

# The impact of hirsutism on the mental status of Indian women

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**Abstract** *Objective* To determine mental status of the hirsute women using Hospital Anxiety and Depression Scale (HADS).

*Methods* Hirsutism was assessed quantitatively by Ferriman-Gallwey score (F-G score) and qualitatively by self-administered questionnaires of Hospital Anxiety and Depression Scale (HADS). Other parameters such as age, occupation, comorbidities, socio-economic status, marriage status, religion, educational status were assessed.

*Results* Mean HADS score of 100 hirsute patients was  $12.66 \pm 6.11$  which is abnormal. HADS was normal in 18%, 24% had borderline abnormal and in 58% it was abnormal. Mean anxiety score of HADS was  $8.71 \pm 4.06$ , which was higher than the mean depression score which was  $3.95 \pm 2.93$ , which was statistically significant ( $p=0.008$ ). HADS score was not affected by severity of hirsutism, age, occupation, socio-economic status, marriage status, presence of polycystic ovarian syndrome, religion and educational status.

*Conclusion* The presence of hirsutism had significant impact on the mental status of the patients which lead to anxiety and depression. There was a greater increase of anxiety in comparison with depression.

**Key words**

Hirsutism, Ferriman-Gallwey score, polycystic ovarian syndrome, hospital anxiety and depression scale.

## Introduction

Hirsutism is defined as excessive growth of terminal hair in women in skin areas sensitive to androgens. It is a sign of increased activity of androgens in the hair follicles, due to increased circulating level of androgens or increased sensitivity of the hair follicles to normal circulating level of androgens.<sup>1</sup>

Hirsutism is known to cause significant emotional distress and social embarrassment in women. Perception of hirsutism is subjective, and women present with wide variation in severity. Both the severity and degree of acceptance of hirsutism depends on racial, cultural and social factor. Feminine identity can be threatened by cosmetic and psychological implication of hirsutism.<sup>2</sup>

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There are many studies on hirsutism in India but only few studies on the impact of hirsutism on the anxiety and depression of Indian women. So, in this study we assessed the anxiety and depression of Indian women with hirsutism.

## Methods

A cross-sectional study was conducted on patients presenting with hirsutism aged 18 years and above to Dr. B R Ambedkar Medical College Hospital from June to July 2017. Patients were informed about the objectives of the study and informed consent was taken.

Ferriman and Gallwey score (F-G score) was used as a visual method of evaluating and quantifying hirsutism in women. Nine androgenic sensitive areas (upper lip, chin, chest, upper back, lower back, upper abdomen, lower abdomen, upper arms, thigh) were taken into consideration. Scoring ranged from a minimum of 0 to a maximum of 36, 8-10=mild, 11-14=moderate and scores  $\geq 15$  were considered severe hirsutism.<sup>2</sup>

Pregnant and lactating women, women diagnosed with hypertrichosis due to local diseases and systemic illnesses, women on medications which are known to cause excess hair growth were excluded from the study.

Demographic characteristics such as age, marital status, religion, duration of hirsutism, family history, comorbidities were recorded and also variables like education, occupation and family income per month were recorded for assessment of socioeconomic status by modified Kuppuswamy's scale.<sup>3</sup>

Hospital Anxiety and Depression Scale (HADS)<sup>4</sup> was used to screen for presence of depression and anxiety. It provides an acceptable, reliable and valid practical tool to identify and quantify depression and anxiety in hirsute females. Scoring ranged from a minimum of 0 to a maximum of 21, wherein 0-7=non case, 8-10=borderline case, 11-21=case.

Data were coded manually and analysis was conducted through SPSS program, version 21. The results were presented in tables and figures. Descriptive and analytical statistical analysis was done. For quantitative data mean  $\pm$  standard deviation (SD) was used and for qualitative data number and percentage were used. Chi-square ( $\chi^2$ ) test was used for comparison of qualitative data. The level of significance was taken at  $p < 0.05$

## Results

A total of 100 hirsute women were included in the study with a mean age of  $24.41 \pm 6.34$  years. 21% had mild hirsutism, 41% had moderate hirsutism and 38% had severe hirsutism (**Figure 1**). In women aged 18-24 years, 24.2% had mild, 48.5% had moderate and 27.3% had severe hirsutism. While in women aged  $\geq 25$  years, 14.7% had mild, 26.5% had moderate and 58.8% had severe hirsutism. So, it was observed that females aged  $\geq 25$  years had severe hirsutism more than those aged  $< 25$  years. This was statistically significant ( $p = 0.009$ ).

65% of hirsute women were unmarried in our study. 62% were students, 23% were housewives and 15% were working women. In our study, 46% were Hindus, 50% were Muslims and 4% were Christians. Regarding educational status of women in our study, 25% had completed graduation, 74% had studied till primary and 1% was illiterate. In our study, 18% belonged to upper class, 50% belonged to the upper middle class and 16% each belonged to the lower middle and upper lower class.

Among the 23 females suffering from PCOS, 17.4% had mild, 30.4% had moderate and 52.2% had severe hirsutism. While in other 77 females not affected by PCOS, 22% had mild, 44.2% had moderate and 33.8% had severe hirsutism. So, more number of patients with PCOS had severe

hirsutism compared to non-PCOS patients, but it was not statistically significant ( $p$  value=0.157).

HADS was normal in 18%, 24% had borderline abnormal and in 58% it was abnormal (**Figure 2**). Mean anxiety score of HADS was  $8.71 \pm 4.06$  which was higher than the mean depression score which was  $3.95 \pm 2.93$ , which was statistically significant ( $p=0.008$ ). Mean total

score of HADS was  $12.66 \pm 6.11$  which was abnormal (**Table 1**).

In our study, HADS score was  $10.81 \pm 6.31$  in mild,  $13.61 \pm 6.55$  in moderate and  $12.66 \pm 5.38$  in severe hirsutism (**Table 2**). The HADS score was seen to be  $12.08 \pm 5.98$  in females aged 18-24 years, while it was  $13.79 \pm 6.28$  in females aged  $\geq 25$  years. Married women in our study had a greater mean HADS score of  $14.11 \pm 6.43$

**Table 1** Mean of Hospital Anxiety and Depression scale (HADS) among studied group

HADS	Anxiety score	Depression score	Total score	P value
Mean±SD	$8.71 \pm 4.06$	$3.95 \pm 2.93$	$12.66 \pm 6.11$	0.008

**Table 2** Mean Hospital Anxiety and Depression scale (HADS) among studied group according to severity of hirsutism.

HADS	Mild hirsutism	Moderate hirsutism	Severe hirsutism	P value
Mean±SD	$10.81 \pm 6.31$	$13.61 \pm 6.55$	$12.66 \pm 5.38$	0.303

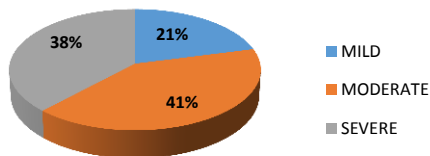
**Table 3** Mean Hospital Anxiety and Depression scale (HADS) among studied females according to occupational status.

HADS	Students	Housewives	Working women	P value
Mean±SD	$11.9 \pm 5.92$	$14 \pm 7.27$	$13.73 \pm 4.60$	0.108

**Table 4** Mean Hospital Anxiety and Depression scale (HADS) among studied females according to modified Kuppusswamy's scale of socio-economic status

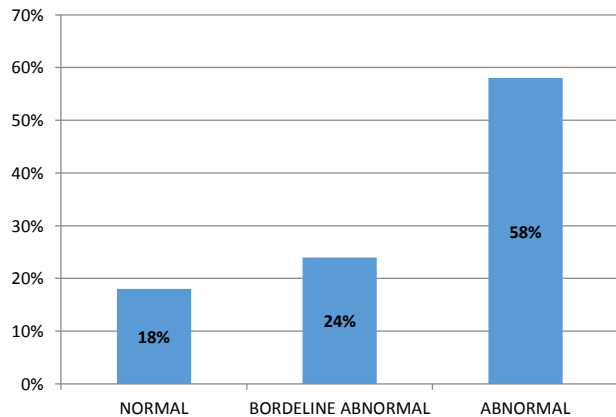
HADS	Mild hirsutism	Moderate hirsutism	Severe hirsutism	P value
Mean±SD	$11.83 \pm 4.62$	$12.97 \pm 6.19$	$12.31 \pm 7.36$	0.428

**GRADES OF HIRSUTISM**



**Figure 1** Frequency of severity of hirsutism based on Ferriman and Gallwey score

**HADS EFFECT**



**Figure 2** Frequency of Hospital Anxiety and Depression scale score among studied group

compared to mean HADS score of unmarried women, which was  $11.88 \pm 5.82$ .

Mean HADS score of students was  $11.9 \pm 5.92$ , of housewives  $14 \pm 7.27$  and that of working women was  $13.73 \pm 4.60$  (Table 3). Mean HADS score of illiterate was 18, of primary education was  $12.92 \pm 6.24$  and that of graduates was  $11.68 \pm 5.76$ . Mean HADS score of females belonging to upper class was  $11.83 \pm 4.62$ , of middle class was  $12.97 \pm 6.19$  and that of lower class was  $12.31 \pm 7.36$  (Table 4). Females suffering from PCOS had mean HADS score of  $12.57 \pm 5.35$  which was comparable to non-PCOS patients which was  $12.69 \pm 6.35$ . The difference between mean HADS score of F-G score, age, socio-economic status, religion, marital status, education, occupation, PCOS status parameters were not statistically significant ( $p$  value  $\geq 0.05$ ).

## Discussion

Hirsutism is excessive terminal hair in androgen dependent areas in a female over face, chest, abdomen, upper thigh and areola.<sup>5</sup> It affects 5-10% of women in reproductive age.<sup>6</sup> In our study the mean age was 24.41 years which was slightly less compared to a study by Baig *et al.*<sup>7</sup> in which it was  $26.12 \pm 5.83$  years. Most of the patients in our study were students (62%). 65% of patients in our study were unmarried which was higher than a study by Baig *et al.*<sup>7</sup> in which it was 51.5%.

Hirsutism is much more than just a cosmetic problem. It may be associated with significant underlying diseases, often linked with decreased quality of life, impaired self-image of the patient feminine identity.<sup>8</sup> In our study, 38% had severe hirsutism which was only 8% in a study conducted by Hodeeb *et al.*<sup>1</sup> 23% of the cases in our study were associated with PCOD and 7% had hypothyroidism which was 38% and 8% respectively in a study by Sharma *et al.*<sup>6</sup>

In our study, the level of anxiety and depression were not affected by severity of hirsutism, marriage status, occupation, education, religion, socio-economic status and PCOS status. Hodeeb *et al.*<sup>1</sup> found that the level of anxiety and depression to be higher among women with severe F-G score. In the present study, hirsute women were more anxious than depressed which was similar to the findings in the study by Ekback *et al.*<sup>9</sup> According to Lipton *et al.*<sup>10</sup>, three quarters of hirsute women had anxiety and one third had clinical level of depression.

So, we finally conclude that presence of hirsutism had a significant impact on the mental status of the patients which leads to anxiety and depression. There was a greater increase of anxiety in comparison with depression. We recommend to not consider hirsutism as an ordinary disease and the patients suffering from this infirmity shall be treated with courtesy and civility. These patients are not only in requirement of drugs and procedures which can cure hirsutism from its roots but also stand in need of psychotherapy and mental restoration. A behavior modification in our part is necessary for such patients.

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