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Original Article

Quality of life in patients with alopecia areata attending dermatology department in a tertiary care centre - A cross-sectional study

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Abstract

Objective To assess the quality of life in patients with alopecia areata and its relationship with severity of alopecia areata.

Methods This was a hospital-based cross-sectional study of 60 patients with clinically diagnosed cases of alopecia areata, over a period of 1 year. Quality of life and psychiatric morbidity were assessed using Dermatology Life Quality Index (DLQI) questionnaire and General Health Questionnaire – 28 (GHQ – 28), respectively.

Results Quality of life based on DLQI score was affected in 70% of cases. Assessment of quality of life in four subscales of general health questionnaire-28 individually showed involvement of social dysfunction subscale most commonly. It was found that, there was positive relationship between severity of alopecia areata and psychiatric morbidity based on GHQ-28. There was significant statistical association between quality of life based on GHQ-28 and DLQI.

Conclusion Quality of life based on DLQI score was impaired in 70% of cases where as psychiatric morbidity was noticed in 48.3% of patients. With regards to the pattern of alopecia areata, very large effect was noticed in patients with alopecia areata other than patchy type.

Key words
Alopecia areata, quality of life, psychiatric morbidity.

Introduction

Alopecia areata (AA) is a chronic inflammatory disease that involves the hair follicles and sometimes nails.[1] It is characterized by sudden appearance of patches of hair loss on scalp and other hair bearing areas. Studies indicate that patients with both clinically apparent and clinically imperceptible hair loss may have significantly decreased quality of life (QoL). QoL appears to be more relevant criterion to assess the severity of the disease than clinical evaluation such as alopecia areata extension.[2]

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Methods

This was a hospital-based, cross-sectional study of 60 patients with clinically diagnosed cases of alopecia areata over a period of 1 year. Institutional ethical and research committee approval was obtained. Informed written consent was taken from all patients. Patients demographic and clinical data and quality of life and psychiatric morbidity were collected and recorded, as per proforma. Quality of life and psychiatric morbidity was assessed using Dermatology Life Quality Index (DLQI)

questionnaire[3] and General Health Questionnaire–28 (GHQ–28).[4] Data were entered into Microsoft Office Excel 2007 and analysis was carried out using Statistical Package for Social Science (SPSS) version 17 software. Independent t test and ANOVA were used to test significance in continuous variables and Chi-square test for the same in categorical variables. *P* value <0.05 was considered as significant.

Results

Among total 60 patients, males constituted 65% (n=39) while females were 35% (n=21) with male to female ratio of 1:1.86. Mean age was 33.9±9.3 years. Of these, 43 (71.7%) patients were married and 17 (28.3%) were unmarried. Majority of the patients were manual laborers (35%). 30 cases each had single and multiple alopecia areata patches, respectively. Majority of patient were having age of onset of the disease in between 21-40 years (56.7%), followed by 41-60 years (28.3%). 51 (85%) patients had duration of illness less than 2 years and only 3 (5%) of them had more than 10 years. Mean duration of illness was found to be 1.4±3.6 years. Most common site involved was scalp (n=29, 48.3%), followed by beard area (n=15, 25%).

A personal history of atopy was found in 31 (51.7%), family history of atopy in 10 (16.7%), family history of alopecia areata in 10 (16.7%), history of thyroid disease in 8 (13.3%), history of stress in 28 (46.7%) and previous history of treatment in 22 (36.7%). Among these 60 cases, 51 (85%) had patchy type of alopecia areata. Other patterns include ophiasis type 2 (3.3%), alopecia totalis 1 (1.7%), alopecia universalis 3 (5%) and extensive type 3 (5%).

33 (55%) patients with alopecia areata had small effect (2-5) on quality of life in DLQI and in 18 (30%) cases quality of life was not affected (score=0-1). Moderate (score=6-10) and very large effects (score=11-20) were noticed in 4 (6.7%) and 5 (8.3%), respectively. Quality of life based on DLQI score was affected in 70% of cases **(Figure 1)**.

Assessment of quality of life in four subscales of general health questionnaire-28 individually showed involvement of social dysfunction subscale most commonly 33 (55%), followed by anxiety and insomnia subscale 16 (27%), severe depression subscale 7 (10.3%) and somatic subscale 4 (6.9%) in decreasing order **(Figure 2)**.

28 (46.7%) patients in this study were found to have stress, of which only 6 (10.7%) and 4 (7.1%) had very large and moderate effect in DLQI scale with *p* >0.05. So no statistically significant association between DLQI score and history of stress noticed. Also those with previous history of treatment (n=22, 36.7%) for alopecia areata were found to have no relationship with DLQI score. With regards to the pattern of alopecia areata, very large effect were noticed in patients with alopecia areata other than patchy type 34 (56.6%) when compared to the patchy types with *p* <0.05%.

Psychiatric morbidity with QoL based on GHQ-28 were affected in 21(72.41%) patients with <40 years and in 8 (27.6%) patients with >40 years, which were statistically not significant (*p* >0.05). Similarly QoL was affected in 12 (57.1%) females and 17 (42.9%) males, 20 (69%) married and 9 (31%) unmarried patients. All of these parameters were statistically not significant with GHQ scale with *p* >0.05.

Out of 60 patients with alopecia areata, 28 (46.6%) were associated with history of stress. Of them 17 (60.71%) patients had psychiatric morbidity based on GHQ-28 scale.

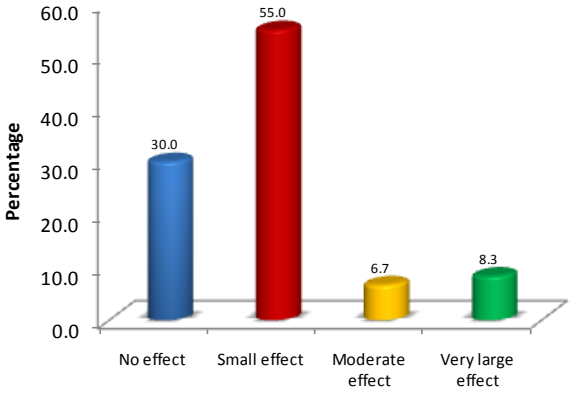

Figure 1 Assessment of quality of life in alopecia areata based on Dermatology Life Quality Index (DLQI).

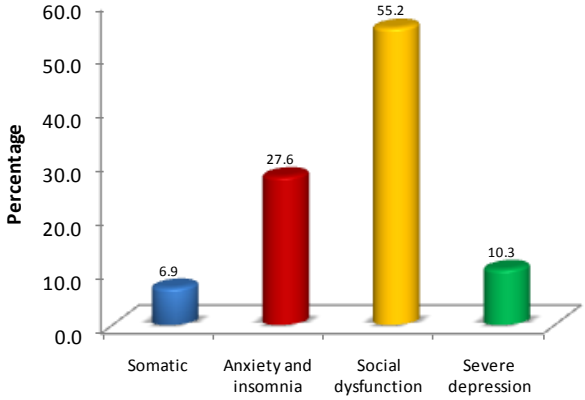

Figure 2 Involvement of subscales of GHQ-28 in alopecia areata patients.

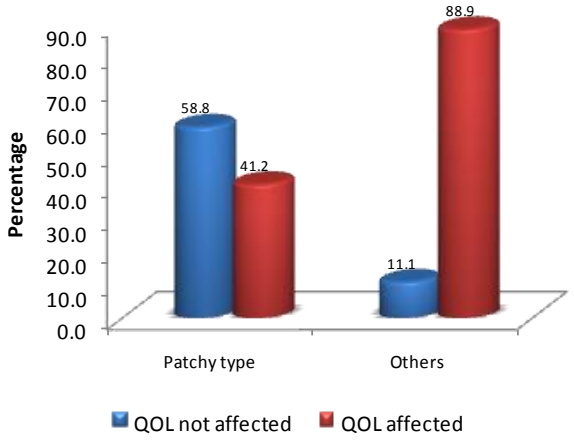

Figure 3 Association of psychiatric morbidity based on GHQ-28 with pattern of alopecia areata

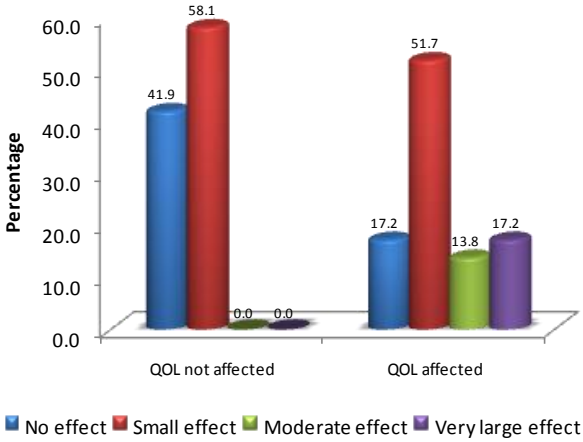

Figure 4 Relationship between DLQI and GHQ-28 by binary method.

Similarly, out of 22 patients with previous history of treatment, only 9 (40.9%) had psychiatric morbidity based on GHQ-28 scale. Both these parameters were statistically not significant. Out of 51 patients with patchy type of alopecia areata, 21 (41.2%) had psychiatric morbidity whereas 30 (58.8%) were not affected. Out of 9 (15%) patients with other than patchy type pattern, 8 (88.9%) were found to have psychiatric morbidity based on GHQ-28 scale. It was found that there was positive relationship between more severe types of alopecia areata and psychiatric morbidity based on GHQ-28 (p <0.05), **(Figure 3)**.

Out of these 60 patients, 29 had impaired quality of life based on GHQ scale where as 31 patients were not affected. Among these two groups, 15 (51.7%) of former group had small effect on quality of life based on DLQI score as compared to the 18 (58.1%) of the later group. But moderate 4 (13.8%) and very large effect 5 (17.2%) were seen only in those with psychiatric comorbidity based on GHQ-28 scale. We noticed a significant statistical association between quality of life based on GHQ-28 and DLQI **(Figure 4)**.

Discussion

In our study of 60 patients with alopecia areata, there was male preponderance (1.86:1). Mean age at diagnosis was 33.9±9.3 years. Half of the patients had single and the other half had multiple alopecia patches. Mean duration of illness was found to be 1.4±3.6 years. Most common site involved was scalp (n=29, 48.3%), followed by beard area (n=15, 25%).

Out of the 60 patients studied, 33 (55%) with alopecia areata had small effect (score=2-5) on quality of life in DLQI, and in 18 (30%) cases quality of life was not affected (score=0-1). Moderate (score=6-10) and very large effects (score=11-20) were noticed in 6.7% and 8.3%, respectively. Quality of life based on DLQI score was affected in 70% of cases, in our study. Ghajarzadeh *et al*.[5,6] noticed that mean DLQI score in alopecia areata was 6.4±5.5. Al-Mutairi and Eldin[7] reported the mean DLQI score was 13.54 in AA.

On psychiatric evaluation of alopecia areata based on GHQ-28, 48.3% of cases were found to have psychiatric morbidity (GHQ-28 score >4). Assessment of quality of life in four individual domains of GHQ-28 showed involvement of social dysfunction subscale most commonly (55.2%) with alopecia areata, followed by anxiety and insomnia subscale (27%), severe depression subscale (10.3%) and somatic subscale (6.9%) in decreasing order.

From previous studies, AA has been associated with an increased prevalence of certain psychiatric disorders, particularly depression and anxiety, varying from 40% to 93%. Sellami *et al.*[8] by using Toronto Alexithymia scale-26 (TAS-26) and Hospital Anxiety Depression scale (HADS) noted that an increased prevalence of anxiety (62%) and depression (38%) in AA were significantly higher in the patient group in comparison with controls.

Colon *et al.*[9] in their study of patients with alopecia areata, noted 74% patients to have a life time psychiatric diagnosis, with high prevalence rates of major depression (39%) and generalized anxiety disorder (39%). Ghajarzadeh *et al.*[5] by using Beck Depression Inventory (BDI) scale reported that 61% of the participants were depressed. Huang *et al.*[10] reported that 25.5% of the patients had depression or anxiety. Hollanda *et al.*[11] study by using SF-36 Questionnaire indicated impairment in QoL in AA patients, affecting patient's psychological, emotional, and social aspects of life.

In our study of 60 patients, none of the parameters of alopecia areata like age of the patient, sex, marital status, occupation, age of onset of the disease, stress and previous history of treatment had association with quality of life based on DLQI ($p>0.05$). With regard to the pattern of alopecia areata, very large effect was noticed in patients with alopecia areata other than patchy type (56.6%). This finding showed statistically significant relationship between pattern of AA and DLQI score with $p<0.05$. Out of 51 patients with patchy type of alopecia areata, 41.2% had psychiatric morbidity with impairment of quality of life. Out of 9 patients with other than patchy type involvement, 88.9% had psychiatric morbidity with QoL impairment based on GHQ-28 scale. It was found that there was a positive relationship between more severe types of alopecia areata were with psychiatric morbidity based on GHQ-28 ($p<0.05$).

Al-Mutairi and Eldin[7] noticed no statistically significant correlation between mean DLQI scores and duration of illness or gender. Tan *et al.*[12] noted that patients with extensive AA experienced more adverse psychological effects than those with limited AA. Shi *et al*.[13] reported

that risk factors for poor QoL were age between 20-50 years, female sex, extensive involvement, family stress and occupational change. Psychiatric morbidity based on GHQ-28 was not statistically significant with parameters like age, sex, marital status, age of onset of disease, history of stress, previous history of treatment (p>0.05).

Al-Mutairi and Eldin[7] found that in all the patients with severe forms of AA, the disease not only has a severe psychological impact, but also causes a marked disturbance in the social life of the patients. But Karia *et al*.[14] study reported that in AA group, no statistically significant correlation was found with severity of illness. Sellami *et al*.[8] noticed that depression was significantly more frequent in women with AA compared to men. In their study, the female patients were differentiated from males by higher levels of anxiety and depression. Alfani *et al.*[15] when considered the duration of the disease the highest scores were observed for durations between 6 and 11 months rather than for shorter (i.e. < 6-month) or longer (i.e. ≥12-month) periods.

Masmoudi *et al.*[2] study found a relationship between poorer quality of life and severity of AA. Severity of AA was related to lower scores in the mental health domain, as well as, lower scores in the social functioning domain. Villasante Fricker and Miteva[16] reported extensive AA leads to greater disfigurement and psychosocial distress. Ruiz-Doblado *et al.*[17] noted that extensive patches of AA, duration of AA, and gender of the patient were not related to worse adjustment to the illness; but this was associated with psychiatric variables, such as personality and the presence of psychiatric comorbidity.

Out of these 60 patients, 29 were found to have psychiatric morbidity based on GHQ scale. Moderate (13.8%) and very large effect (17.2%) on quality of life based on DLQI score were seen only in those with psychiatric comorbidity based on GHQ-28 scale. We noticed significant statistical association between quality of life based on GHQ-28 and DLQI. Ghajarzadeh *et al.*[5] study indicates that patients with severe depression caused by the disease might have further impairment in the quality of life. Karia *et al.*[14] noticed there was significant correlation of QOL with psychiatric comorbidity, severity of psychiatric illness.

Conclusion

Quality of life based on DLQI score was impaired in 70% of cases whereas psychiatric morbidity was noticed in 48.3% of patients. Severe patterns of alopecia areata were associated with severe impairment in QoL, as well as, psychiatric morbidity. Moderate and very large effects on quality of life (DLQI) were observed mainly in those with psychiatric morbidity. Social dysfunction was the commonest subscale involved on GHQ-28. There was significant statistical association between quality of life based on GHQ-28 and DLQI. Counseling along with medication can benefit patients with decreased quality of life and consultation with a psychiatrist can be beneficial.

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