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Original Article

Impact of female pattern hair loss on the quality of life of patients

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Abstract

Objective To assess the impact of female pattern hair loss (FPHL) on the quality of life of patients using Modified Women Androgenic Alopecia – Quality of Life (mWAA-QOL) index.

Methods A total of 100 patients suffering from female pattern hair loss (FPHL), who themselves were able to understand and complete the mWAA-QOL questionnaire were enrolled in the study.

Results The mean mWAA-QOL score in 100 patients of FPHL was 36.1±6.91 with 81% of patients having moderate to severe psychosocial impact due to FPHL. Higher mean responses were noted in relation to feeling unattractive by appearance and continued hair loss despite treatment. Younger, unmarried women with longer duration of disease had poorer QoL.

Conclusion The findings confirm the detrimental impact of FPHL on the QoL and suggest a possible role for adjuvant psychological intervention on patients for better compliance in treatment.

Key words
Female pattern hair loss, quality of life, Modified Women Androgenic Alopecia – Quality of Life (mWAA-QOL) index.

Introduction

Female pattern hair loss (FPHL) is a common condition characterized by a diffuse reduction in hair density over the crown and frontal scalp with retention of the frontal hairline. The prevalence increases with advancing age.[1] Hair loss in women is associated with significant psychological morbidity. Societal norms dictate that hair is an essential part of a woman's sexuality and gender identity, and any hair loss generates feelings of low self-esteem and anxiety from a perception of diminished attractiveness. Women are more likely than men to have a lowered quality of life and to restrict social contacts as a result of hair loss.[2]

Studies comparing the psychosocial impact of androgenic alopecia on women and men reported that it is a common dermatological condition with potentially adverse psychosocial impact mainly in women[3] with certain items like inability to style their hair, dissatisfaction with their appearance, concern about the continuing hair loss and concern about others noticing their hair loss having a profound influence on them.[4] In managing patients with female pattern hair loss the physician should be aware that the, adverse effects on quality of life can be quite severe and do not necessarily correlate with the objective degree of hair loss.[1]

Hence, the present study quantifies the impact of FPHL on the quality of life of affected women as measured using the modified Women Androgenic Alopecia-Quality of Life questionnaire (m WAA-QOL). Hitherto only a few studies are available in the Indian literature.

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Methods

This cross-sectional, questionnaire-based study was conducted at a tertiary care centre between Jan 2013 to Dec 2013, after obtaining the clearance from the Institutional Review Board Committee (IRBC). A 100 consenting patients with FPHL were enrolled in the study. Patients with chronic telogen effluvium were excluded from the study. Data pertaining to age, marital status, occupation, duration, menstrual irregularities, family history, extent of hair loss, thinning of hair, signs of virilization (hirsutism, acne, acanthosis nigricans, galactorrhea, loss of axillary hair), hair pull test and daily hair count were recorded. Diagnosis was made clinically based on pattern hair loss and was graded using Sinclair pattern (5-point scale).[5] For grading Sinclair pattern was used in the present study, as majority of the Indian female patients have a habit of grooming the hair with central partition. Patients with thinning and bitemporal recession-Hamilton-Norwood scale[6] were noted.

Psychosocial impact was assessed using modified Women Androgenic Alopecia – Quality Of Life questionnaire.[7] Women's AGA Quality of Life Questionnaire (WAA-QOL) is a Health-Related Quality of Life (HRQOL) index specific to women with hair loss. WAA-QOL is self-completed in about 10 min, exhibits good content validity, internal consistency and test-retest reliability, and hence may be used in assessing the impact of FPHL on QoL or in evaluating therapeutic effects in clinical trials.[8] This was later modified as modified WAA-QOL to suit the Indian population in a study conducted by Pradhan *et al*.[7], to assess the psychosocial impact in cicatricial alopecia. This modified WAA-QOL used in the present study includes 20 question distributed among three domains: emotion, social and function. These questions were not asked in relation to past one week. The score was given on a scale from 1 to 3, as to how the patient felt is affected due to the disease. The total score ranged from 15 to 60. The higher the score, the poorer was the quality of life (Appendix I).[7]

The data were entered into Microsoft XL & SPSS version 16 for analysis. Data collected were coded and analyzed using descriptive statistics such as frequency, means and standard deviation. Statistical analysis was done using chi-square, ANOVA and student t test. The relationship between disease variables (age, duration, marital status) and psychosocial impact was assessed using Spearman's rho correlation coefficient. Statistical significance was considered if p value was less than 0.05.

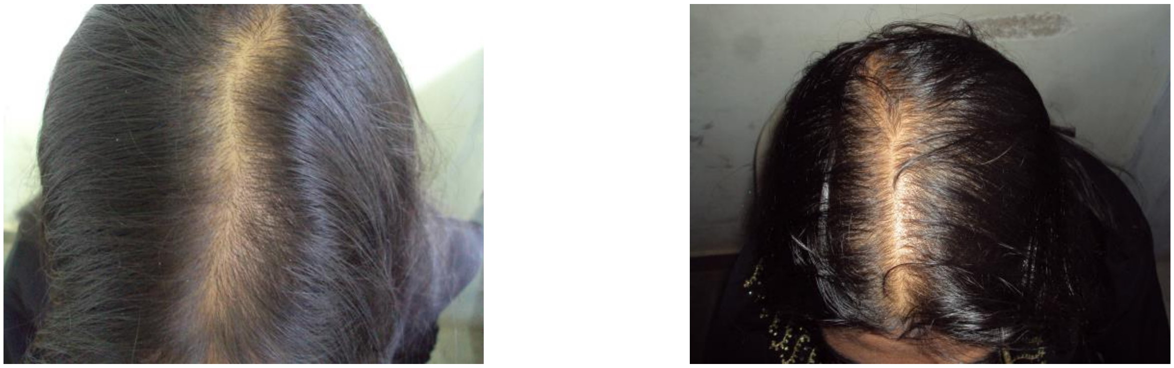
Results

Demographic variables

In our study, of 100 patients, 66% of patients were in the age group of 21-40 years with a mean age of 29.9 ± 9.6 years and 78% of patients had the disease for duration less than 3 years, followed by 23% more than 3 years, with a mean duration of 2.5 ± 2.1 years. 72% of patients were married, with a positive family history seen among 36% of patients. Majority of patients (79%) exhibited grade II of FPHL in Sinclair scale, followed by grade III seen in 11% and grade IV in 9%. Grade V was seen only in one patient (**Figure 1**).

Psychosocial impact

70% of patients experienced a moderate impact due to FPHL, followed by no impact in 19% and severe impact in 11% of patients. Mean total score of mWAA-QOL of the total sample size was 36.1±6.91 representing a moderate impact. Mean response across the various domains is depicted in (**Figure 2**).



1a (Grade II) **1b** (Grade III)

1c (Grade IV) **1d** (Grade V)

Figure 1a to **d** Clinical photographs showing the four grades on Sinclair scale, grade II to grade V.

The results indicate that the mean responses were higher with E1 (unhappy with appearance), E2 (feel unattractive), E3 (continued hair loss despite treatment) and E9 (frustrated) questions of emotion domain. Similarly mean response were higher with the questions relating to the people noticing (S1) and commenting (S2) of hair loss in the social domain. Equal mean responses were noted in all the questions of function domain.

Age and mWAA-QOL

The enrolled subjects were divided into two groups: Group A: less than 30 years with mean mWAA-QOL of 37.08±2.6 (younger patients); group B: more than 30 years with mean mWAA-QOL of 36.28±3.2 (mature patients). While comparing mean mWAA-QOL scores between these two age groups through ANOVA, it was revealed that there was no significant difference in mean mWAA-QOL scores with respect to the two age groups, *p*=0.889.

Duration of disease and psychosocial impact

The patients were divided into those with duration less than 3 years and with duration more than 3 years. Though the mean scores were higher in patients with disease more than 3years with mean mWAA-QOL of 38.29±6.87 compared to patients with duration less than 3 years with mean mWAA-QOL of 35.49±6.78. The difference between the two means was statistically significant *p*=0.0015 (ANOVA).

Marital status and psychosocial impact

Singles had a higher mean mWAA-QOL score (37.04±7.59) as compared to married (35.74±6.61); the difference of which was statistically significant, *p*=0.002.

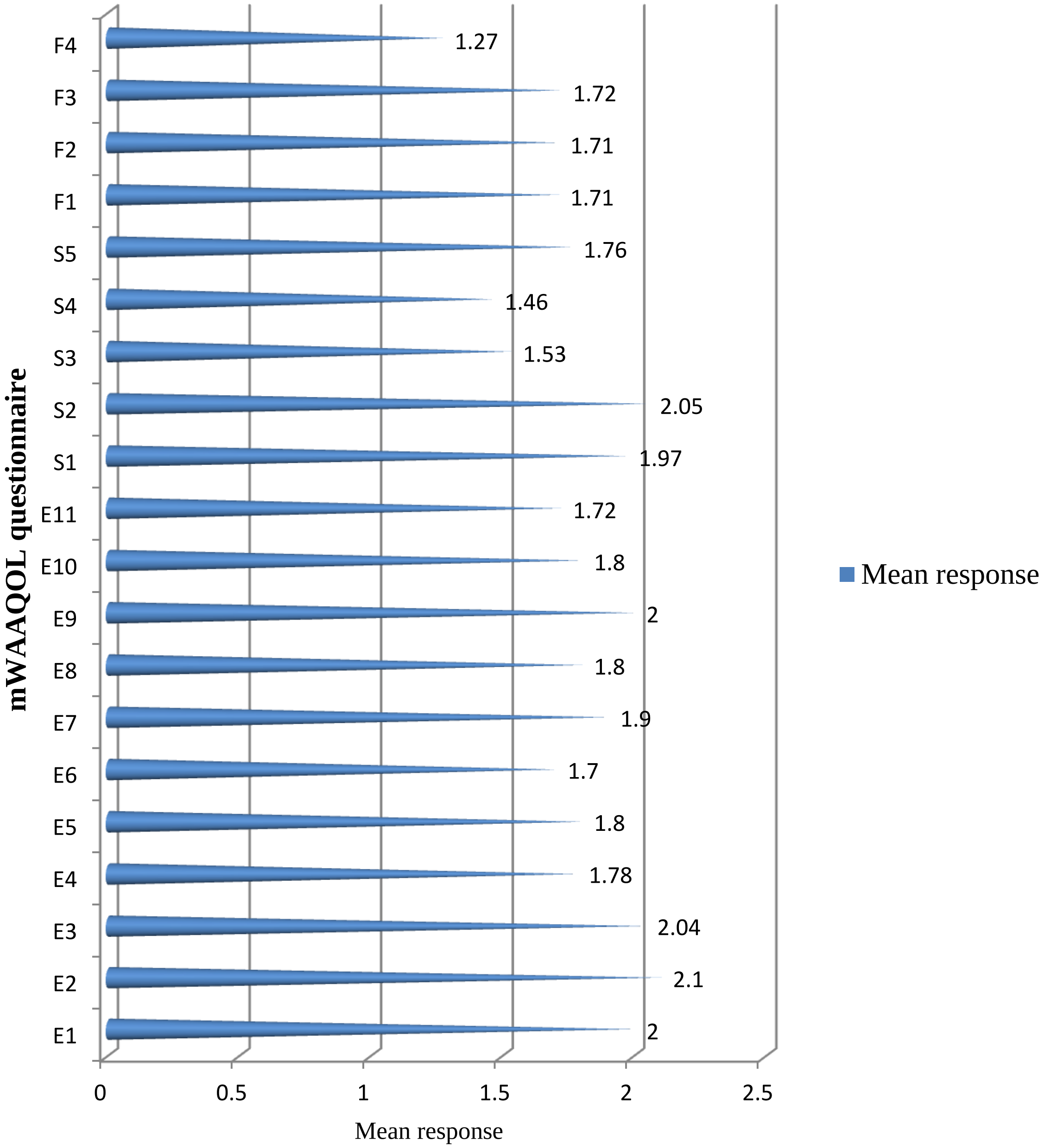


Figure 2 Mean responses seen among the various items of the m WAA-QOL questionnaire

Sinclair scale and psychosocial impact

As regards the comparison between mean mWAA QOL scores with respect to grade of FPHL, patients with grade II had mean mWAA QOL scores of 35.89±3.33, while those with grade III, grade IV and grade V had the scores of 36.01±7.89, 36.82±7.55 and 37, respectively, indicating that high mean mWAA-QOL scores were seen in patients with higher grade, which was not statistically significant, *p* =0.984.I.

Discussion

The FPHL is a nonscarring progressive thinning of hair. It results from a progressive decrease in the ratio of terminal hairs to shorter, thinner vellus hairs, a process known as follicular miniaturization.[9] This miniaturization follows usually a pattern distribution. In women, FPHL typically presents as a diffuse reduction in hair density over the frontal and vertex areas, but parietal and occipital regions may be involved. The incidence and severity of AGA is highest in white men followed by Asians and African Americans and lowest in Native Americans and Eskimos.[10] Data pertaining to Indian subcontinent are lacking.

Many women suffering from FPHL experience negative psychosocial effects related to the condition. In our study we observed that 81% of our patients had moderate to severe psychosocial impact due to their hair loss, which was slightly on the higher side compared to a questionnaire-based study in which, 70% of affected women reported that they were very to extremely upset about their hair loss.[11]

Majority of our patients were in the age group of 21-40 years, which is a younger age group, similar to the observation made by other workers.[12,13] Though the prevalence and severity of the FPHL, increases with advancing age, onset of the disorder is in the reproductive age group. Further it is the younger patients who present more to the hospital for treatment, as in our society 20-30 years is the age to get married.

The mean mWAA-QOL score of total sample size in our study was 36.1±6.91. Mean mWAA-QOL score of 30-45 are interpreted as moderate impact on patient’s QoL. Of the three domains, mean response was highest with emotion domain, followed by social and function domain, a similar trend was observed in the study by Cartwright *et al*.[14]

The items or questions perceived as most important to women with FPHL were mainly emotional aspects like, concern about continued or total hair loss despite treatment, feeling unattractive, frustration of hair loss and dissatisfaction with appearance. A similar observation was made in other studies.[4,15] Other emotional aspects associated with hair loss in women were feelings of jealousy/envy about other people having thick hair, feeling powerless to stop hair loss and embarrassed about hair loss. Patient also felt more self-conscious about scalp showing, people commenting and noticing the hair loss. Others like, feeling uncomfortable socializing with people and uncomfortable interacting with the opposite sex (or same sex), restricting physical activities, altered hair care and hair styling to hide bald spots were less important to FPHL affected women. These findings are consistent with research that assessed the thoughts and feelings of females with FPHL.[16]

The mean mWAAQOL score was higher in patients with age less than 30 years though not statistically significant. Also patients who were singles and those with greater duration of disease had a poorer QoL, which was statistically significant. A similar trend was seen in a study by Tahir *et al*.[12] and Cash.[17] It may be as, younger female patients are more aesthetically conscious and the perception of looking older due to hair loss causes much of embarrassment and lack of self-confidence.

Though the mean mWAA-QOL score increased with the advancing grade of Sinclair scale, we did not find any statistically significant difference in the mean scores of mWAA-QOL among the patients with different grade of FPHL. This is in contrast to the observation that severe grade of FPHL on Ludwig scale correlated with poorer QoL. This can be explained as majority of our patients i.e. 79% fell in the category of grade II in the Sinclair scale. Literature also highlights that even clinically imperceptible hair loss is often correlated with decreased QoL.[18]

Specific restraining features in the present study include sample characteristics, as the present study is hospital-based and thus only patients seeking treatment were included.

Hence to conclude, FPHL has a negative impact on patients' quality of life with significant psychosocial limitations. The present study shows that modified WAA-QOL can be used to assess the impact of FPHL on QoL. As per our observation from the present study, we propose that young, unmarried women with longer duration of disease and a high mWAA-QOL score (more than 30) may benefit from individual counseling with psychologist. However, a case-control study and comparison between male, female pattern hair loss and other causes of hair loss, would give a better insight to this facet of the study.

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