

# Psychological Morbidity in patients with Idiopathic Hirsutism presenting for Laser Treatment at a Tertiary Care Hospital

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## Author's Contribution

<sup>1</sup> Conception of study

<sup>1</sup> Experimentation/Study conduction

<sup>2</sup> Analysis/Interpretation/Discussion

<sup>3</sup> Manuscript Writing

<sup>4,6</sup> Critical Review

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## Abstract

**Objective:** The objective of our study was to determine the frequency of depression, anxiety, and stress in females presenting for laser treatment of hirsutism at a dermatology clinic.

**Materials and Methods:** This was a cross-sectional descriptive study. 152 female participants of all ages presenting for laser treatment of hirsutism to the dermatology department –removed for blind review–from June 2019 to Dec 2019, were included using a consecutive convenient sampling technique. Patients having an FG (Ferriman and Gallwey) score of 8 or more, were included whereas those having any underlying cause (as assessed by history and examination and laboratory investigations where required) for both hirsutism and psychological disorder were excluded. The participants were given an Urdu version of the DASS 21 (depression, anxiety, and stress scale) to complete.

**Results:** The participants had a mean age of 30.22 (SD = 9.17). The prevalence of depression, anxiety, and stress in the sample was found to be 13.2%, 23.7%, and 17.8%, respectively. Mean depression, anxiety, and stress scores on DASS 21 were 4.43(SD=4.87, Cut-off= 10), 4.34(SD=5.12, Cut-off= 8), and 8.21(SD=6.26, Cut-off=15), respectively, indicating that the scores were within the normal range. Anxiety was the most common illness in the sample and both depression and stress showed a decline with advancing age up till 45years of age. No statistically significant association was found between the severity of hirsutism and depression, stress, and anxiety scores.

**Conclusion:** Psychological morbidity was found to be lower in patients of idiopathic hirsutism presenting for laser treatment. The long-term efficacy of laser treatment needs further evaluation in future research.

**Keywords:** hirsutism, psychological morbidity, PCOS, DASS 21, depression, anxiety, stress, Ferriman and Gallwey.

## Introduction

Hirsutism is defined as the growth of abnormal coarse hair in women in male-pattern distribution. There are several causes of this hair growth, with the polycystic-ovarian disease being the commonest. The other causes of hirsutism include hormonal imbalances, endocrine disorders, drug-induced conditions, and idiopathic hirsutism. This abnormal hair growth is known to affect self-esteem and the quality of life of affected women.<sup>1</sup>

As mentioned above, most of the current literature evaluating the interplay of hirsutism and psychological health comes from patients with Polycystic ovarian syndrome. These patients report a more inferior quality of life and an increased prevalence of depression, which corresponds to the severity of hirsutism.<sup>2</sup> Data from local studies are sparse, but what is available gives us baseline information regarding hirsute patients. The most common etiology is polycystic ovarian syndrome (58%), followed by idiopathic hirsutism (38%) and drug-induced hirsutism (4%).<sup>3</sup> The psychological impact of hirsutism has not been evaluated in any local research separately. Some findings are available from studies done on patients with Polycystic ovarian syndrome. Indian research shows the prevalence of depression and anxiety in PCOS patients to be 38.6% and 25.7%, respectively, but these were not significantly associated with hirsutism; instead, lowered Quality of Life scores was associated with hirsutism.<sup>4</sup>

The various treatments available for hirsutism are both pharmacological and non-pharmacological, most treatment cycles are 6-months long, and the rate of recurrence is high.<sup>1</sup> Laser hair removal is a relatively new treatment and promises to have a lower recurrence rate and fewer side effects, especially for patients with idiopathic hirsutism.<sup>5</sup>

In the light of current evidence and the fact that laser hair removal has only recently become available with ease as a treatment option for hirsutism, we aimed to understand the impact of hirsutism on the mental health of such patients. The objective of our research was 1) to determine the frequency of depression, anxiety, and stress in women with idiopathic hirsutism, and 2) to find if the psychological morbidity was associated with the severity of hirsutism. . There is minimal data in this regard in patients of idiopathic hirsutism<sup>6</sup>, so we aimed to design our study for these women.

## Materials and Methods

Ethical approval was obtained from the hospital ethical committee for this cross-sectional, descriptive study. Patients coming for laser treatment of hirsutism to the dermatology department of Heavy industry Taxila Education City- Institute of Medical Sciences, from June 2019 to Dec 2019, were screened for the presence of idiopathic hirsutism by a consultant dermatologist.

The participants who fulfilled the inclusion criteria were enrolled in the study using a consecutive convenient sampling technique. Written informed consent was taken, and 152 participants were included in the study.

**Inclusion criteria:** Patients presenting at the clinic with hirsutism, having a Ferriman and Gallwey hirsutism rating scale of 8 or more, and willing to participate in the study were included.

**Exclusion criteria:** Patients having any underlying cause for both hirsutism and psychological disorder like polycystic ovarian disease, a psychiatric illness, a score of more than 150 on the Holmes and Rahe life event scale, or taking an antidepressant, steroid, or hormonal treatment were excluded.

PCOS was diagnosed on history and examination, laboratory tests and ultrasound was performed where required. PCOS was excluded from the study as laser treatment for hirsutism is not the treatment of choice in these patients.<sup>7</sup>

Ferriman and Gallwey's hirsutism rating scale was applied to diagnose and assess the severity of hirsutism. Demographic data, along with scores, were documented by the dermatologist on a predesigned form. The participants were given an Urdu version of the DASS 21 questionnaire to complete in the presence of a psychiatrist.

Data were collected and entered into SPSS 20 for analysis. Descriptive statistics were applied. Mean, range, and standard deviation was calculated for continuous variables like age, FG score, stress, anxiety, and depression scores. Frequencies and percentages were calculated for discrete variables like age ranges, marital status, employment status, the severity of hirsutism, stress, anxiety, and depression. A p-value of <0.05 was considered significant.

### **Data collection tools:**

Ferriman and Gallwey hirsutism rating scale: Ferriman and Gallwey hirsutism rating scale system<sup>8</sup> is the most widely used tool and evaluates body areas for absent-to-severe hirsutism with scores of 0-4, respectively. Overall scores of 8 and higher are consistent with a

diagnosis of hirsutism. It is a useful aid in quantifying hirsutism as well as evaluating treatment response.

DASS 21: The 21 item Depression, Anxiety Stress Scale<sup>9</sup> is a self-report questionnaire used as a quantitative measure of distress along the three axes of depression, anxiety, and stress reactions and management. Twenty-one items need to be scored, and it usually takes around 3 to 5 minutes. The assessor advises the patient to consider what they have experienced in the past week as well as at present and to choose the answer that first comes to mind. Each of the questions is rated from 0 to 3. Therefore each of the axes presents partial scores of 0 to 21 depending on the number of items assigned. For analysis, raw DASS 21 scores were converted to final scores (DASS 42) as per manual instructions. Cut-offs for depression, anxiety, and stress were taken as 10, 8, and 15, respectively. The participants scoring higher than cut-offs were booked for detailed assessment and management at the psychiatry clinic.

A translated and validated Urdu version was being used.<sup>10</sup>

## Results

The total number of participants was 152. All of them were females having a mean age of 30.22 (SD = 9.17). The youngest participant was 13 years old, while the eldest was 52 years. Three-quarters of the sample (N=112) were between 15 to 35 years old. 23.7% (N=36) were in the age category of 36-45 years, whereas only 3 participants were from the 46- 55 age category. The characteristics of the participants are represented in Table 1.

The prevalence of depression, anxiety, and stress in the sample was found to be 13.2%, 23.7%, and 17.8%, respectively. Table 2 shows the distribution of patients according to the severity of their Depression, Anxiety, and stress scores.

Mean depression, anxiety, and stress scores were 4.43(SD=4.87, Cut-off= 10), 4.34(SD=5.12, Cut-off= 8), and 8.21(SD=6.26, Cut-off=15), respectively, indicating that the scores were within the normal range. (Table 3)

The youngest age category had only one patient who suffered from no psychological symptoms. The eldest category had 3 participants so the percentage values in that category are 1 out of 3. The middle three age categories had sufficient participants and it can be seen from Figure 2 that anxiety was the most common illness in the sample while both depression and stress

showed a decline with advancing age up till 45 years of age.

The second main outcome we were looking for in our study was the link between the severity of hirsutism and depression, anxiety, and stress, to that end we found that though the association was not statistically significant the prevalence of depression, anxiety, and stress were higher in patients with moderate to severe hirsutism. (Figure 3)

We applied the chi-square test and ANOVA to determine associations between FG score and psychological morbidity as well as with other patient characteristics. No statistically significant association was found between the severity of hirsutism and depression, stress, and anxiety scores. No association was found between age, marital status, or employment status with the presence of psychiatric morbidity.

**Table 1: Characteristics of the study population.**

Characteristics	N	Percentage	Mean(SD)
<b>MARITAL STATUS</b>	152		
Married	88	57.9%	
Unmarried	63	41.4%	
Separated/ Divorced	1	0.7%	
<b>AGE (years)</b>			30.22 (SD=9.17) Range= 39
less than 15	1	0.7	
15 to 25 yrs	59	38.8	
26 to 35 yrs	53	34.9	
36 to 45 yrs	36	23.7	
46 to 55 yrs	3	2.0	
<b>EMPLOYMENT STATUS</b>			
Employed	22	14.5	
Student	40	26.3	
Housewife	82	53.9	
Single and at home	8	5.3	
<b>FG SCORE</b>			13.43 (SD=3.88) Range = 18
mild	108	71.7	
moderate to severe	44	28.3	

**Table 2: Prevalence of Depression, Anxiety and Stress in the study population**

Severity	Depression % (N) Score range	Anxiety % (N) Score range	Stress % (N) Score range
Normal	86.8 (132) Scores 0-9	76.3 (116) Scores 0-7	82.2 (125) Scores 0-14
Mild	9.2 (14) Scores 10-13	19.1 (29) Scores 8-9	10.5 (16) Scores 15-18

Moderate	3.3 (5) Scores 14-20	2 (3) Scores 10-14	5.3 (8) Scores 19-25
Severe	0.7 (1) Scores 21+	2.6 (4) Scores 15+	2 (3) Scores 26+

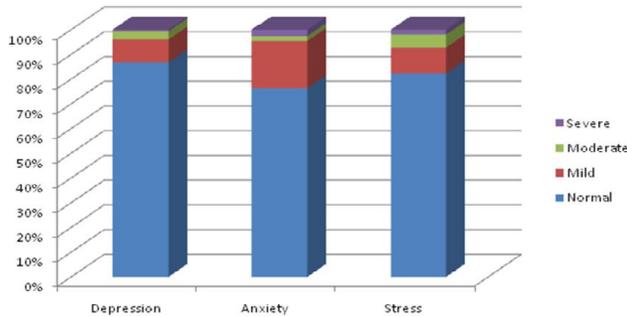


Figure 1: Distribution of prevalence of depression, anxiety, and stress in study population according to Severity morbidity

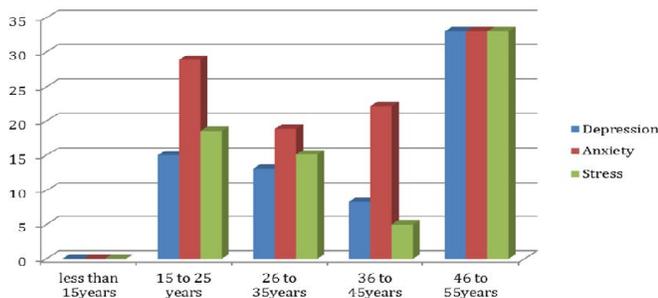


Figure 2: Percentage of depression, anxiety, and stress in relation to age categories

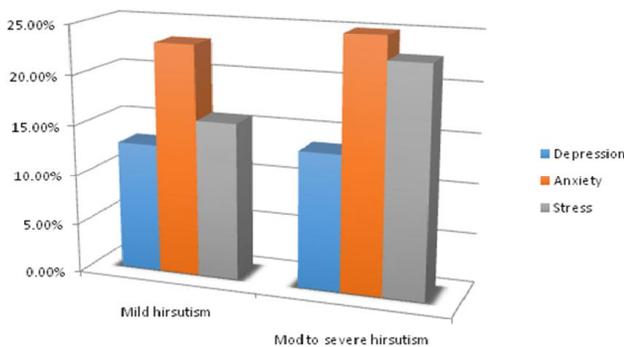


Figure 3: Severity of hirsutism and prevalence of psychological

## Discussion

In our study comprising a sample of 152 females, the Ferriman and Gallwey hirsutism score was found to be of mild intensity in 71.7% of the sample, whereas 28% of the study sample had moderate to severe hirsutism as demonstrated using the gold standard

methodology. The prevalence of depression, anxiety, and stress in the sample was found to be 13.2%, 23.7% & 17.8% respectively, with anxiety accounting for the highest prevalence of the 3 disorders. This trend of higher anxiety levels is also found in previous studies, it is reported that when investigating links between psychological impact and symptoms of PCOS, it is "hirsutism" that is directly linked to higher anxiety.<sup>11</sup> In Pakistan the anxiety and depressive disorder have been exclusively studied in relation to PCOS with hirsutism as a symptom. A study showed out of 200 females, 79.5% had anxiety as compared to 17.5% of controls, whereas depressive illness was seen in 50% of patients with PCOS as compared to 18% in patients without PCOS.

The prevalence of psychiatric morbidity in our sample is lower as compared to a similar body of work carried out in India which showed anxiety and depression of 38.6% and 27.5%<sup>4</sup> respectively in polycystic ovarian syndrome. The psychological impact seems significantly lesser than other researches and we will continue to discuss and address all possible reasons for this contrasting variation in the psychiatric comorbidity.

The population in our study consisted of families of Heavy industries of Taxila (HIT), comprising those entitled to free treatment as well as service provision to the general population on out of pocket payment basis. The study site was a tertiary care hospital that provided quality services at a reasonable cost. Although we did not include an inquiry about socioeconomic status in our study design since it was a relatively homogenous group of patients, most of whom were being supported financially because they or their family members worked in HIT, it is safe to assume that they belonged to at least middle socioeconomic class. Psychological illness especially depression is noted to be less common in women coming from financially sound households as depicted by a recent investigation into socio-economic factors linked to depression in women living in Northern Pakistan.<sup>12</sup> This may be one of the reasons for lower than average rates of depression, anxiety, and stress in our sample.

In the Pakistani population factors positively associated with anxiety and depressive disorders in various psychiatric studies have been female sex, middle age, low level of education, financial difficulty, being a housewife, and relationship problems. The mean age of depressed patients in studies is 36.8 years<sup>13</sup>, and in other studies to be 34.31 years. In the study by Mirza and Jenkins<sup>14</sup> association with

depression was found to be significant in middle age and onwards. Moreover, this systematic review suggests an overall mean prevalence of 33% for depression in the Pakistani population.<sup>14</sup> Most of our sample was young and only 3 patients were above the age of 45 years, this may also be contributing to low levels of reported depression.

Although rates of depression are reported high in studies from Pakistan, results similar to our study have also been reported in a study on younger single females carried out in rural Pakistan<sup>15</sup>, which demonstrated that depressive disorder was not commonly prevalent in young single women in rural Pakistan. In this study of a sample size of 321, aged 16-18 single women in rural Pakistan, only 14 (4.4%) had a depressive disorder. In our study 41.4%, women were single and 57.9% were married. Age-wise the largest subset in the age group (38.8%) belonged to 15 to 25 years of age. Although most studies from Pakistan report higher rates of depressive illness but similar to our sample very low results of depressive illness have been reported in younger females in the country.

It seems almost perceptible to associate hirsutism with a detrimental impact on psychological well-being, poorer quality of life, and stress. Most literature on hirsutism and the psychological impact that ensues has been carried out with an exclusive focus on Polycystic Ovarian Syndrome (PCOS). In addition to the symptom of hirsutism, PCOS has other accompanying symptoms like infertility and obesity, all of which are known to cause a huge impact on the health of the women resulting in higher levels of depression and anxiety, greater dissatisfaction with themselves, and feeling of being less feminine due to excessive facial hair growth, as compared to women without having PCOS.<sup>16</sup> Idiopathic hirsutism, on the other hand, is not associated with these additional symptoms and accompanying hormonal imbalances, these reasons can therefore be a possible explanation for lower psychiatric morbidity in our study compared to the higher psychiatric morbidity seen in most other hirsutism researches with a focus on PCOS.

Most of the previous research on hirsutism has demonstrated that the higher the degree of hirsutism, the more profound is the psychological impact experienced by the individual suffering from the condition.<sup>17</sup> Many of the pre-existing researches deployed the Ferriman and Gallwey hirsutism rating/scoring system, which can be administered either through self-rating by the patients themselves, or rated by the clinician. The preexisting work of

research has extensively used self-report scoring, a methodology that has demonstrated previously in research that patients tend to over-report the magnitude of hirsutism when self-reporting on the Ferriman and Gallwey hirsutism scoring system.<sup>2</sup> It is for that reason the overall calculation of hirsutism assessment and documentation has generated varying results. One possible reason for less prevalence of psychiatric morbidity contrasting similar bodies of work carried out elsewhere that showed higher psychiatric comorbidity can be attributed to milder hirsutism FG score in our study. A significant aspect worth addressing here is that in our study the FG rating was done by a trained and an expert clinician rather than deploying the self-report methodology. Data from researches have proven that with self-report measures done by patients, they are more likely to view their hirsutism as more severe than clinicians. It is most likely for this reason that the FG scores in this study have shown a milder hirsutism score in the 71.7% study population and as expected from previous data sets have shown lower psychiatric morbidity.

Our study addressed the issue of idiopathic hirsutism, the diagnosis of which is made after ruling out many physical causes like hormonal changes, physical and medical comorbidities. Idiopathic hirsutism is known to have a good prognostic outcome with laser treatment. One possible reason for lower psychiatric morbidity in our study population was seeking treatment knowing the prognostic implications and that the treatment will produce the desired results, thereby not getting very anxious or stressed.

### Limitation

It is a cross-sectional study and done in a single setting, hence the results may be generalized with caution.

### Conclusion

This study provides an insight into the psychological impact of idiopathic hirsutism, a relatively untouched research area. It also provides a snapshot of the mental state of a patient population about to receive a promising treatment. We have found that having an assurance of effective treatment and the ability to afford it may result in lower levels of psychological ill-health despite suffering from a stigmatizing condition. Hence, it may not be prudent to do routine screening

of psychological morbidity for these patients. It will be worthwhile to look into the long-term efficacy of laser treatment in these patients and its relationship with psychological well-being.

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