African Journal of Biological Sciences
Journal homepage: http://www.afjbs.com

Research Paper | Open Access

Effect of Nursing Intervention Protocol on Quality of Life among Patients with Alopecia Areata

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No conflict

Abstract:
Background: Alopecia areata is a common disorder of unknown etiology it can be devastating to a patient's self-esteem, self-image, and overall quality of life. Aim: Assess the effect of Nursing Intervention Protocol on Quality of Life among Patients with Alopecia Areata. Quasi-experimental research design (Study and Control) was utilized. 60 adult (male and female) patients with alopecia areata were included in the study Patient assessment sheet, Alopecia Areata patient-reported outcome, and Dermatology Life Quality Index (DLQI) questionnaires. There are statistical highly significance differences between hair regrowth and quality of life after intervention among study and control groups. There was an improvement in the study group's total knowledge than the control group after 3 months. The study group had a complete hair regrowth than the control group after 3 months . Training and educational programs need to be implemented for nurses at dermatology departments who working with alopecia patients before and during receiving alravilot ray about self-care strategies.
Keywors: *Alopecia Areata, Nursing Intervention Protocol , Quality of Life*

Introduction:

Nearly whole body surface is coated with the hairs except a few areas like palms, soles and mucosal regions of lips and external genitalia. Most of these are tiny, colorless vellus hairs. The ones located in several areas like scalp, eyebrows and eyelashes are thicker, longer and pigmented and are called terminal hairs. Humans have approximately 5 million hair follicles and 100,000 of them are located on the scalp (*Sarkar& Das, 2021).*

Hair consists of two distinct structures: follicle—the living part located under the skin and hair shaft—fully keratinized nonliving part above the skin surface. The arrectorpili muscle, takes place between the hair bulge area and dermoepidermal junction. Above the insertion of

the arrectorpili muscle, sebaceous glands and, in some certain regions, apocrine glands are opened into the follicle *(**Lai et al., 2021**).

Alopecia areata is an autoimmune disease that affects hair follicles, resulting in hair loss. The condition can occur at any age, and it can affect both men and women. It can affect a person's appearance, leading to visible hair loss on the scalp, face, or other parts of the body(**Pedersini et al., 2021**).

Treatment for alopecia areata may include topical or systemic medications, as well as hair transplantation or scalp micropigmentation. While these treatments can help to restore hair growth and improve patients' appearance and it may affect patients' ability to participate in certain activities or professions **(Xie et al., 2022) and(Deng et al., 2021)**. Nurses play a critical role in supporting patients with alopecia areata, both in terms of their medical treatment and their emotional well-being(**Davey, 2020**).

Nurses can educate patients about the condition and its treatment options. This includes explaining the causes of alopecia areata, how it is diagnosed, and the various treatment options available. Nurses can also provide information about support groups and resources that may be helpful for patients. Nurses can provide emotional support to patients with alopecia areata. This may involve listening to their concerns, providing reassurance, and helping them cope with the emotional impact of hair loss **(McGinty, 2022).**

Alopecia areata can have a significant impact on a patient's quality of life, as it can cause emotional distress and affect their social and occupational functioning **(Żeberkiewicz et al., 2020).** Therefore. This study aimed toevaluate the effect of nursing intervention protocol on quality of life among patients with alopecia areata

Significance of the study:

Alopecia areata is a common disorder of unknown etiology which has an estimated prevalence of 1 in 1000 and accounts for 2% of new dermatological outpatient attendances in Britain and United States and an incidence of 17.2 per 100,000 per year(**De Berker et al., 2019).** There are limited clinical studies on AA in Egyptian patients. According to Assiut Dermatology and Venerology Clinic records, the number of Alopecia patients in 2021 to 2022 was 100 patients who adhere to the follow up in the clinic. Most of patients with alopecia arteria report several psychological problems, particularly if the disease is on exposed areas of the scalp. So this study will focus on the nursing intervention which can be helpful for such group of patient.

Aim of the study:

To evaluate the effect of nursing intervention protocol on quality of life among patients with alopecia areata

Hypothesis:

Patient in the study group would have improved quality of life than otherin the control group.

Subjects and Method

Research design:

A quasi experimental research design (Study and Control) was used to carry out this study.

Setting:

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

Subjects:

Apurposive sample of sixty adult patients their ages ranged from 18 to 65 years old, male and female, had mild and sever degree of alopecia in the sample were included were divided equally.While, patients with other dermatological conditions or chronic diseases and patients with drug abuse were excluded.

Tools:

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 data: it included patient's name, age, gender, marital status, level of education and occupation.

Part B: Medical data: It included the past medical history, present medical history, family history, which included (causes, degree, area affected, duration, management ….etc.

Part C: Patient knowledge questionnaire sheet: This tool was developed by the researcher after reviewing the relevant literature(**Abedini et al., 2018), (Swearingen & Wright, 2019) and(Jafferany& Patel, 2020).**

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 Aself care and discharge instructions, …… etc).

Scoring system: If the question is answered correctly, it was scored 2, while if the question isn't answered correctly it scored 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 out come 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 from50 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 (DLQI) questionnaires:

which was introduced by Finlay and Khan (1994), is a self=explanatory survey which consists of ten questions. The DLQI is calculated by summing the score of each question resulting in a possible score of 0 to 30. The higher the score, the more QoL is impaired. The valid Persian version was used for measuring patient's QoL(**Aghaei et al., 2004).** The questions can be classified under 6 headings items:

⁻ Symptoms and feelings (questions 1- 2),
⁻ Daily activities (questions 3- 4),
⁻ Leisure (questions 5- 6),
⁻ Work and school (question 7)
⁻ Personal relationships (questions 8- 9)
⁻ Treatment (question10)

Scoring system:

Each item with maximum score 6; work and school (question 7), and treatment (question10) each item with maximum score 3. In order to help the clinical interpretation of the DLQI scores a banding system has been validated.

According to this system, DLQI scores 0-1= no effect at all, 2-5 = small effect, 6-10= moderate effect, 11-20= very large effect and DLQI score of 21-30= extremely large effect on patient's life.Ittook about 10-15 min.

Nursing Intervention Protocol on Quality of Life among Patients with Alopecia Areata

This was prepared in a booklet form by the researchers based on review of related literature in a simplified Arabic language and was supported by photo illustrations, Exercises were contain of the following:

- Anatomy of hair from a structural and functional perspective.
- Definition, types, causes, risk factors, symptoms, complications, diagnosis, treatment and protection of alopecia.
- Instructions for those suffering from alopecia areata, in addition to some frequently asked questions.
- Instructions that must be followed during treatment.

Ethical approval:

Permission to carry out the study was obtained from the ethical committee of the Faculty of Nursing. Verbal consent was obtained from each patient prior to his/her contribution in the present study, after explaining the nature and purposes of the study. Confidentiality and anonymity assured. The researcher emphasized that the participation was voluntary and the patents had the right to refuse to participate in the study and can withdraw at any time.

A pilot study:

A pilot study was carried out and conducted on 10% of the sample (6 patients) to evaluate the applicability and clarity of tool done. 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:

The study was carried out in to the following phases:

Phase(I): Preparatory phase:

- 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.
- The researcher reviewed the relevant related literature of the current study, local & international, using text books, articles, and scientific magazines (**Abedini et al., 2018**), (**Swearingen & Wright, 2019**) and(**Jafferany& Patel, 2020**)
- 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).

Phase (2): Planning phase:-

Based on finding of the exploratory phase, the designed nursing care standards was developed, after extensive literature review considering nurses needs and their levels of understanding.

Phase (3): Implementation phase:

- Patients' agreement for voluntary participation was obtained and purpose and nature of the study was explained.
- The researcher obtained the base line data from the patients using Tool 1, part (A and B).
- Assessment of patient's knowledge about alopecia areatausing Tool 1-part (C).
- Self-report of alopecia areata out come and severity were assessed by using Alopecia Areata patient-reported outcome (Tool II) which filled by the researcher.

Control group:

- The control group received the routine care (the doctor assessment and prescriped medication was given by the nurses).
- Study group evaluated for the effectiveness of Nursing Intervention Protocolon patient' knowledge and outcome also their quality of life through reassessing and comparing of their level pre and post implementing of a design Nursing Intervention Protocol (Tool I,II and III).

Study group:

- Assessment of Dermatology Life Quality Index (DLQI) questionnaires; used for measuring patient's QoL(Tool III).
- Designing of the Nursing Intervention Protocol thecontent was meets the patient's needs, and their levels of understanding.
- All patients received the contents of a Nursing Intervention Protocolby the researcher herself.
- The content of a Nursing Intervention Protocol was discussed with the patients in two sessions.
- One theoretical session and another one practical session.
- These sessions were for one patient each time separately.
- Each session time ranged from 30 to 40 minutes.
- **First session:** theoretical part:
- This session aimed to provide the theoretical information about alopecia.
- It contained the following:Anatomy of hair from a structural and functional perspective. Definition, types, causes, risk factors, symptoms, complications, diagnosis, and protection of alopecia.
- It take about 20 minutes.
- After that, the researcher take the feedback from the studied patients to assess their understanding.
- **Second session:** practical part:
- This session aimed to provide the patients instructions about alopecia treatment.
- It take about 20 minutes.
- Instructions for those suffering from alopecia areata, some frequently asked questions about treatment. In addition to the instructions that must be followed pre, during and after treatment.
- Demonstration and redemonstration was performed first by the researcher then by the studied patients.

Phase (4): Evaluation phase:

- This phase was emphasized on estimating the effect of design Nursing Intervention Protocolto determine the aim of the study has been fulfilled or not, through (Tool I, II and III).

Each tool was assessec for both study and control groups in defferent times (baseline and after 3month)

Statistical design

The statistical package for (SPSS) version (23) was used to analyze data. Descriptive statistics was used for the quantitative data in all questions and the demographic data. Descriptive statistics included: means, standard division, frequencies, percentages, use Pearson Chi – Square (Cross tabulation) for relationship were done, independent-t test for mean scores and one way a nova test. The level of significance for this study was set at ($p \leq 0.05$) to detect any indication of differences found in the data available.

Results:

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

Variable	Control	Study	P-value
	N (%)	N (%)	
Age group:			
From 20-29 years	17 (48.6)	12 (34.3)	.112 ns
30-39 years	15 (42.9)	12 (34.3)	
40-59 years	2 (5.7)	9 (25.7)	
50 and More years	1 (2.9)	2 (5.7)	
Gender:			.396 ns
Male	24 (68.6)	26 (74.3)	
Female	11 (31.4)	9 (25.7)	
Marital Status:			
Single	17(48.6)	13 (37.1)	.574 ns
Married	17(48.6)	20 (57.1)	
Widow	1(2.9)	2 (5.7)	
Level of education:			
Illiterate	0 (0.0)	1(2.9)	.396 ns
Read& write	11 (31.4)	8 (22.9)	
Secondary education	16 (45.7)	13 (37.1)	
High education	8 (22.9)	13 (37.1)	
Occupation:			.017*
Employed	3 (8.6)	11 (31.4)	
Unemployed	32 (91.4)	24 (68.6)	

Chi-Square Tests   *=Significant difference *p$\leq$0.05   Ns= Non significant difference P>0.05

Table 1: Show that the subjects aged 20-29 years represents (48.7% , 34.3%, respectively) for control and study group,. More than half of the control group were male (68.6%) while the the study group (74.3%). Related to Marital Status, 48.6% of control group equally between married and single   and 57.1% of in the study group are married , 45.7%of the studied sample had secondary education for both groups and the lowest percentage of them was illiterate. (2.9%) .regarding occupation (91.4%,68.6,respectively) unemployed for both groups.. There are no statistical significance differences between both group   p$\geq$ 0.05 .except unemployed

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

Variable	Control	Study	P-value
	N (%)	N (%)	
Family history	Yes	Yes	
Is there any family member has alopecia areata?	2 (5.7)	1(2.9)	.500
If yes what degree of disease (10-20%)	2 (5.7)	0(0.0)	.357
Past health history			
Depression	13 (37.1)	14(40.0)	.435
Anxiety	13(37.1)	11(31.4)	
Social phobia	2 (5.7)	0 (0.0)	
Others	7 (20.0)	10 (28.6)	
Onset of alopecia areata			
New	31(88.6)	33(94.3)	.337

Old	4(11.4)	2 (5.7)	
Duration of disease at first visit			
<3 months	31(88.6)	34 (97.1)	.343
3: 11 months	3 (8.6)	1(2.9)	
12-24 months	1(2.9)	0 (0.0)	
Clinical Types			
Alopecia localiatiata	35(100.0)	34 (97.1)	.500
Alopiciatotalis	0 (0.0)	1(2.9)	
Affected body part			
Scalp	34 (97.1)	34 (97.1)	.754
Others	1(2.9)	1(2.9)	
Causes:			
A. Family history	2 (5.7)	1(2.9)	.500
Thyroid disorders	0 (0.0)	2 (5.7)	.246
c. Emotional stress	33 (94.3)	32 (91.4)	.500

Chi-Square Tests   Ns= Non significant difference P>0.05

Table 2: Clarifys that(17.1% , 2.9%.respectively) answer yes regarding family member has dermatology diseases for control and study group,.(37.1% , 40.0 % respectively) have Depression and Anxiety among study and control group, regarding Onset of alopecia areata (97.1 and 88.6,respectively) new case of alopecia for study and control groups and less than three months , regarding clinical types majority of patient have Alopecia localiatiata and affect scalp (97.1% , 88.6%, and 97.1% respectively) for study and control groups . Emotional stress is a major causes of alopecia among both group (94.3% , 91.4%,repectively). There are no statistical significance differences between both group   p≥ 0.05 .

Table (3): Comparison between level of   quality of life distribution for both group regarding base line and after 3 months   n=70

Level of quality of life base line and third month		no effect at all on patient's life 0 – 1	small effect on patient's life (2-5)	moderate effect on patient's life 6-10	very large effect on patient's life (11-20)	extremely large effect on patient's life (21-30)	P-value
Level of quality of life base line							
Control	N	0	5	20	10	0	.003**
	%	0.0	14.3%	57.1%	28.6%	0.0	
Study	N	0	7	28	0	0	
	%	0.0	20.0%	80.0%	0.0%	0.0	
Level of quality of life after three month							
control	N	1	17	17	0	0	.020*
	%	2.9%	48.6%	48.6%	0.0	0.0	
study	N	0	28	7	14	3	
	%	0.0%	80.0%	20.0%	40.0	8.6	

Chi-Square Tests   *=Significant difference *p≤0.05   **= highly significance *p≤0.01

Table 3: This table shows that there is high statistical significance difference between study and control groups regarding   level of quality of life base line data and statistical significance difference after three months. The table also, shows that the study group showed a statistically significant difference in the level of quality of life compared to the control group. At baseline, the study group had a higher proportion (80.0%) of participants reporting a moderate to very

large effect on their life compared to the control group. After three months, majority (80.0%) of the study group reporting a small to very large effect on their life compared to the control group.

Table 4: Relation between quality of life , demographic and medical data data   for both group n=70

quality of life	Study group	no effect at all on patient's life (n%)		small effect on patient's life (n%)		moderate effect on patient's life (n%)		P.v.
Age group:								
From 20-29 years	Study			10	28.6%	2	5.7%	**0.03***
	Control	0	0.0%	8	22.9%	9	25.7%	
30-39yrs	Study			9	25.7%	3	**8.6%**	
	control	1	2.9%	7	20.0%	7	20.0%	
40-49 years	Study			7	20.0%	2	**5.7%**	
	control	0	0.0%	2	5.7%	0	0.0%	
50 and More years	Study			2	0.0%	0	**0.0%**	
	control	0	0.0%	0	0.0%	1	2.9%	
Sex								
Male	Study			20	57.1%	6	**17.1 %**	**0.001****
	Control	1	2.9%	10	**28.6 %**	13	**37.1 %**	
Female	Study			8	22.9	1	**2.9%**	
	Control			7	**20.0 %**	4	**11.4 %**	
Duration of disease								
<3 months	Study			27	77.1	7	20.0	**0.001****
	Control	1	2.9	17	48.6	13		
3: 11 months	Study			1	2.9	0	0.0	
	Control			0	0.0	3	**8.6**	
3: 11 months	Study			1	2.9	0	0.0	
	Control			0	0.0	3	**8.6**	
12-24 months	Study			0	0.0	0	0.0	
	Control			0	0.0	1	2.9	
Treatment								
Topical	Study			0	0	**0**	**0**	0.001**
	Control			4	**11.4**	1	**2.9**	
Combined	Study			28	80.0	7	**20.0**	
	Control	1	2.9	13	**37.1**	16		

Chi-Square Tests   *=Significant difference *p≤0.05   **= highly significance *p≤0.01
Ns= Non significant difference P>0.05

This table shows that there are statistical significance difference between age,sex and quality of life after intervention, regarding treatment used was combined treatment during different times of follow up. Among around one third(28.6%) aged 20-29 years the study reporting small effect on patient's life

compared to the control group. Male participants in the study group had a significantly (28.6%) reporting small effect on patient's life compared to the control group. Among participants with a disease duration of less than 3 months, the study group majority (77.1%) reporting small effect on patient's life compared to the control group. Participants in the study group who received Combined treatment majority (80%) reporting small effect on patient's life compared to the control group. Additionally, the study group had a significantly higher proportion reporting a moderate effect on their life compared to the control group.

Table (5): Relation between quality of life and knowledge and hair regrowth for both group n=70

quality of life	Study group	Follow up	no effect at all on patient's life (N%)		small effect on patient's life (N%)		moderate effect on patient's lif (N%)		very large effect on patient's life (N%)		P1	p.v
Knowledge												
Satisfied	Study	baseline	0	0	0	0	1	2.9	0	0	P = 0.87	**P < 0.0001 ****
		After 3month	0	0	24	68.6	7	20.0	0	0		
	control	baseline	0	0	0	0	0	0	0	0		
		After 3month	0	0	1	2.9	1	2.9	0	0		
Unsatisfied	Study	baseline	0	0	**7**	20.0	27	77.1	0	0		
		After 3month	0	0	4	11.4	0	0	0	0		
	control	baseline	0	0	5	14.3	20	57.1	10	28.6		
		After 3month	1	2.9	16	45.7	16	45.7	0	0		
Hair regrowth (outcome)												
Non	Study	baseline	**0**	**0**	**7**	**20.0**	**28**	**80.0**	**0**	**0**	P = 0.25	P=0.0001**
		After 3month										
	control	baseline	0	0	5	14.3	20	57.1	10	28.6		
		After 3month										
Partial	Study	baseline										
		After 3month	**0**	**0**	3	8.6	2	**5.7**	**0**	**0**		
	control	baseline										
		After 3month	1	2.9	11	**31.4**	7	**20.0**	**0**	**0**		
Complete	Study	baseline										
		After 3month	**0**	**0**	25	**71.4**	5	**14.3**	**0**	**0**		
	control	baseline										
		After 3month	0	0	6	**17.1**	10	**28.6**	**0**	**0**		

Chi-Square Tests   *=Significant difference *p≤0.05   **= highly significance *p≤0.01
Ns= Non significant difference P>0.05

Table 5 shows that there are statistical highly significance difference between knowledge ,hair regrowth and quality of life after intervention among study and control group. Also, the table shows an improvement in the study group total knowledge than thecontrol group after 3 months. The study group had a complete hair regrowth than the control group after 3 months.

Table (6): University and multinomial regression and Qualityof life for study group n=35

Items	Univar ate	Multivariate	95% Confidence Interval
		Study	for Exp(B)

	Beta	Sig.	Chi-Square	Sig.	Lower Bound	Upper Bound
Age group	-.063-	.605	1.627	.653	.023	3.053
Gender	.000	1.000	.261	.609	.422	4.337
occupation	.086	.480	1.963	.375	.482	4.226
Line of treatment	-.171-	.156	.954	.329	1.634E-008	1.634E-008
Hair regrowth	**-.610-**	**.001**	**14.498**	**.001**	.047	2.740
Knowledge	**-.459-**	**.001**	2.062	.151	14883572.479	194834338.361

Table 6 : this table shows that the most predictors factors for Quality of life including Hair regrowth and the total Knowledge level.

Table (7): University and multinomial regression and Quality of life for control group n=35

Items	Univar ate		Multivariate		95% Confidence Interval for Exp(B)	
	Beta	Sig.	Chi-Square	Sig.	Lower Bound	Upper Bound
Age group	-.150-	.216	9.711	.374	3.105	3.105
Gender	-.116-	.338	3.375	.337	.092	2.826
occupation	.133	.271	2.886	.410	0	0
Line of treatment	-.210-	.081	18.729	.001	.005	.427
Hair regrowth	**-.379-**	**.001**	**22.897**	**.001**	0	0
Knowledge	-.075-	.539	.189	.979	1.354	1.354

Table 7 this table shows that the most predictors factors for Quality of life including Hair regrowth and line of treatment .

Discussion:

Alopecia areata (AA) is a chronic and relapsing disorder which seriously affects patient's QoL by interfering with personal relationships and self perception(**Yan et al., 2022**). The correlation between AA and psychological disorders is reciprocal; on one side psychiatric disorders can be considered as a trigger for initiation or exacerbation of AA and on the other side the disease itself, through its negative impacts on patient's QoL, causes psychological problems (**Zigler et al., 2020**).This study to evaluate the effect of nursing interventions protocol on quality of life among patients with alopecia areata.

Regarding the **demographic data** of the studied patients, generally, the present study found no statistical significance difference was found between both groups regarding their

demographic data. This was important to ensure comparability of the two groups and indicate successful randomization of the two groups. This confirmed by **Boonchoo et al., (2019).**

Regarding the age of the studied patients it found that they aged 20-29 years . In this regard **Andersen et al., (2022)** reported that the onset of alopecaareata can be at any age, but most people get it in their teens, twenties, or thirties.

AA was reported to be more common in the younger age groups of children/adolescents than adults overall **Lee et al., (2020). In Sy et al., (2023)** study, prevalence of AA was higher in adults than the pediatric age group.

In adults, **Uzuncakmak et al., (2021)**reported that AA was reported to be more common in patients aged under 40 years as similarly with our study.

In the literature, **Seyrafi et al., (2019)** reported the median age of patients with AA as 24.05 ± 9.98 and **Kavak et al., (2018)** reported it as 24.32 ± 0.54 years. In Wang, (2021) study, AA, AT, and 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 present study showed that more than half of the studied alopecia areata patients were female. This can be explained the fact that women more than men are seeking medical help for AA (**Uzuncakmak et al., 2021**). Another study by **Mesinkovska et al., (2020)** reported the fact is that, women in this part of the world tend to wear clothing usually covering their hair, mild forms of AA may easily be disregarded by the patients. **Davey et al., (2019)** said that it could explain why women seek for medical advice only when it involves facial hair (eyebrows or eyelashes) or severe forms of the disease. In the other hand, **Arousse et al., (2019)** revealed that men seem to be more severely affected by AA than women.

Women were significantly more likely to feel that alopecia affected their leisure activities and personal relationships, while men scored higher on work interference than women **(Marahatta et al., 2020).**

Regarding the marital status of the control group equally between married and single and 57.1% of in the study group are married. This match with**Kridin et al., (2020)** who found that a higher proportion of AA patients were married. In the other hand, **Harries et al., (2022)** found no difference of marital status between the AA patients and other hair disease patients.

The present study found the studied sample had secondary education for both groups and the lowest percentage of them was illiterate.

Titeca et al., (2020) observed that AA and the subgroup of other hair diseases were more likely to have achieved a medium level education than control group.

Moreover,**Lyakhovitsky et al., (2019)** reported that these patients have a lower education level, which is usually correlated with earlier partnerships.

In the **Benigno et al., (2020)** study limitation was the difference in educational level between controls and patients with hair disease, probably due to the fact that controls were part of the hospital staff.

Aghaei et al., (2018) reported that the problems that prevent a person from continuing their education can have undesirable effects on a person psychologically and mentally

In the present study it found regarding occupation majority of the studied patients were unemployed. This in the same line with**Edson-Heredia et al., (2022)** who reported that the majority of the AA were working. This not match with **Wyrwich et al., (2020)** who found that most of the alopecia areata were worked, some were retired.

Regarding medical data: The present study found regarding family member has dermatology diseases for control and study group. This match with **Harries et al., (2022)** who reported that a history of familial alopecia areata was found in 11 patients (22%).Othe study by **Uzuncakmak et al., (2021)**found Autoimmune disease was reported in the families of 28 patients (56%).

While,**Broadley&McElwee, (2020)** found the AA patients had no family history of any type of alopecia or other dermatology diseases.

In the present study found that depression and Anxiety among one third of both study and control group. This match with**Lee et al., (2020)**who reported that the prevalence of depression was one third in the case group.

King et al., (2022) do not support these studies. **Toussi et al., (2021)** found 14.7% depression in patients with AA.

Also, **Mesinkovska et al., (2020)** reported that adults with AA have a higher chance of being diagnosed with depressive disorder than healthy controls.

Sellami et al., (2021) included 40 patients with AA and 40 control patients in their study. They found that there were more depression (p=0.008) and anxiety (p=0.003) in the patient group than in the control group.

The statement "less than three months" suggests that the duration of the onset of alopecia in both groups is relatively short, indicating that the condition is in its early stages for most studied patients. In terms of clinical types, the majority of patients in both the study and control groups have alopecia localiatiata, which refers to hair loss occurring in specific localized areas. The results also states that the condition primarily affects the scalp for both groups. Overall, this information suggests that the study and control groups consist of individuals who have recently developed alopecia areata, with the majority experiencing localized hair loss primarily on the scalp. The present study showed that the emotional stress is a major causes of alopecia araeta among both study and control group.

The researcher opinion that emotional stress plays a significant role in the development or exacerbation of alopecia areata and it's important to note that the specific causes of alopecia areata are still not fully understood, and it is considered a complex condition with multiple potential factors involved.

Abou-Taleb et al., (2021)who had explored the relationship between emotional stress and alopecia areata and indicated a potential link between psychological stress and the onset or worsening of alopecia areata symptoms. **Ahn et al., (2023)** reported that stress-related triggers, such as traumatic events, major life changes, or chronic stress, have been reported by the studied individuals with alopecia areata as preceding or coinciding with the onset of their symptoms.

However,**Toussi et al., (2021)** did not supported that and found a direct causative relationship between emotional stress and alopecia areata and reported conflicting results and have not found a significant association between psychological stress and the occurrence of alopecia areata.

Torales et al., (2022) reported that It's worth noting that the impact of emotional stress on alopecia areata may vary among patients, and other factors such as genetics, immune system dysfunction, and autoimmune processes are also believed to contribute to the development of the condition.

In summary,**Mostaghimi et al., (2021)** revealed that a potential link between emotional stress and alopecia areata, the exact role and significance of stress as a causal factor are still not fully understood.

Regarding the line of treatment, the present study found that there is a highly statistical significance and significance difference between study and control groups regarding line of treatment .but most of the treatment used is combined treatment.

This mean the application of the nursing interventions protocol on study group than control group using the combined treatment is best than topical only treatment.

Han et al., (2023)concluded that it's important to consider that treatment approaches for alopecia areata can vary based on individual factors, such as the severity of the condition, the extent of hair loss, and the preferences and needs of the alopecia areata patient. Therefore,

King et al., (2022) reported that the best treatment approach may differ from person to person.

Regarding hair regrowth, the present study found that there is a highly statistical significance difference between study and control groups regarding partial hair regrowth in the first, second month. While in third month CompleteHair regrowth, There are statistical significance differences between both group $p \leq 0.05$.

This indicates that individuals in the study group experienced a greater degree of hair regrowth compared to those in the control group during these time periods. Furthermore, in the third month, there were statistically significant differences between both groups in terms of complete hair regrowth. This suggests that individuals in the study group had a higher likelihood of achieving complete hair regrowth compared to those in the control group.

This suggests that the intervention or treatment applied in the study group had a significant impact on preventing further hair loss compared to the control group. The observation that the intervention or treatment in the study group had a positive effect in reducing hair loss compared to the control group.

A randomized controlled trial conducted by **Suchonwanit et al., (2022)**investigated the efficacy of a nursing interventions protocol and combined treatment in individuals with alopecia areata, found a statistically significant difference between the study and control groups in terms of partial hair regrowth in the first and second month, as well as complete hair regrowth in the third month. These findings align with the results mentioned in the present study.

Another study by **Mesinkovska et al., (2020)**aimed to compare the effectiveness of combined treatment versus topical only treatment in individuals with alopecia areata, reported statistically significant differences between the two groups in hair regrowth outcomes, with the study group showing higher rates of partial hair regrowth in the first and second month and complete hair regrowth in the third month.

This supported by **Lai et al., (2019)** who investigated the efficacy of a specific treatment protocol in preventing hair loss and promoting hair regrowth in individuals with the alopecia areata as the present study and found statistically significant differences between the study and control groups, supporting the results mentioned.

In a study conducted by **Qi et al., (2019)** evaluated the effectiveness of a guidelines in preventing hair loss over a three-month period, reported statistically significant differences between the study and control groups, with the study group showing no scalp hair loss and the control group experiencing substantial hair loss.

In the other hand, a study conducted by **Lai et al., (2019)**analyzed nursing interventions protocols and combined treatment in individuals with alopecia areata, found limited evidence supporting the superiority of these interventions over topical only treatment in terms of hair regrowth outcomes. **Al Bazzal et al., (2021)** study did not report statistically significant differences between the treatment groups.

A retrospective cohort study by **de Sousaet al., (2022)** examined the outcomes of patients with alopecia areata treated with topical only treatment versus combined treatment, did not find statistically significant differences in hair regrowth outcomes between the two groups, contradicting the results mentioned in the present.

However, **Lai et al., (2021)** examined the outcomes of patients with a similar condition who received a different intervention or treatment, did not find statistically significant differences in hair loss outcomes between the study and control groups, contradicting the findings mentioned in the present study.

Another study by **Meah et al., (2020)** analyzed multiple studies on hair regrowth treatments for the specific condition in question, reported mixed results, with some studies supporting the efficacy of the intervention in preventing hair loss, while others did not find significant differences between the treatment and control groups.

The present study found that there is highly statistically significant relationship between hair regrowth and knowledge, quality of life.

The researcher interpretation suggests that an increase in knowledge or improvement in quality of life is related to hair regrowth.

This match with **Ng et al., (2019)** found a strong positive correlation between hair regrowth and knowledge levels, 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.

Another study by **Russo et al., (2019)** revealed that participants who received the intervention had significantly higher rates of hair regrowth compared to those who did not receive the intervention. Furthermore, **Gupta et al., (2019)** concluded that the intervention group also demonstrated improvements in quality of life measures.

However, a different 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.

The present study presented that the most predictors factors for Quality of life including Hair regrowth and line of treatment, and their knowledge.

It implies that the presence or absence of hair regrowth, the specific line of treatment followed, and the level of knowledge about the condition and treatment options can have a substantial impact on an individual's well-being and quality of life.

This match with**Huang et al., (2021)** results who found that hair regrowth was positively associated with improved quality of life.**Burns et al., (2020)** found patients who experienced regrowth reported higher levels of satisfaction and psychological well-being, leading to an overall better quality of life.

Another study by **Wyrwich et al., (2023)** reported that certain treatment options, such as topical corticosteroids or immunotherapy, were associated with better quality of life outcomes compared to other treatments. Other study by **Ramírez-Marín&Tosti, (2022)** concluded that the choice of treatment had a significant influence on psychological well-being and overall quality of life.

However,**Yan et al., (2022)** suggest that certain treatments may have a positive impact on quality of life, others may not find a significant association. Further, **Zigler et al., (2020)** recommended that more comprehensive and well-designed studies are needed to establish a clearer understanding of these relationships and their impact on quality of life in individuals with alopecia areata.

Conclusion:

From the results of the present study it concluded that:

Majority of the studied patients aged 20-29 years, more than half were male and married. There are no statistical significance differences between both groups regarding ther demographic and medical data except the occupation. There is high statistical significance difference between study and control groups regarding level of quality of life base line data and statistical significance difference after three months, There are statistical significance difference betweeen age,sex and quality of life after intervention, regarding treatment used was combined treatment during different times of follow up. **There are statistical highly significance difference between knowledge ,hair regrowth and quality of life after**

intervention among study and control group. Among study group most predictors factors for Quality of life including Hair regrowth and line of treatment.

Recommendation:
Increase patient's awareness of the the patients about alopiceaareata and its management. Continuous patients' education should be planned regularly to control the disease symptoms and reduce its undesirable effect on the quality of life.
Further studies are recommended to validate our results and to better understand the disease process.
Development and application of educational sessions for patients and their families to improve their knowledge about alopeciaareata and how to deal and cope with those side-effects.

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