

Assessment of Quality of Life among Patients with Alopecia Areata

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Abstract:

Background: Alopecia areata considers a common condition with an uncertain etiology, can have a catastrophic effect on a patient's self-esteem, self-image, and general quality of life. **Aim:** Assess the quality of life among patients with alopecia areata. **Research design:** A descriptive research design was utilized. **Sample:** A purposive sample of 70 adult (male and female) patients with alopecia areata. **Setting:** Assiut dermatology and venerology clinic, ministry of health, Assiut, Egypt. **Tools:** Patient assessment sheet, Alopecia Areata patient-reported outcome, and Dermatology Life Quality Index (DLQI) questionnaires. **Results:** 41.4% patients (One third) of the studied subjects aged range from 20-29 years represents. More than half of study group were male, married, had secondary education and unemployed. The majority had no family history of dermatology diseases but had depression and anxiety among. Regarding Onset of alopecia areata was new case of alopecia among study participant and less than three months and had Alopecia localatiata and affect scalp. Majority of the treatment used is combined treatment and all of them had non hair regrowth had unsatisfied knowledge level, moderate effect on patient quality of life regarding hair loss. **Conclusion:** There are positive correlation between age and line of treatment with quality of life and no correlation between sex, education and knowledge with their quality of life. **Recommendation:** A new perspective on the burden of Alopecia Areata that must be taken into account while organizing and assessing therapy is provided by Quality of Life measurement.

Keywords: Alopecia Areata, Assessment & Quality of Life.

Introduction:

All parts of the body are hair-covered, with the exception of a few areas including the palms, soles, mucosal areas of the lips, and external genitalia. The bulk of them are made up of tiny, colorless villus hairs. Smaller, darker, and more pigmented hairs called terminal hairs are present in numerous parts of the body, including the lashes, eyebrows, and scalp. The human body has around 5 million hair follicles, of which 100,000 are located on the scalp (Sarkar & Das, 2021).

The hair shaft, the fully keratinized, nonliving part above the skin's surface, and the follicle, the living part below the skin's surface, are the two distinct parts of hair. The arrector pili muscle divides the area of the hair bulge from the dermo epidermal junction. Apocrine and sebaceous glands can occasionally be found entering the follicle above the arrector pili muscle's insertion (Lai et al., 2021).

An autoimmune condition called alopecia areata damages hair follicles, causing hair loss. Men and women are also susceptible to the illness, which can strike at any age (Pedersini et al., 2021). It may have an impact on a person's appearance by causing hair loss that is noticeable on the face, scalp, or other body areas. Because alopecia areata can lead to emotional

anguish and interfere with social and vocational functioning, it can significantly lower their quality of life (Żeberkiewicz et al., 2020).

Alopecia areata may be treated with topical or systemic medicines, scalp micropigmentation, or hair transplantation. Although these procedures can help patients look better and regrow hair, they may also make it more difficult for them to engage in particular hobbies or pursue certain careers (Xie et al., 2022), when it comes to the medical care and psychological support of individuals with alopecia areata, nurses has a great role (Davey, 2020).

The illness has been reported to significantly affect the quality of life (QoL) of the patient. This is because the disease is well-known and has an impact on social interactions, emotional stability, and the patient's look. Therefore, determining QoL has become more crucial in determining the severity and effects of AA (Deng et al., 2021).

Patients can learn about the illness and available treatments from nurses. This includes describing the numerous treatment options for alopecia areata as well as its causes and how it is diagnosed. Additionally, nurses can tell patients about services and support groups that could be beneficial. Patients with alopecia areata may benefit from the emotional

support of nurses. This might entail paying attention to their worries, giving them comfort, and assisting them in managing the psychological effects of hair loss (McGinty, 2022).

Significance of the study:

With an estimated frequency of 1 in 1000 cases and an incidence of 17.2 per 100,000 people annually, alopecia areata is a prevalent condition with an uncertain a etiology that accounts for 2% of new dermatological outpatient attendances in the United States and Britain (De Berker et al., 2019). Clinical research on AA in Egyptian patients is scarce. Records from the Assiut Dermatology and Venerology Clinic indicate that 100 patients with alopecia adhered to the clinic's follow-up in 2021–2022. When alopecia areata affects exposed scalp regions, the majority of patients have many psychological issues. Therefore, it is important to understand the impact of alopecia on the quality of life (QoL) of patients.

Aim of the study:

This study aimed to assess the quality of life among patients with alopecia areata.

Research question:

What is the quality of life level among patients with alopecia areata?

Subjects and Method:

Research design:

A descriptive research design used to carry out this study.

Setting:

The study was conducted at Assiut Dermatology and Venerology Clinic, Ministry of Health, Assiut, Egypt.

Subjects:

The study was including a purposive sample of 70 adult (male and female) patients with alopecia areata.

Inclusion criteria:

Patients who agreed to participate and age ranged from 20 to 65 years. Patients with mild and severe alopecia areata in the scalp. While, patients with other dermatological conditions or chronic diseases and patients with drug abuse were excluded

Tools:

There are three tools were utilized to collect data to achieve the purpose of the study.

Tool (I): Patient assessment sheet: It was developed by the researcher based on the current national and international literatures. It included two parts:

Part (A): Demographic patient data: It included, age, gender, marital status, level of education, occupation....etc.

Part (B): Medical data: It included the assessment of past medical history, present medical history, family history, which included (causes, degree, area affected, duration, managementetc.

Part (C): Patient knowledge questionnaire sheet:

This part aimed to assess the studied patients' knowledge level about alopecia areata. It included items as (definition, Types, risk factors, signs, Diagnosis, complications and management of the alopecia areata, in addition to preparation of the ultraviolet light A, post ultraviolet light A self-care and discharge instructions, etc).

Scoring system: correct complete = 2, correct incomplete = 1 incorrect = zero.

It considered that: $\geq 60\%$ is satisfactory, while $< 60\%$ is unsatisfactory.

Tool (II): Alopecia Areata patient-reported outcome, was developed by: Patrick et al. (2011)

It aimed to help the patient to self-report of alopecia areata outcome and severity.

This tool included 5 items used by the patient using a mirror to assess the entire scalp hair loss percentage.

The patient selected one answer from the following;

- No missing hair (0% of my scalp is missing hair, I have a full head of hair).
- A limited area (1- 20% of my scalp is missing hair)
- A moderate area (21- 49% of my scalp is missing hair)
- A large area (50 - 94% of my scalp is missing hair)
- Nearly all or all (95-100% of my scalp is missing hair)

Scoring system:

- The severity of Alopecia areata totally from 0 to 100%
- It considers (No missing hair) no Alopecia areata if percentage of the patient's scalp hair loss is 0%.
- It considers (Limited missing hair) limited Alopecia areata if percentage of the patient's scalp hair loss is from 1 to 20%.
- It considers (moderate missing hair) moderate Alopecia areata if percentage of the patient's scalp hair loss is from 21 to 49%.
- It considers (Large area) severe Alopecia areata if percentage of the patient's scalp hair loss is from 50 to 94%.
- It considers (Nearly all) very severe Alopecia areata if percentage of the patient's scalp hair loss is from 95 to 100%.

Tool (III): Dermatology life quality index questioners (DLQL): Developed by Finlay and Khan (1994),

the ten-question survey is self-explanatory. Each question's score is added up to determine the DLQI, which has a possible score range of 0 to 30. The more QoL is compromised, the higher the score. The patient's quality of life was measured using the authentic Persian version (Aghaei et al., 2018). Six header elements may be used to categorize the questions:

signs and emotions (questions 1-2), Questions 3-4 deal with daily activities; questions 5-6 deal with leisure; and questions 8-9 deal with relationships.

Scoring system:

Each item has a maximum score of six; the questions about employment and school (question 7) and therapy (question 10) have maximum scores of three. A banding system has been established to aid in the clinical interpretation of the DLQI values.

DLQI scores 0-1 indicate no effect at all, 2-5 indicate a little effect, 6-10 indicate a moderate effect, 11-20 indicate a very substantial effect, and DLQI scores 21-30 indicate an exceptionally large influence on the patient's life. It took ten to fifteen minutes.

Ethical approval:

The ethics committee of the Faculty of Nursing granted permission to conduct the study. Before any patient participated in the current investigation, their verbal agreement was acquired, following an explanation of the study's objectives. Anonymity and confidentiality are guaranteed. The researcher stressed that the patients' involvement in the study was entirely voluntary and that they may opt out at any moment.

A pilot study:

Ten percent of the sample (7 patients) participated in a pilot research to assess the tool's applicability and clarity. Based on the results of the pilot study, needed refinements and modifications were made. Patients selected for the pilot study were not included in the main study.

Methods:

- An official approval letter was obtained from the dean of the faculty of nursing.
- An official approval for data collection was obtained from the clinic director to conduct the study.
- Data were collected during the period from 1/4/2023 to 31/7/2023.
- The study was carried out at morning shift.
- At the initial interview the researcher introduced herself to initiate a line of communication.

Tool's validity and reliability:

- Tool's validity was tested through a jury of (5) experts from dermatology and nursing staff from Assiut University; their opinions were formulated as regards to the tool format layout, consistency, knowledge accuracy, relevance and competence. Tool's reliability refers to the degree of consistency with which the instrument (the questionnaire) measures the content. It is supposed to be measuring. Reliability of tool was confirmed by Alpha Cronbach test (0.95 and 0.87).

- The researcher obtained the base line data from the patients using Tool 1, part (A and B).
- Assessment of patient's knowledge about alopecia areata using Tool 1-part (C).
- Self-report of alopecia areata outcome and severity were assessed by using Alopecia Areata patient-reported outcome (Tool II) which filled by the researcher.

Statistical design

Data was analysed using the statistical tool for statistical packages (SPSS) version 23. For the demographic information and the quantitative data in each question, descriptive statistics were employed. Means, standard deviation, frequencies, percentages, Pearson Chi-Square (Cross tabulation) for association analysis, independent-t test for mean scores, and one-way ANOVA tests were among the descriptive statistics used. The study's threshold for significance was chosen at ($p \leq 0.05$) in order to identify any hint of differences in the available data.

Results:**Table (1): Distribution of demographic data among patients participant (n= 70)**

Variable	N	(%)
Age group:		
From 20-29 years	29	41.4
30-39 years	27	38.6
40-49 years	11	15.7
50 and More years	3	4.3
Gender:		
Male	50	71.4
Female	20	28.6
Marital Status:		
Single	30	42.9
Married	37	52.9
Widow	3	4.3
Level of education:		
Illiterate	1	1.4
Read& write	19	27.1
Secondary education	29	41.4
High education	21	30.0
Occupation:		
Employed	14	20.0
Unemployed	56	80.0

Table (2): Distribution of medical data among patients participant (n= 70)

Variable	yes		No	
	n	%	n	%
Family history				
Is there any family member has dermatology diseases?	7	10.0	63	90.0
If yes what type of disease (alopecia)	5	7.1	65	92.9
Is there any family member has alopecia areata?	3	4.3	67	95.7
If yes what degree of disease (10-20%)	2	2.9	68	97.1
Past health history				
Depression	27	38.6		
Anxiety	24	34.3		
Social phobia	2	2.9	68	97.1
Others	17	24.3		
Onset of alopecia areata				
New	64	91.4		
Old	6	8.6		
Duration of disease at first visit				
<3 months	65	92.9	5	7.1
3: 11 months	4	5.7	66	
12-24 months	1	1.4	69	98.6
Clinical Types				
Alopecia localatiata	69	98.6		
Alopiciatotalis	1	1.4		
Affected body part				
Scalp	68	97.1	2	2.9
Others	2	2.9	68	97.1
Causes:				
A. Family history	3	4.3	67	95.7
B. Immunological				
Thyroid disorders	2	2.9	68	97.1
c. Emotional stress	65	92.9	5	7.1

Table (3): Distribution regarding line of treatment and hair regrowth (n=70).

Line of treatment	N	%
Topical	21	30.0
Combined	49	70.0
Hair regrowth		
Non	70	100.0
Partial	0	0
Complete	0	0

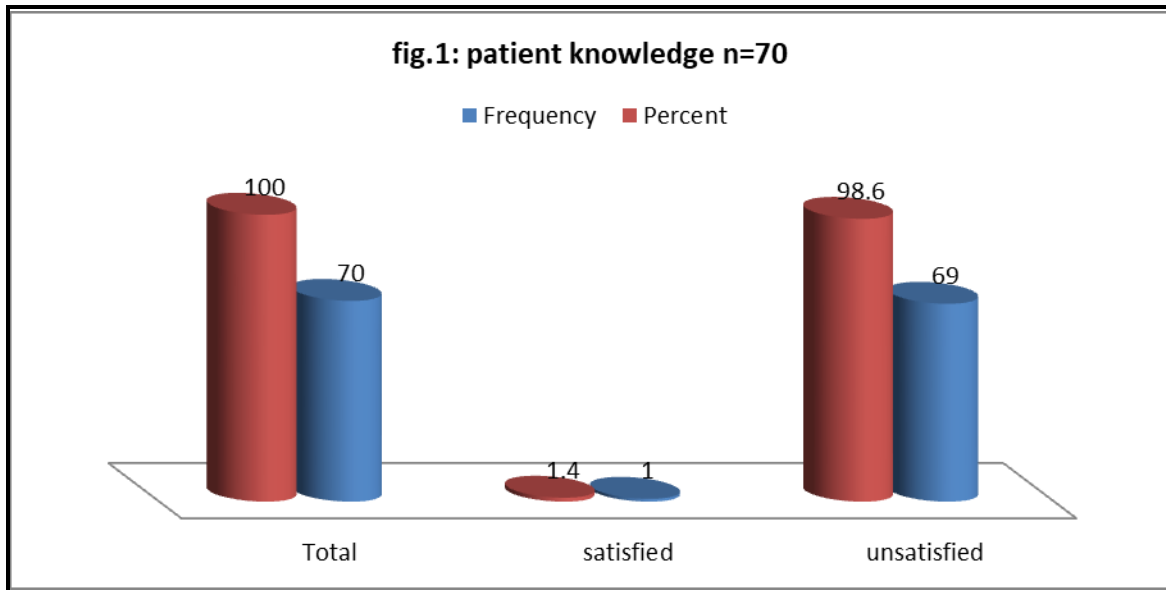


Figure (1): Distribution of total knowledge for patients regarding alopecia (n=70)

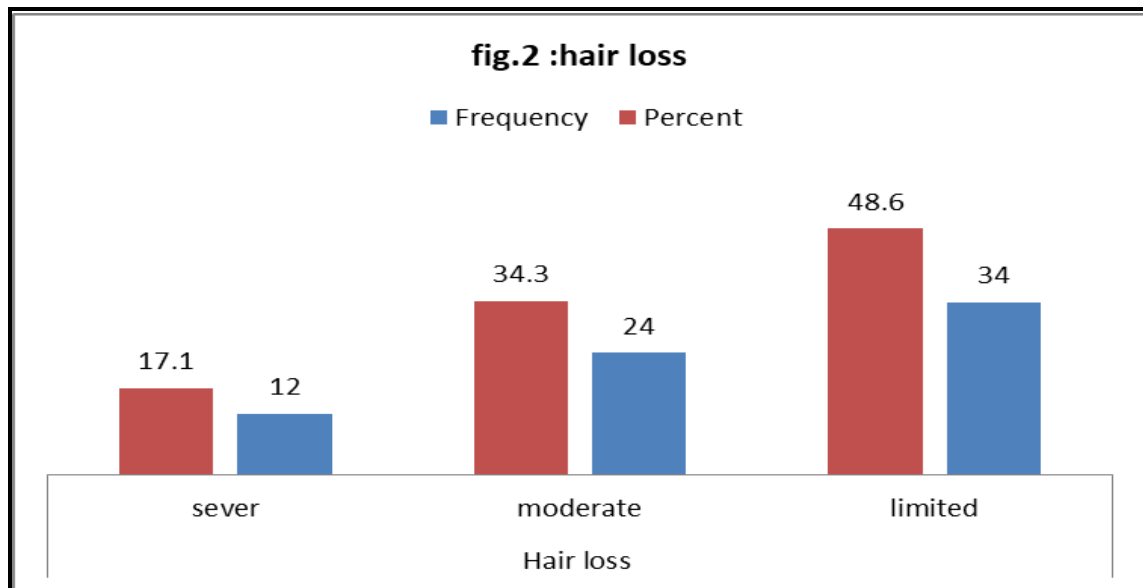


Figure (2): Distribution regarding patient scalp hair loss (n=70)

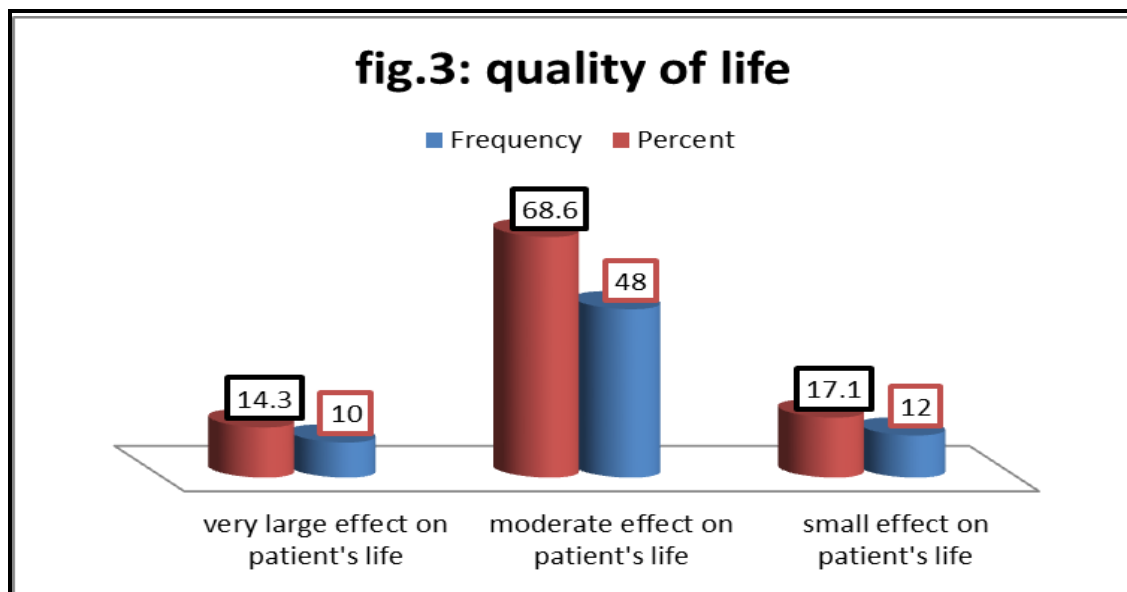


Figure (3): Distribution of patient participant regarding quality of life level (n=70)

Table (4): Correlation between demographic data, knowledge, line of treatment and quality of life (n=70)

Variables	Level of life	age by years	male and female	education	Line of treatment	knowledge
Quality of life	Pearson Correlation	-.252*	-.024-	-.129-	-.256*	.006
	Sig. (2-tailed)	.035	.842	.288	.032	.960
Age by years	Pearson Correlation	-.252*	-.096-	-.491**	.125	.024
	Sig. (2-tailed)	.035	.428	.000	.301	.841
Male and female	Pearson Correlation	-.024-	-.096-	.199	-.069-	-.076-
	Sig. (2-tailed)	.842	.428	.098	.570	.531
Education	Pearson Correlation	-.129-	-.491**	.199	.236*	.152
	Sig. (2-tailed)	.288	.000	.098	.049	.210
Line of treatment	Pearson Correlation	-.256-	.125	-.069-	.236	-.014-
	Sig. (2-tailed)	.032	.301	.570	.049	.905
Knowledge	Pearson Correlation	.006	.024	-.076-	.152	.079
	Sig. (2-tailed)	.960	.841	.531	.210	.517

Correlation is significant at the 0.05 level (2-tailed).*

Correlation is significant at the 0.01 level (2-tailed).**

Table (1): Show that (41.4%) the subjects aged range from 20-29 years represents. More than half of study group were male (71.4). Related to Marital Status, 52.9% of in the study group are married, 41.4% of the studied sample had Secondary education. Regarding occupation (80.0%) unemployed.

Table (2): Clarify that (90.0%) answer no regarding family member has dermatology diseases for patient participant, (38.6%) have Depression and Anxiety among study participant , regarding Onset of alopecia areata (91.4%) new case of alopecia among study participant and less than three months , regarding (92.9%), clinical types majority of patient have Alopecia localatiata and affect scalp (98.6% ,

97.1%, respectively) . Emotional stress is a major causes of alopecia among participant (92.9%).

Table (3): This table shows that: 70% of the treatment used is combined treatment and 100.0% non-hair regrowth

Figure (1): provides a 98% of participant unsatisfied regarding knowledge

Figure (2): Show that 48.6% of patient scalp hair loss is limited

Figure (3): Shows that ; 68.6% of patient moderate effect on patient quality of life regarding hair loss.

Table (4): Reported that there are positive correlation between age, line of treatment with quality of life and no correlation between sex, education and knowledge with their quality of life.

Discussion:

Alopecia areata (AA) is a recurring, chronic illness that interferes with connections with others and self-perception, causing significant quality of life problems for its patients (Qi et al., 2019).

In terms of the patients' demographic information, it was discovered that they ranged in age from 20 to 29. In this context, Andersen et al. (2022) noted that although alopecia areata can develop at any age, the majority of patients have symptoms in their teens, twenties, or thirties.

According to Lee et al. (2020), adults as a whole are less likely to suffer from AA than the younger age groups of children and adolescents. The prevalence of AA was found to be greater in adults than in the pediatric age group in the Sy et al., (2023) research.

Similar to our study, Uzuncakmak et al., (2021) revealed that in adulthood, patients under 40 years old had higher rates of AA. The median age of patients with AA was found to be 24.05 ± 9.98 years by Seyrafi et al., (2019) and 24.32 ± 0.54 years by Kavak et al., (2018). In Wang et al., (2021) study, AA, Alopecia totalis (AT), and Alopecia universal's (AU) were most commonly seen in the 20- to 29-year age group with a median age of 29.86 ± 14.48 in AA, 29.50 ± 16.18 in AT, and 32.81 ± 14.48 in AU. The higher median age of AA may be related to the progressive course of AA to AU by time.

The current investigation revealed that women made up the majority of the alopecia areata patients examined. Uzuncakmak et al., (2021) provided an explanation for this, stating that women are more likely than males to seek medical attention for AA.

Another research by Mesinkovska et al., (2020) noted that because women in this region of the world typically cover their hair with garments, patients with mild types of AA may easily ignore their condition. According to Davey et al., (2019), it could help explain why women only consult doctors when conditions involving severe types of facial hair, such as lashes or eyebrows, arise. In the other hand, Arousse et al., (2019) revealed that men seem to be more severely affected by AA than women.

The current study discovered that both groups in the sample had completed secondary education, and the lowest proportion of them were illiterate. Titeca et al., (2020) found that compared to the control group, individuals with AA and the subgroup with other hair illnesses had a higher likelihood of having attained a medium level of education. Furthermore, these patients have a lower level of education, which is typically associated with previous relationships, according to Lyakhovitsky et al., (2019).

The educational gap between patients with hair illness and controls in the Benigno et al., (2020) research

was a problem, most likely because the controls were hospital staff members.

According to Aghaei et al., (2018), issues that keep someone from pursuing their education might have negative psychological and mental impacts on them.

Regarding occupation, the current study revealed that the majority of the patients were jobless. This is disagree with Edson-Heredia et al.'s (2022) finding that most AA members were employed. The findings of Wyrwich et al. (2021) indicating the majority of alopecia areata patients were employed and others were retired do not align with this.

Regarding medical data: The present study found regarding family member has dermatology diseases. This is consistent with the findings of Harries et al., (2022), who discovered that 11 individuals (one fifth) had a history of familial alopecia areata. According to a different research by Uzuncakmak et al. (2021), 28 patients' families more than half had reported having an autoimmune condition. However, Broadley & McElwee, (2020) discovered that none of the AA patients had a family history of alopecia or other dermatological conditions.

One-third of the patients in the current research had anxiety and depression, according to the findings. This is consistent with Lee et al., (2020), who found that one-third of the case group had depression. King et al., (2022) refute these findings. According to Toussi et al., (2021), less than quarter of AA patients had depression.

Additionally, persons with AA had a greater likelihood than healthy controls of receiving a diagnosis of depressive illness, according to Mesinkovska et al., (2020). In conclusion, Mostaghimi et al., (2021) found evidence of a possible connection between emotional stress and alopecia areata, while the precise function and importance of stress as a causative component remain unclear. **Regarding the line of treatment,** combination therapy is most frequently employed.

Han et al., (2023) came to the conclusion that individual characteristics, such as the severity of the condition, the degree of hair loss, and the wants and preferences of the alopecia areata patient, might influence treatment options for the illness. As such, different people may require different approaches to therapy, according to King et al., (2022).

Regarding the patient knowledge about alopecia areata:

It demonstrates that majority of patients unsatisfied regarding knowledge about alopecia areata. researcher suggests that there is a lack of understanding or information available to patients regarding this condition. The unsatisfaction may stem from a variety of factors, such as limited access to reliable resources, inadequate communication from

healthcare providers, or a lack of educational materials. **Harries et al., (2022)** indicated a need for improved patient education and support regarding alopecia areata. **Winnette et al., (2021)** recommended that healthcare providers should prioritize providing comprehensive information about the condition, its causes, symptoms, available treatments, and potential outcomes. **Chernyshov et al., (2021)** reported that addressing patients' knowledge gaps and concerns, healthcare professionals can empower patients to make informed decisions about their treatment options and better manage the emotional and psychological impact of alopecia areata.

Regarding hair loss: The present study showed that around half of the studied patient scalp hair loss is limited. The researcher opinion, The finding of limited scalp hair loss in half of the patients is important because it provides insights into the clinical presentation and characteristics of alopecia areata within the studied population. It indicates that for a substantial number of individuals, the impact of the condition may be relatively localized, potentially affecting their appearance and self-esteem in specific areas but not necessarily leading to complete hair loss.

The researcher opinion that understanding the extent and pattern of hair loss in alopecia areata is crucial for accurate diagnosis, treatment planning, and prognosis. Patients with limited scalp hair loss may have different management needs compared to those with more extensive hair loss, and tailoring treatment strategies accordingly can lead to better outcomes. **Lintzeri et al., (2022)** investigated the natural course, clinical characteristics, and prognosis of alopecia areata in children. It provided insights into the progression and outcomes of the condition in the pediatric population. **Han et al., (2023)** explored the genetic factors associated with alopecia areata. It identified specific genetic markers and variations that may contribute to the development and progression of the condition, providing a foundation for further research and potential therapeutic targets.

Regarding quality of life: The researcher indicates that the impact of hair loss on these individuals goes beyond mere cosmetic concerns and has a noticeable influence on their overall well-being and daily functioning. A study published by **Qi et al., (2019)** in the European Journal found a significant improvement in the quality of life of individuals with alopecia areata. The study utilized a large sample size and employed validated quality of life assessment tools.

Additionally, **Caro, (2022)** looked at a number of research on how alopecia areata affects a person's quality of life. Consistent evidence was discovered to

suggest a somewhat detrimental impact on a number of patient life characteristics, such as social contacts, emotional health, and self-esteem. A study conducted in (2021) by **Jamerson & Aguh** focused on alopecia areata and other types of hair loss. It came to the conclusion that hair loss, no matter what caused it, significantly affected people's quality of life and resulted in mental discomfort, issues with body image, and lowered self-confidence.

Katara et al., (2023) in the opposite side, claimed that hair loss has minimal impact on the quality of life of individuals. However, since no supporting evidence is available, it is challenging to provide specific details or counter-arguments against the study's findings.

The current study's findings indicate that there is a negative relationship between quality of life and age and treatment line. This result might be consistent with other studies that have demonstrated the impact of age on the quality of life for people with alopecia areata. This result might be consistent with **Vélez-Muñiz et al. (2019)** findings that age has an impact on the quality of life for those with alopecia areata. According to **Russo et al., (2019)**, sex has a significant role in alopecia areata patients' quality of life. Reviewing pertinent research papers carried out by other experts in the field would be required to identify unsubstantiated or contradictory conclusions. **Khalili et al. (2023)** discovered no relationship between the demographic information and the quality of life of alopecia areata patients. This finding was supported by **Chernyshov et al., (2021)** study that have investigated the effectiveness of different treatment approaches for alopecia areata.

In the other hand, **Lai et al., (2021)** examined comparable treatments, demographic characteristics, and their effects on alopecia areata patients' quality of life. In the absence of particular investigations, it is challenging to offer concrete proof of unreliable or contradictory conclusions. However, conflicting study by **Toussi et al., (2021)** exist that support alternative treatment modalities or demonstrate varying degrees of effectiveness for different lines of treatment.

The researcher opinion, imply that there is a significant association between these variables and suggests that an improvement in quality of life is related to hair regrowth. The present study show that there was no correlation between sex, education and knowledge with their quality of life.

The researcher point of view suggests that higher levels of knowledge and better quality of life are not associated with an increased likelihood of experiencing hair regrowth. This implies that individuals who have a better understanding of their condition and treatment options, and who report improved quality of life, are more likely to see

positive changes in hair regrowth. A same study reported conflicting findings according to **Burns et al., (2020)**, there is no discernible relationship between knowledge levels and the results of hair restoration in alopecia areata patients.

While some studies provide support for a positive correlation, conflicting findings and limitations in the existing research highlight the need for more comprehensive studies to establish a clearer understanding of these relationships. In the other hand, **Choi, (2020)** found that participants with higher levels of knowledge about their condition and treatment options had better hair regrowth outcomes. This match with **Ng et al., (2019)** demonstrated a substantial positive association between quality of life and knowledge level, indicating that individuals with greater knowledge about their condition were more likely to experience hair regrowth. **Mostaghimi et al., (2021)** also reported that participants who experienced hair regrowth had significantly improved quality of life compared to those who did not have regrowth.

However, a study conducted by **Huang et al., (2021)** found no significant relationship between hair regrowth and knowledge or quality of life in individuals with alopecia areata. **Dolte et al., (2020)** had a smaller sample size and used different assessment tools, which may have contributed to the disagreement. Also, **Han et al., (2022)** supported a significant relationship, while others did not find a strong association between these variables and concluded that further research is needed to establish a clearer understanding of this relationship.

Conclusion:

The study concluded that:

Onset of alopecia areata was new case of alopecia among study participant and less than three months and had Alopecia localities and affect scalp. Majority of the treatment used is combined treatment and all of them had non hair regrowth had unsatisfied knowledge level, moderate effect on patient quality of life regarding hair loss. There are positive correlation between age, line of treatment with quality of life and no correlation between sex, education and knowledge with their quality of life.

Recommendations:

A new perspective on the burden of AA that must be taken into account while organizing and assessing therapy is provided by QoL measurement.

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