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Knowledge, Beliefs, and Perceptions among Alopecia Areata Patients: A Cross-Sectional Study in CMH Kharian

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ABSTRACT

Alopecia areata (AA) is an autoimmune condition, which is associated with hair loss that has a strong negative effect on the psychological and social well-being of patients. **Objective:** To determine the knowledge, beliefs, and perceptions of the patients with Alopecia Areata at CMH Kharian. **Methods:** This was a cross-sectional study that was carried out in 84 patients with alopecia areata. A structured questionnaire was used to collect demographic information, medical history, information on AA, beliefs, perceptions, coping strategies, and expectations of treatment. Associations between variables were determined using statistical procedures such as chi-square tests. **Results:** The mean age was 30.5 ± 11.4 years having females (59.5%) dominant. The main bulk, 45.2% of the patients, presented with symptoms of alopecia for less than one year. The majority of the patients (78.6%) were already aware of AA before being diagnosed. A large percentage of them considered that AA was hereditary (59.5%) and that stress was a contributing factor (73.8%). Chi-square tests showed significant relationships between educational level and the assumptions concerning the hereditary nature of AA (p=0.037) and perceived seriousness or effects on daily life (p = 0.008). Fifty-six (66.7%) patients agreed that the treatment had affected mental health, and half 42 (50.0%) of the patients had a view that with treatment, they would get complete hair regrowth. **Conclusions:** Comprehensive medical and psychosocial support techniques are essential in order to improve the quality of life for patients and address the psychosocial aspects related to alopecia areata.

INTRODUCTION

Alopecia areata (AA) is a long-term, immune-mediated condition that causes hair loss without scars. It affects people of all ages and genders, with varying degrees of severity. Although the exact pathology of the illness is yet unknown, it is thought to be polygenetic, polyetiological, autoimmune, and environmental. Alopecia areata is a disease that has enormous psychosocial implications since it manifests physically; many patients experience severe distress about the symptoms. Patients' perceptions and beliefs about the condition are important in managing the disease because numerous studies demonstrate that the body image changes caused by AA include social anxiety, low self-esteem, and a decreased quality of life [1, 2]. The start and progression of Alopecia areata are attributed to numerous environmental, immunological, psychological, and genetic risk factors, making it a complex disease. Additionally, it may be linked to other illnesses. The spectrum of clinical manifestations can include patchy hair loss from the head, various body regions, or total hair loss from the entire body, with each patient's course being inconsistent and random. Although it can happen at any age, the majority of research suggests that it happens between the ages of 20 and 30 [3]. Assessment of the knowledge, attitudes, and perceptions of people with alopecia areata enables both effective patient treatment and the development of educational programs customized to the patient's needs. It is well-established that people's perceptions of a particular disease can have an impact on their attitudes towards symptoms, treatment compliance, and how they use medical services. Alopecia areata may be perceived by some as a transient or persistent condition that impacts their mental well-being and compliance with treatment [4]. Secondly, cultural and social values, especially the perception of hair loss in relation to stigma, continue to influence patients' attitudes and greatly affect the management of alopecia areata [5]. Multiple studies have assessed the psychological implications of Alopecia areata, but just a few focused on patients' awareness and understanding of the disease; no comparable research has been carried out locally in Pakistan. Some of the studies have focused on how these individuals' beliefs about their disease and medical treatment are influenced by societal factors. The purpose of this study was to evaluate patients' perspectives of Alopecia areata, their perspectives on the disease's aetiology, treatment options, and outcomes, as well as their basic level of knowledge of the disease, all of which could be very helpful to healthcare professionals [6, 7]. The variable pattern of remission and relapses in alopecia areata is another reason that makes it conceptually difficult. Knowledge-related challenges include the stigmatization of the disease as well as worries about hair loss or the disease's relationship with other serious medical conditions, which lead to patient frustration and noncompliance with the recommended method of therapy [8, 9]. The exploration of knowledge, belief, and perception of the Alopecia Areata patients will be important for the healthcare providers, which should lead to dispelling myths and misconceptions, more effective information for patients, which will help in improving patients' quality of life [10].

Despite the several studies that have determined the psychological effects and clinical features of Alopecia areata, few studies have specifically investigated the knowledge, beliefs, and perceptions of patients, especially in the Pakistani context. The majority of existing evidence is based on the populations of the West or the Middle East, where the sociocultural factors and the health literacy rates are significantly different than those in South Asia. Furthermore, the connection between educational level and misconceptions concerning the disease, and what patients expect when receiving treatment are not sufficiently investigated in the local context. Without these context-specific data, the management strategies can be largely biomedical in nature, and they will not be effective in tackling psychosocial determinants that affect treatment compliance and coping behavior, and overall quality of life. Thus, the aim of this study is systematically assess the knowledge, beliefs, and perceptions of patients with alopecia areata at CMH Kharian to determine current misconceptions and gaps in education and to create evidence that can potentially inform more holistic, patient-centered management strategies.

METHODS

This cross-sectional study was conducted after taking approval from the Ethical Committee/Institutional Review Board, bearing no. A/24/07. Patients diagnosed with alopecia areata visiting the department of dermatology, Combined Military Hospital (CMH), Kharian, were selected for the study sample. All the research works were in line with the ethical standards of the institutional review board of CMH Kharian. The study was conducted over a period of eight months from March 2024 to October 2024. All the participants were briefly informed about the study, and informed written consent was taken before data were collected. The inclusion criteria were: patients over 18 years of age diagnosed with alopecia areata and willingness to give informed consent. Any other type of hair loss or any patient undergoing treatment for diseases that can predispose him/her to hair loss was not included. The sample size was estimated from the WHO sample size calculator with the help of 95% confidence level, a prevalence of alopecia areata (anticipated population proportion) of 2%, total absolute precision required 3%; the final number found to be 84 patients. Data were collected through a structured questionnaire designed for this study. The proforma was developed by the researcher based on previous studies and was verified by two specialty experts of consultant level. The researcher herself filled out the Performa forms for all patients. This proforma comprises information regarding socio-demographics, past medical history, psychosocial history: Alopecia areata knowledge and attitude, body image and perceived stigma, coping strategies, and treatment anticipation. The pilot test of the questionnaire was administered to 10 patients to check on the refinement and adequacy of the preparation of the final questionnaire to increase validity and reliability. The validity and reliability of the proforma were tested with Cronbach Alfa which showed a value of > 0.76.

All the data were entered and analyzed using Statistical Package for the Social Sciences (SPSS version 25.0). Descriptive statistics summarized the demographic and clinical characteristics of the participants, with mean ± SD for quantitative variables, and frequencies and percentages were calculated for categorical variables. Chi-square tests were used to measure relationships between different demographic variables and the knowledge, beliefs, and perceptions. A $p<0.005$ was taken as statistically significant.

RESULTS

A total of 84 patients diagnosed with Alopecia areata, having a mean age of 30.5 ± 11.4 years, were included in the study. The demographic breakdown revealed that 50 patients (59.5%) were females and 34 (40.5%) were males. In terms of educational level, 10 patients (11.9%), 22 (26.2%), 30 (35.7%), and 16 (19.0%) had obtained primary education, secondary education, higher secondary education, and graduates and postgraduate qualifications, respectively. In the study sample, 40 (47.6%) of the patients were single, 32 (38.1%) were married, and 8 (9.5%) were divorced (Table 1).

Table 1: Demographics of Alopecia Areata Patients

Characteristic	Frequency (%)
Gender	
Female	50 (59.5%)
Male	34 (40.5%)
Age of the patient	
Mean ± SD	30.5 ± 11.4
Educational Level	
Primary	10 (11.9%)
Secondary	22 (26.2%)
Higher Secondary	30 (35.7%)
Graduate	16 (19%)
Postgraduate	6 (7.1%)
Marital Status	
Single	40 (47.6%)
Married	32 (38.1%)
Divorced/Widowed	12 (14.3%)

The majority, 38 (45.2 %) of the patients had symptoms less than one year of duration, 26 (31.0 %) between 1 and 3 years, 10 (11.9 %) between 3 and 5 years, and 10 (11.9 %) more than 5 years. Family history of Alopecia areata, diabetes, hypertension, and thyroid disease was noted in 18 (21.4%), 10 (11.9%), 6 (7.1%), and 4 (4.8%) patients, respectively. Treatment history showed that 32 (38.1%) patients were still under medication, 28 (33.3%) were not currently using any treatment, and 24 (28.6%) had previously received treatment (Table 2).

Table 2: Duration of Alopecia Areata and Medical History

Characteristic	Frequency (%)
Duration of Alopecia Areata	
< 1 year	38 (45.2%)
1-3 years	26 (31%)
3-5 years	10 (11.9%)
> 5 years	10 (11.9%)
Family History of Alopecia Areata	
Yes	18 (21.4%)
No	66 (78.6%)
Other Medical Conditions	
Diabetes	10 (11.9%)
Hypertension	6 (7.1%)
Thyroid Disease	4 (4.8%)
None	64 (76.2%)
Total	84 (100%)

The majority of patients, 66 (78.6%), reported having heard of the condition before diagnosis. The primary sources of information were doctors for 40 (47.6%) patients, the internet for 22 (26.2%) patients, family or friends for 18 (21.4%) patients, and social media for 4 (4.8%) patients. Regarding beliefs about Alopecia areata, 50 (59.5%) patients considered it hereditary, while 6 (7.1%) thought it was contagious. Furthermore, 36 patients (42.9%) believed alopecia areata could be cured, while 28 (33.3%) thought it could not be cured, and 20 (23.8%) were unsure (Table 3).

Table 3: Knowledge and Beliefs about Alopecia Areata

Characteristic	Frequency (%)
Heard of Alopecia Areata	
Yes	66 (78.6%)
No	18 (21.4%)
Source of Information	
Doctor	40 (47.6%)
Internet	22 (26.2%)
Family/Friends	18 (21.4%)
Social Media	4 (4.8%)
Beliefs about Cause	
Hereditary	50 (59.5%)
Contagious	6 (7.1%)
Hormonal Disorder	0 (0%)
Unknown Cause	28 (33.3%)
Belief in Cure	
Yes	36 (42.9%)
No	28 (33.3%)
Don't Know	20 (23.8%)
Total	84 (100%)

When assessing beliefs and perceptions about the condition, 62 patients (73.8%) believed stress was a contributing factor to Alopecia areata, while 12 (14.3%) disagreed and 10 (11.9%) were unsure. Moreover, 54 patients (64.3%) considered alopecia areata as a severe disease. There was also a significant correlation between the level of education and the opinion that alopecia areata is a hereditary condition ($p=0.037$) (Table 4). A large number, 56 (66.7 %) of the patients noted that their mental health was affected by the condition, and 52 (61.9 %) patients said that their daily life activities were affected by the disease. A significant relationship was found between perceived seriousness of the condition and its impact on daily life activities ($p=0.008$). According to the results for coping mechanisms, it was observed that 40 patients

(47.6%) reported using wigs, hairpieces, or other cosmetic measures to manage their appearance. In terms of treatment expectations, 42 patients (50%) hoped for complete hair regrowth, 30 (35.7%) thought partial improvement, and 12 (14.3%) had no expectations regarding treatment outcomes. Most of the patients (59.5%) believed that the condition was hereditary, and 64.3% of the respondents were of the opinion that the condition was severe. Chi-square analysis revealed a significant relationship between the educational level and the belief in the hereditary nature of AA (χ^2=10.24, p=0.037), and perceived seriousness and their effects on daily life (χ^2=9.67, p=0.008) (Table 4).

Table 4: Perceptions, Coping Mechanisms, and Chi-Square Test Results

Characteristic	Frequency (%)
Contributing Factor	
Stress	62 (73.8%)
Genetics	50 (59.5%)
Mental Health Impact	56 (66.7%)
Impact on Daily Life	52 (61.9%)
Hormonal Imbalance	30 (35.74%)
Coping Mechanisms Employed	
Use of Wigs/Hairpieces	40 (47.6%)
No use for Anything Practically	44 (52.4%)
Expectations from Treatment	
Complete Hair Regrowth	42 (50%)
Partial Improvement	30 (35.7%)
No Expectations	12 (14.3%)
Chi-Square Test Results	
Educational Level vs. Hereditary Belief	χ^2=10.24 (p=0.037)
Seriousness vs. Daily Life Impact	χ^2=9.67 (p=0.008)

DISCUSSION

Alopecia areata is an autoimmune condition characterized by hair loss that can have significant psychological impacts on affected individuals. In this present study, it was observed that alopecia areata was higher among the young adults, as the mean age was 30.5 ± 11.4 years. The female-to-male ratio was approximately 1.5:1, as described by prior researches like in a study by Lundin *et al.* which recorded a female-to-male ratio of 2.3:1 that indicated a higher rate in females as compared to males, Rasul *et al.* also had similar findings [11, 12]. The patients enrolled in the study sample were on a higher side with respect to educational status. More than half, i.e., 54.7% participants received at least higher secondary education; and a main bulk, 19% of them completed tertiary level education. This finding is consistent with the studies showing that health literacy and the ability to receive information about some diseases may be affected by education level [13]. The overwhelming majority, 78.6% of the patients, claimed that they knew about alopecia areata before the diagnosis, and in 47.6% patients' doctors were the main source of this knowledge. Similar findings were observed by Almulhim *et al.* who found that the majority of patients were aware of AA's seriousness, curability, and impact on quality of life, with healthcare providers serving as the primary source of knowledge (52.8%) [14]. This also supports the significant role of educating and supporting patients by healthcare professionals [15]. From this perspective, the reliance of patients on the internet as a source of information is also seen as a requirement of trustworthy information sources, which can help patients understand their circumstances [16]. Regarding the participants' knowledge about the causative factors of Alopecia areata, a substantial number, 59.5% of the participants, believed that the condition runs in the family, consistent with literature showing a genetic element to autoimmune diseases [17]. However, 11% of the respondents still believed that alopecia areata is an infectious disease, which underscores a general requirement of patient awareness on the accurate status of their diseases. Malik *et al.* observed an even higher rate of this perception, at 28% [18]. It was also perceived that there is a potential cure, which is again an important belief for patients to have regarding their treatment and is crucial for mental health stability [19]. The study also provides further evidence that stress is considered by many patients to be a causative factor of Alopecia areata, a view supported by other studies, which show that psychological stress is associated with the development or worsening of autoimmune responses [20]. The fact that a huge number of participants recognized the severity of the condition proves that hair loss can create serious psychological pressure because many patients with alopecia areata experience high levels of anxiety and depression. Patients who consider themselves to have a severe form of the disease are more likely to have bigger changes in the quality of life and mental health, which confirms the need for psychosocial interventions in the treatment plan [21]. Different coping mechanisms were used by the participants; although the majority sought professional assistance, some looked for social support. In order to better understand how alopecia areata influences patients and their lifestyles, the self-care practices of the patients were also monitored, with a focus on wigs and hairpieces. This finding is in concordance with previous literature, which has shown that patients with alopecia areata are inclined to seek esthetic outcomes in addressing the disease [22]. Moreover, the fact that nearly half of the participants were ready to consider the experimental treatment means that there is a continuous need for research and clinical trials to investigate new therapies and cure possibilities in detail [23].

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The study is a cross-sectional study with a relatively small sample size conducted in one center, which restricts the generalizability of the results. Self-reported questionnaires could have brought about response bias, and because of the study design, causal relationships cannot be drawn. It is suggested that future multicenter and longitudinal research with larger samples should prove these results and assess the effect of structured psychoeducational interventions on adherence to treatment and quality of life.

CONCLUSIONS

The majority of the patients in the study had prior knowledge of alopecia through doctors or through the internet, but common misconceptions about the disease's causes and treatment persisted. Stress and heredity remained major factors; over 50% of the patients claimed they had experienced a decline in their mental health. It was evident that most of the patients diagnosed with alopecia areata mentioned having mental health problems, burdens, or concerns, and the necessity of effective treatment approaches was identified. The results justify the necessity of a bio-psychoeducational model of alopecia areata treatment, which requires more than pharmacologic and dermatologic treatment of the disorder; it involves counseling and the creation of awareness in individuals with such a disease.

Authors' Contribution

Conceptualization: SS
Methodology: SS, AS
Formal analysis: AHM, FM, WN, MB
Writing and Drafting: SS, AHM, FM, MB
Review and Editing: SS, AHM, FM, AS, WN, MB

All authors approved the final manuscript and take responsibility for the integrity of the work

Conflicts of Interest

All the authors declare no conflict of interest.

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