scale (ULS-20)²⁰ is a 20-item tool to measure an individual's subjective feelings of social isolation and

loneliness or disconnection. The items are negatively worded and are rated on a 4-point Likert scale. The scale showed high internal reliability ($\alpha=0.93$) in the current study.

The Social Interaction Anxiety Scale (SIAS)²¹ is a 20-item self-assessment tool rated on a 5-point Likert scale, and measures anxiety related to social interaction. The scale showed high reliability ($\alpha=0.90$) in the current study.

Data was analysed using SPSS 24. Data was expressed as frequencies and percentages as well as mean +/- standard deviation, as appropriate. Hierarchical regression, correlation matrix and one-way analysis of variance (ANOVA) were used, as appropriate. $P<0.05$ was considered significant.

Results

Of the 180 patients, 60(33.3%) were in each of the 3 groups. The overall mean age was 21.4+/-2.27 years. The time since initiation of symptoms was 1 year in 88(49%) cases. There were 56(31%) patients under continuous treatment, 91(51%) were having treatment frequently and 33(18%) were taking treatment sometimes only (Table 1).

Table-1: Demographic characteristics.

Characteristics	Acne		Hirsutism		Obesity	
	n	%	n	%	n	%
Age	M(SD) 21.10(2.5)		M(SD) 21.48(2.06)		M(SD) 21.76(2.21)	
Under treatment						
Continuously	23	38%	22	36.7%	11	18.3%
Often	24	40%	34	56.7%	33	55%
Sometimes	13	21.7%	4	6.7%	16	26.7%
Onset of symptoms						
Last 6 months	19	31.7%	13	21.7%	14	23.3%
1 year	23	38.3%	32	53.3 %	33	55%
More than 2 years	18	30%	15	25%	13	21.7%

M: Mean, SD: Standard deviation.

Overall, education level ranged from matric 20(11%), Intermediate 82(45%), and graduation 78(43%). Recurrent visits to beauty salons for threading was reported by

Table-2: Correlation matrix (N=180).

Variables	Appearance Distress	Fear of Negative Evaluation	Social Anxiety	Loneliness	M	SD
1. Appearance Distress	-	.346**	.414*	.418**	55.25	7.02
2. Fear of Negative Evaluation		-	.554**	.504**	36.09	6.02
3. Social Anxiety			-	.665**	43.1	11.2
4. Loneliness				-	6.37	6.37

M: Mean, SD: Standard deviation. * $p<0.05$, ** $p<0.01$

Table-3: Predictors of loneliness.

Predictor Variable	B	SE	B	Adjusted R ²	ΔR^2
Step 1					
Fear of Negative Evaluation	.827	.117	.554*	.303	.307**
Step 2					
Appearance Distress	.403	.102	.252	.356	.363**

B; Beta, SE: Standard error. * $p<0.05$, ** $p<0.01$

85(47%), facial 52(28%) and wax 36(2%) and 7(4%) selected no response. Intensive use of cosmetics was also reported for make-up-foundations 62(35%), face-powder 50(27%), concealer 52(28%) and primer 7(4%) to cover the face whereas 9(5%) reported none of the above. Most participants 134(74%) slept 6-8 hours daily, followed by 3-5 hours 36(20%) whereas 10 hours was reported by 10(5.6%) daily. There were 120(66%) participants doing physical exercise twice weekly, while 46(26%) reported not exercising at all, while 13(7%) reported doing physical exercise on a regular basis. There were 49% participants who attended social gatherings, followed by 34% rarely and 17% who avoided such gatherings. Screen time was 3-4 hours for 103(57%) women, <2 hours for 52(29%) and >4 hours for 25(14%).

There was a significant positive relationship of appearance distress with fear of negative evaluation ($r=0.34$), loneliness ($r=0.41$) and social anxiety ($r=0.41$) (Table 2).

Distress related to personal appearance and fear of negative evaluation were strong predictors of loneliness (Table 3).

Significant difference was found among the groups related to fear of negative evaluation ($p<0.01$), whereas social anxiety was significantly higher in obese women ($p<0.05$). No significant differences were found in appearance distress and loneliness scores ($p>0.05$), and the obese group scored high on fear of negative evaluation and social anxiety compared to the other groups (Table 4).

Table-4: Comparison across conditions of polycystic ovary syndrome (PCOS).

Variables	Acne M(SD)	Hirsutism M(SD)	Obese M(SD)	p	η ²	Post-Hoc
Fear of Evaluation	34.00(4.56)	36.65(5.92)	37.63(6.85)	.003	0.06	3>2>1
Social Anxiety	42.18(10.53)	41.10(10.57)	46.45(12.18)	.045	0.03	3>1>2
Appearance Distress	54.12(6.89)	56.38(3.68)	55.25(9.29)	.211	0.02	
Loneliness	37.86(11.04)	38.90(9.74)	40.33(12.24)	.472	0.01	

M: Mean, SD: Standard deviation. *p<0.05, **p<0.01.

Discussion

The current study examined the impact of distress related to appearance and fear of negative evaluation on social anxiety and loneliness in young PCOS women. The results showed a significant relationship among these variables, and appearance distress and fear of negative evaluation were potential predictors of loneliness among such women. The study also compared acne, hirsutism and obesity Groups, and found that the obese were inclined to experience more fear of being evaluated negatively and had higher social anxiety than those with hirsutism and acne.

Research suggests that women with PCOS experience greater bodily dissatisfaction and distress than those without such a diagnosis⁷. The current findings were similar. There is a potential role of social culture and media that shapes the beauty standards related to women.⁸ The age of subjects in the current study ranged 18-26 years, indicating that young women were likely to have increased awareness of bodily cues and self-reflection. There is a strong influence of media and culture at this age, as was highlighted in current study in which most participants were spending three or more hours on social media on a daily basis. Women with PCOS are unable to conform to standards of appearance appreciated in society, which can be distressing for them.⁸ This continuous distress owing to altered appearance may result in an increased fear of social devaluation among these women, which also facilitates the development of social anxiety and loneliness.²² The current study also found a strong association among appearance distress, fear of negative evaluation, social anxiety and loneliness. With further inspection, it was observed that appearance-related distress and fear of negative evaluation by others predicted the development of loneliness in women with PCOS. This might be because these women avoided or feared socialising freely because of their bodily appearance which was altered because of PCOS symptoms. The adverse changes in appearance might have resulted in a diminished self-esteem and a destroyed self-image⁹. Evidence suggests that psychological difficulties are likely to result in sleep

disturbances.²³ In the current study, a substantial proportion of participants reported less sleep hours than the normal 7-9 hours, which can be explained in terms of poor sleep quality due to the psychological outcomes of PCOS among women.

The fear of negative evaluation and social anxiety noted in the current study was justified in terms of the management strategies employed by the PCOS subjects. Women with excess bodily hair and acne are likely to use cosmetics and use salon-based services and laser strategies to manage their appearance.¹ However, in case of obesity, strategies like beauty salons cannot be utilised. The management of obesity is generally based on physical workouts along with a diet which is a relatively time-taking process. This might be the reason behind the aggravated fears of negative evaluation and social anxiety among the participants of the obese group than the others, as a small proportion of participants reported doing physical exercise on a regular basis. The current results are supported by earlier findings that showed undue anxiety and sensitivity towards criticism in obese individuals with PCOS than in hirsutism and acne-vulgaris.²⁴

Literature strongly indicates adverse psychological outcomes in the patients with PCOS.²³ These consequences are likely to disturb the social and personal lives of these women, and their quality of life. The current study also noted that the participants reported high level of distress about their appearance, increased sensitivity towards social judgements, anxiety, and perceived loneliness, demonstrating a poor quality of life in women with PCOS.

The current study has some limitations, like not including psychological intervention for young girls suffering from PCOS. Future studies may devise a protocol for high school, college students to provide therapy to mitigate multi-dimensional distress experienced by PCOS women.

Conclusion

A significant negative impact of PCOS was observed on the psychological health of the affected women. Psychological help and psychological management of PCOS may facilitate a healthy life in young women dealing with PCOS and other such ailments.

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Author's Contributions

UI: Conceived the review, literature search and review, contributed to its draft and coordination, data analysis,

contributed writing and critical revision.

SR: Collected data, contributed write-up and critical revision.