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Demographic and clinical profile of alopecia areata in Makkah, Saudi Arabia and it's impact on quality of life

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Abstract
Background: Alopecia areata is a common chronic dermatological disease that has a negative impact on psychological status and the social interaction of the patient and their overall quality of life (QoL). Moreover, clinical severity of hair loss does not necessarily predict impact on QoL.
Objectives: The aim of this study was to assess QoL in patients with alopecia areata in Makkah, Saudi Arabia by using the newly validated Skindex-16 instrument, to determine the association between patients QoL, sociodemographic data, and disease characteristics.
Materials and Methods: Thirty four patients diagnosed with alopecia areata seen in the Department of Dermatology at Hera General Hospital in Makkah, Saudi Arabia, were included. Quality of life was measured by Skindex-16; sociodemographic data, and disease characteristics was determined; severity of AA was measured by Severity of Alopecia Tool (SALT) scores.
Results: The scalp was the most common site of involvement and Nail changes was reported in 26.5% of patients. 52.1% of the patients had a precipitating factor, with psychological stress being the most common factor. Common comorbid conditions included atopy in 14.7%, thyroid disease in 11.8%, and mental health problems (depression or anxiety) in 8.8%. 20% of the patients were positive for a family history of AA. The mean global Skindex-16 score was 37.7, among the three domains in which skindex-16 is divided, 'emotions' has a major impact on the QLI, followed by 'function'; 'symptoms domain' has a lower weight on the QLI. After adjustment for potential confounders, poorer QoL was significantly associated with female gender (P = 0.024), single (P = 0.045), high-income (P = 0.050), and those with body AA (P = 0.016).
Conclusions: This study presents the demographic features and clinical characteristics of alopecia areata which has a considerable impact on quality of life. Use of these simple QOL measures as a part of integral clinical strategy will improve the outcome.

Keywords: alopecia areata, demographic and clinical profile, quality of life, skindex16, Saudi

1. Introduction

Alopecia areata (AA) is a common disease with an incidence of 2-3% among the dermatoses and 0.1% in the population at large [1]. This disorder occurs in both sexes, at all ages [2], and is characterized by the sudden appearance of areas of hair loss on the scalp and other hairbearing areas. Various factors, including immunologic and endocrine abnormalities [3], genetic factors [4], infections [5], and psychological/psychiatric disturbances, have been claimed to play a role in its etiopathogenesis [6]. Hence, It has now been widely postulated that AA is an organ-specific autoimmune disease with genetic predisposition and an environmental trigger [7, 8]. Alopecia areata is an immunologically mediated disease characterized by extreme variability not only in the time of initial onset of hair loss but in the duration, extent and pattern of hair loss during any given episode of active loss. These variables, as well as the unpredictable nature of spontaneous regrowth and lack of a uniform response to various therapies, has made clinical trials in alopecia areata difficult to plan and implement. In fact, there are currently no drugs FDA-approved specifically for the indication of alopecia areata [9].
About 10-42% of AA patients have a positive family history of the disease and it may be associated with autoimmune diseases, atopy, down syndrome, emotional stress, and focal points of sepsis [10, 11]. Quality of life is defined as the subjective perception of the impact on the health status and on the physical, psychological, and social functioning and well-being of the patients [12]. The unpredictability of the condition together with its highly visible nature can result in considerable distress for individuals with alopecia [13, 14]. Loss of self-confidence, lowered self-esteem and heightened self-consciousness are common responses to hair loss [14, 15]. Furthermore, people with alopecia are more likely to have depression and anxiety [13, 16].
Compared to previous reported scores of health-related quality of life (HRQoL) in multiple skin conditions, alopecia areata patients reported poorer HRQoL than healthy controls [17, 18]. Although alopecia areata is not a life-threatening condition, it can impair patients' life by negatively impacting on physical and emotional symptoms and functioning. Data showing that clinical hair loss severity (HLS) does not influence the degree of subjective distress indicate discordance between clinically rated disease severity and patient-perceived disease severity [19]. Importantly, the concordance of disease severity as rated by both dermatologist and patient has not been adequately examined. To assess the severity of AA, quality of life seems to be a more relevant criterion than clinical evaluation such as AA extension because the perception of patients may differ

significantly from those of their health-care providers [12].

The existing literature on AA clearly demonstrates patients' concerns related to physical symptoms, emotional well-being, mental health, social functioning, and other dimensions of daily functioning. Although questionnaires such as the Skindex and the Dermatology Life Quality Index have been used, these questionnaires were validated for skin conditions other than AA as a chronic condition [20]. The Skindex is an instrument that measures the effects of a skin disease on a patient's QoL, and has been refined and studied extensively [21]. It is a self-administered questionnaire that was originally created in English. It initially included 61 questions but was modified to 29 questions. Later, a 16-question short questionnaire, known as the Skindex-16, was introduced. The Skindex-16 assesses the domains considered to be essential in any QoL assessment instrument, such as burden of symptoms, social function, and emotional state [21]. The Skindex-16 has advantages over the Skindex-29, in that it is a brief, single page version with fewer items, and measures the inconvenience rather than frequency of a patient's experiences [21]. It has been translated into Arabic, validated, and adapted to Saudi culture [22].

Few studies have reported the clinicoepidemiologic features of and diseases associated with AA. Although there are a few reports from different Asian countries, including reports from Iranian [23], Kuwaiti and Indian areas [24-26], reports from Saudi arabia, which has a different ethnic heritage, are lacking. Hence, we conducted this cross-sectional study to assess QoL in patients with alopecia areata in Makkah, Saudi Arabia using the newly validated Skindex-16 instrument, to determine the association between QoL in patients with alopecia areata, sociodemographic data, and disease characteristics, to identify patients with higher risk for poor QoL during the course of AA and determine risk factors for poor QoL in AA patients. If certain demographic features are associated with decreased QoL, then earlier interventions may be implemented to target vulnerable groups. Because the Skindex-16 is reported in 3 domains—symptoms, emotions, and functioning—we also examined which QoL domain was affected most by alopecia areata. This information may allow for specialized care, whether it is directed medically, psychologically, or socially.

2. Materials and Methods

This study was conducted at hera hospital-makkah which is located in western region of Saudi arabia. This study was a Cross-sectional study, Descriptive studies of Thirty four patients seen in the Department of Dermatology. Verbal consent was obtained from all subjects enrolled. The study subjects were all adult patients (age 15 years or older), who were diagnosed with alopecia areata in an outpatient setting between JANUARY 2016 and AUGUST 2017. Patients were diagnosed by a qualified dermatologist on a clinical basis, who were not suffering from psychological conditions. Patients with ambiguous symptoms or complications, such as scalp inflammation and trauma, were not included in the study.

Patients' clinical details, including demographic information (age, nationality, sex, relationship status, level of education, origin and monthly income), age of onset, symptoms preceding the hair loss, duration of disease, site of onset, affected sites, precipitating/aggravating factors (psychological stress like death, serious illness, separations, divorces, and reactions to exams, physical trauma, history of infections, use of unknown drugs, history of vaccination) were recorded on a special data-collection sheet. Treatment history, history of spontaneous hair regrowth, prior history and family history of AA, and associated diseases, with special reference to Atopy (allergic rhinitis, asthma, and/or eczema), thyroid and autoimmune diseases, mental health problems (depression or anxiety), vitiligo and psoriasis or other significant diseases were also recorded. Each patient was asked if a cure for his hair condition was available, how much money would he be prepared to pay for it today.

Included patients underwent full clinical examination to determine the affected sites, local alopecic patch signs, morphologic patterns, extent and severity of the disease, and nail involvement. Severity of scalp hair loss was assessed by a dermatologist using Severity of Alopecia Tool (SALT) scores, which was developed by National Alopecia Areata Foundation Working Committee, based on the combination of extent and density of scalp hair loss [9]. The SALT score is computed by measuring the percentage of hair loss in each of 4 areas of the scalp (40% vertex, 18% right profile, 18% left profile, 24% posterior) and adding the total to achieve a composite score (see Appendix 8.1). The scoring was as follows (S = scalp hair loss): S0 = No hair loss, S1 = ≤25% hair loss, S2 = 26–50% hair loss, S3 = 51–75% hair loss, S4 = 76–99% hair loss and S5 = 100% hair loss. Eyebrow severity was classified as AEB0 when there was no hair loss, as AEB1 when there was incomplete hair loss, and as AEB2 when there was complete hair loss. Eyelash severity was classified as AEL0 when there was no hair loss, as AEL1 when there was incomplete hair loss, and as AEL2 when there was complete hair loss. Body severity was classified as AB0 when there was no hair loss, as AB1 when there was incomplete hair loss, and as AB2 when there was complete hair loss. Nail severity was classified as N0 when there was no hair involvement, as N1 when there was some nail involvement, and as N2 when there was Twenty-nail dystrophy/trachyonychia (must be all 20 nails).

Following examination, a QoL questionnaire in a form of Skindex-16 was administered to all included patients (see Appendix 8.2). The Skindex-16 is a self reported dermatology specific QoL instrument comprises 16 questions related to the effect of dermatologic disorders on QoL, focuses on three domains, ie, a symptoms domain (questions 1-4), an emotional domain (questions 5-11), and a functional domain (questions 12-16). Each question asks patients about the degree to which they have been bothered by their dermatologic disorder in the week before the administration of the questionnaire. Patients answer each question with a number ranging from 0 (never bothered) to 6 (always bothered). 7-point Likert-type scale was used to score the question, responses to each item are transformed to a linear scale ranging from 0 (never bothered) to 100 (always bothered), thus higher values reflect a lower QoL [21]. It has undergone reliability and validity testing in other conditions such as acne and psoriasis and has been translated into Arabic, validated, and adapted to Saudi culture [22].

3. Statistical Analysis

Statistical analysis were performed using Statistical Package

for Social Sciences (SPSS). Mean global Skindex-16 score and domain scores (symptoms, emotions, and function) are converted to a linear, 100-point scale. Frequencies, mean and standard deviation for each of the demographic, clinical data, and the skindex scores were calculated. Statistical significance between different variables was evaluated by the use of Pearson chi-square test. Spearman correlation coefficients were used to compare the mean score of skindex-16 domain. We also examined the relationship between different domains of quality of life and several independent variables. Associations with quality of life were tested using Mann-Whitney U test and Kruskal-Wallis test. For all of the statistical analyses, a $P < 0.05$ was considered to be statistically significant.

4. Results

Thirty four patients were included in the study. The patients age was 47% for 15-24, 21% for 25-30, 21% for 31-40 and 12% for those who are 41-50 year old. There were 47% males and 53% females with a male to female ratio of 0.89. 50% of patients were single, 47% were married, and 3% of them were divorced. As to the level of education, 3% were are illiterate, 12% had elementary school education, 18% had secondary school education, 35% had high school education and 32% had collage graduate and higher level. All patients were Saudi. As to monthly income, <3000 SR (50%), 3000-5000 SR (24%), 5000-10,000 SR (9%) and >10,000 SR (17%).

The duration of the disease was found to be extremely variable and, the majority of the patients (67.6%) suffered from alopecia for more than 1 years and we have to consider that alopecia areata is a chronic disease. Usually, the patches were symptomless (70.6%), but occasionally, patients described some itching (29.4%) at times preceding the hair loss. 18 of patients (52.9%) had a positive history of precipitating/aggravating factors, including psychological stress in 47.1%, infection in 8.8%, use of unknown drugs in 5.9%, and Physical trauma in 2.9%. 41.2% of patient had experienced spontaneous regrowth of hair. Most of the patients had associated systemic or dermatological disorders, These included 5 (14.7%) with Atopy (allergic rhinitis, asthma, and/or eczema), 4 (11.8%) with thyroid diseases, 3 (8.8%) with mental health problems (depression or anxiety), and 3 (8.8%) with anemia. Positive family history of AA was positive in first degree relatives of 7 (20%) patients and 12 of patients (35%) have prior history of alopecia. The scalp was found to be the most commonly affected site (82.4%), followed by the eyebrow (41.2%), beard (32.4%), body (26.5%), and eyelash (14.7%). Nail changes was reported in 9 patients (26.5%). The skin of the affected patches was usually normal and smooth (91.2%), a slight erythema was observed (5.9%) and soft, cushion-like infiltration was rarely felt (2,9%). The distribution of patients according to scalp morphologic pattern was as follows: 46.4% of patients with scalp AA had patchy, 20.6% had diffuse, 11.8% had reticular, 10.7% had ophiasis, and 3.6% had sisapho pattern. At the time of examination, 18% had no scalp involvement (S0), 47% had alopecia with less than 25% involvement (S1), 6% had alopecia with 25% - 49% involvement (S2), 3% had alopecia with 50% - 74% involvement (S3), 18% had alopecia with 75% - 99% involvement (S4), and 9% had alopecia totalis (S5). There was no statistically significant difference between age, gender, education, origin, income, duration, previous treatment, history of spontaneous regrowth, past and family history of alopecia areata, with regard to scalp severity.

The mean global Skindex-16 score was 37.7 (SD ± 17.61, n = 34). The emotions domain reflected the lowest QoL (mean = 54.29 ± 27.71), followed by function domain (mean = 32.2 ± 26.09) and symptoms domain (mean = 15.7 ± 20.18). Within the symptoms domain (mean score, 15.7), there was a statistically significant difference between Item 1 (bothered by your condition itching; mean score, 28.1) and Item 4 (bothered by your condition being irritated; mean score, 9.8; P =. 001). Within the emotions domain (mean score, 54.2), there was a statistically significant difference between Item 7 (The appearance of your skin condition, 62.1) and Item 9 (Frustration about your skin condition, 48.3; P =. 000). Finally, within the functioning domain (mean score, 32.2), there was a statistically significant difference between Item 12 (affecting interactions with others; mean score, 35.2) and Item 15 (bothered by the effects of your condition on your daily activities; mean score, 27.2; P =. 001). The full results are displayed in Table 1.

Table 1: Skindex-16 Domain Analysis

	Mean score
Global skindex-16 score	**37.7**
Symptoms subscale	15.7
1. Itching	28.1
2. Burning or stinging	14.7
3. Hurting	12.3
4. Being irritated	9.8
Emotions subscale	54.2
5. Persistence/reoccurrence	57.2
6. Worry	60.2
7. Appearance	62.1
8. Frustration	48.3
9. Embarrassment	51.5
10. Being annoyed	51.2
11. Feeling depressed	52.9
Functioning subscale	32.2
12. Affecting interactions with others	35.2
13. Desire to be with people	33.4
14. Show affection	34.6
15. Daily activities	27.2
16. Work or do what you enjoy	31.7

As shown in Table 2, the results from this study demonstrate that younger patients have lower overall dermatology-related QoL than older patients, but it was not statistically significant. However, the global Skindex-16 domain showed a trend toward a significant difference in QoL and gender (P =. 024), with women presenting the poorest QoL (mean = 37.7) and men the highest (mean = 30.9). There was a significant difference between the mean global skindex-16 scores and relationship status (P =. 045), with singles achieving a mean score of 43.7, while the married and divorced a mean score of 29.7 and 63.5 respectively. Furthermore, we observed a significant difference between the Skindex-16 scores and the patient monthly income (P =. 050), were recorded as being the highest in those earning more than 10,000 SAR. Results from the current study indicate that none of the other patient

characteristics studied, including patient age, origin and level of education, were correlated significantly with dermatology-related QoL.

The association between the alopecia areata characteristics and the skindex-16 scores is shown in Table 3, there was no significant difference in all Skindex-16 scores and duration of alopecia, extent of scalp AA, morphologic pattern, previous treatment, history of spontaneous regrowth, past and family history of alopecia areata. Mean global Skindex-16 scores and all skindex-16 subdomains were not significantly different across scalp severity (S0-S5) (global $P = 0.56$, symptoms $P = 0.85$, emotion $P = 0.80$,function $P = 0.21$). Mean global Skindex-16 scores were not significantly different across other hair loss severity (eyebrow, eyelash) and nail involvement. However, the Mean global Skindex-16 showed a significant difference in QoL ($P =. 016$) among body hair loss types, with B0 (no body hair loss) presenting the poorest QoL (mean = 43.31 ± 17.82) and B1 (some body hair loss) the highest (mean = 28.78 ± 13.50) (Table 4).

Table 2: Association of the skindex-16 scale and its domains mean scores with patient characteristics

	N (%)	Global skindex-16	Symptom domain	Emotion domain	Function domain
Age		***P* = 0.26**	***P* = 0.55**	***P* = 0.35**	***P* = 0.33**
15-24	16(47%)	43.26	17.73	60.60	39.40
25-30	7(20%)	37.32	16.03	57.14	26.60
31-40	7(20%)	30.66	12.46	42.20	29.05
41-50	4(11%)	28.95	12.62	45.21	19.25
Gender		*P* = 0.024	*P* = 0.12	*P* = 0.20	*P* = 0.11
Male	16(47%)	30.99	8.89	47.75	25.21
Female	18(52%)	43.77	21.75	60.10	38.53
Relationship Status		*P* = 0.045	*P* = 0.41	*P* = 0.28	*P* = 0.002
Single	17(50%)	43.77	13.75	61.24	43.35
Married	16(47%)	29.75	18.23	45.98	16.25
Divorced	1(2%)	63.55	8.25	69.14	100
Level of education		*P* = 0.66	*P* = 0.30	*P* = 0.40	*P* = 0.57
Illiterate	1(2%)	43.06	00	65.00	46.80
elementary school	4(11%)	46.39	12.56	77.42	30.30
Secondary school	6(18%)	36.81	29.16	44.85	31.66
High school	12(35%)	32.82	10.41	82.58	23.08
Collage graduated	11(32%)	40.04	16.68	51.92	41.10
Origin		*P* = 0.76	*P* = 0.66	*P* = 0.51	*P* = 0.55
Urban	28(82%)	38.14	16.38	55.20	31.67
Rural	6(17%)	35.94	12.50	50.02	35.00
Monthly income		*P* = 0.05	*P* = 0.06	*P* = 0.05	*P* = 0.08
<3000 SR	17(50%)	39.78	22.52	56.63	29.98
3000-5000 SR	8(23%)	24.48	14.09	33.00	20.87
5000-10000 SR	3(8%)	35.39	00	61.14	27.66
>10000 SR	6(17%)	50.91	6.33	72.61	56.20
if a cure was available, patients would be willing to pay		*P* = 0.91	*P* = P = 0.51	*P* = 0.97	*P* = 0.38
≥ 50% monthly earning	6(17%)	41.32	29.61	56.73	29.47
10 000 SR or more	11(32%)	41.10	16.68	51.74	45.76
5000 - 10000 SR	5(14%)	32.58	6.65	54.48	22.68
< 5000 SR	12(35%)	35.06	11.83	55.33	25.28

Table 3: Association of the skindex-16 scale and its domains mean scores with alopecia areata characteristics

	N	global Skindex-16	Symptom domain	Emotion domain	Function domain
duration		***P* = 0.25**	***P* = 0.47**	***P* = 0.21**	***P* = 0.29**
< 6 weeks	5	30.38	17.50	41.85	20.38
6 weeks - 6 months	2	20.31	35.37	22.643	5.00
6 months - one year	4	34.65	8.37	44.60	41.75
> one year	23	41.42	14.86	61.43	34.64
Spontaneous regrowth		*P* = 0.19	*P* = 0.93	*P* = 0.06	*P* = 0.52
Yes	14	34.00	15.19	44.39	34.50
No	20	40.39	16.05	61.22	30.70
Family history		*P* = 0.44	*P* = 0.11	*P* = 0.71	*P* = 0.88
YES	7	43.98	19.07	55.75	47.17
NO	27	36.17	14.82	53.19	28.40
Past history		*P* = 0.91	*P* = 0.63	*P* = 0.82	*P* = 0.47
YES	12	37.84	11.45	55.54	32.78
NO	22	37.71	18.01	53.06	31.98

Previous treatment		*P* = 0.14	*P* = 0.37	*P* = 0.067	*P* = 0.14
YES	28	39.92	13.41	58.42	26.74
NO	6	15.71	26.92	28.57	18.63
morphologic pattern		*P* = 0.92	*P* = 0.40	*P* = 0.52	*P* = 0.74
patchy	13	41.75	13.13	62.81	35.15
Ophiasis	3	36.08	33.25	39.66	33.33
Sisapho	1	34.37	8.25	28.75	63.40
Reticular	4	39.32	12.56	64.89	24.95
Diffuse	7	40.55	11.39	57.24	40.51
Scalp extent		*P* = 0.09	*P* = 0.74	*P* = 0.41	*P* = 0.17
Circumscripta	23	40.54	14.84	58.81	35.52
Totalis	2	55.78	10.50	72.64	68.40
Universalis	3	27.47	15.41	42.09	16.66

Table 4: Association of the skindex-16 scale and its domains mean scores with severity of alopecia scores

	N	**global Skindex-16**	**Symptom domain**	**Emotion domain**	**Function domain**
Scalp severity		***P* = 0.56**	***P* = 0.85**	***P* = 0.80**	***P* = 0.21**
S0	6	26.21	20.83	36.92	15.53
S1	16	39.44	17.43	57.87	31.35
S2	2	49.53	4.12	61.92	68.50
S3	1	43.81	8.5	69.00	36.80
S4	6	37.20	10.45	57.23	30.56
S5	3	43.10	16.75	54.04	48.86
Eyebrow severity		*P* = 0.96	*P* = 0.97	*P* = 0.98	*P* = 0.98
AEB0	20	37.65	15.82	53.44	33.03
AEB1	11	38.25	15.93	56.28	31.18
AEB2	3	36.27	14.00	52.66	31.13
Eyelash severity		*P* = 0.67	*P* = 0.90	*P* = 0.82	*P* = 0.96
AEL0	28	38.91	16.80	55.35	33.57
AEL1	3	32.35	8.50	52.42	23.33
AEL2	3	32.43	12.58	46.28	28.93
Body severity		*P* = 0.016	*P* = 0.47	*P* = 0.10	*P = 0.12*
B0	21	43.31	19.82	28.02	*28.09*
B1	13	28.78	9.03	44.34	22.80
Nail severity		*P* = 0.29	*P* = 0.17	*P* = 0.21	*P* = 0.22
N0	24	18.08	50.18	27.63	35.11
N1	10	9.97	64.15	43.38	44.11

5. Discussion

The objective of this research was to determine whether individual patient characteristics are correlated with dermatology-related QoL and the extent to which alopecia areata characteristics is associated with worsening QoL when a multidimensional measure is used.

In our study, we observed a slight female preponderance for AA (M/F: 0.89). This is in agreement with other studies [27, 28]. However, the results of the literature are disparate. Thus, for some authors, AA affects men and women with the same proportions [2, 29, 30]. Family members having AA were reported in 10 to 20% of the patients [23, 25]. Our figure of 20% was on the higher side. Many studies have reported an association between AA and atopy and between AA and autoimmune diseases [31]. Few recent reports [11, 32] have reported relatively higher percentage of association (46% and 60.7%, respectively) between AA and atopy. However, in the present study the percentage has been found to be 14.7% in our patients.

In this study, disease severity did not differ between males and females (*P* = 0.68). Although Tan *et al*. (2002), in a study performed in Singapore, showed more severe AA in girls [32], Xiao *et al*. (2006), in a study performed in China, showed more severe AA in boys [33]. Therefore, it is not clear whether gender affects the extent of the disease. We observed that emotions subdomain of skindex-16 were impacted most detrimentally by alopecia areata. It is noteworthy that this finding match the results of a previously reported study assessed QoL in patients with alopecia areata, telogen effluvium, and androgenic alopecia [34]. Although Mostafa A Abolfotouh. (2012), in a study assessed Quality of life in patients with skin diseases in central Saudi Arabia [35], showed that patients with hair follicle Disorders had significantly higher emotion domain score than other skin diseases.

Further analysis of Skindex-16 items within each domain indicates that, with regard to symptoms, patients are more concerned about itching than about being irritated. With regard to the emotions domain, patients reported that the appearance of the skin condition was significantly more important than frustration about the skin condition, this is because the hair is an important component of identity and self-image, even partial hair loss can lead to a variety of psychological difficulties and negatively impact on quality of life (QoL). Finally, within the functioning domain, QoL is impacted most by the effects of the skin condition on interaction with others. Indeed, given the psychological

importance of hair, patients with severe forms of AA might find it more difficult to cope with their hair loss. According to Tan *et al*. [32], patients who presented limited AA appeared to be less affected than those who had an extensive AA. This shows that if AA is more severe, its impact on quality of life is more important. However, the relationship between scalp AA severity and impaired quality of life has not been confirmed by our study.

In our study, we found that a patient's age was not correlated to the skindex-16. Furthermore, divorced patients had significantly higher skindex-16 scores compared to single and married patients. Our results showed that women have a more significantly altered quality of life than men. In consistency with our findings, several other studies have reported a particularly impaired quality of life for women [13, 14]. This lack of parallelism between clinical severity, patients' perception of hair loss, and psychological impact might be partly responsible for the frequent underestimation of psychological distress [36]. Furthermore, discordance between the patient's perception of HLS and the clinical assessments may explain why some patients with clinically unapparent hair loss may show striking signs of psychological disturbance. Our findings are important for clinicians who must assess and treat both the physiologic hair loss and the psychosocial distress of patients with alopecia.

It appears that the disease-targeted instrument, the Skindex-16, is more sensitive, because it includes mild levels of psychological stress from alopecia areata by including terms like worry and frustration, compared with generic measures like the 36-item Short-Form Health Survey (SF-36). However, the range of physical limitations in the Skindex- 16 is more limited compared with that in generic measures.

6. Study Limitations

The small number of patients in the study may have limited the ability to show significant differences in QoL for patients with different hair loss severity. Lastly, Skindex-16 has not been validated for use in patients with alopecia disorder. Other factors such as duration of hair loss, family history of hair loss, existence and availability of social support networks for the patient, and knowledge of the disease may also be important factors in QoL measures that are not included in the Skindex-16. Because of these limitations, it would be valuable to develop a QoL measurement tool that is sensitive to the multilayered profile experienced by patients with alopecia areata.

7. Conclusions

Our study presents the demographic features and clinical characteristics of alopecia areata in Makkah, Saudi Arabia and showed the significant impact on the patients quality of life. The chronic nature of the disease, long-term treatment, lack of uniform effective therapy, and unpredictable prognosis of the disease and therapy causes psychological burden contributing to compromised QOL as well as depression in some patients. The assessment of impact of alopecia areata on the QoL is essential, to detect those patients who are at increased risk of being negatively affected so as to treat them in a more integrated manner. Hence it is important for health professionals to incorporate QoL measurements when managing alopecia areata patients to provide better and appropriate care.

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9. References

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