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Reliability and validity of the Turkish Alopecia Areata Quality of Life Index

Alopesi Areata Yaşam Kalitesi İndeksi Türkçe güvenilirlik ve geçerliliği

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Abstract

Objective: Alopecia areata (AA) is a common cause of hair loss that adversely affects quality of life. This study aimed to adapt the Alopecia Areata Quality of Life Index Questionnaire (AA-QLI) into Turkish and investigate its validity and reliability.

Materials and Methods: The AA-QLI scale was administered to 20 patients diagnosed with AA as a preliminary study, in accordance with the World Health Organization's scale adaptation criteria. Within six months of completing the translation phases of the questionnaire, 78 patients were included in the main study. The Dermatology Quality of Life Index (DLQI) was used to assess the concurrent validity of the AA-QLI scale. Cronbach's alpha was calculated for internal consistency, independent t-tests were used for group comparisons, and Pearson correlation tests were employed to determine the relationships between variables. To assess the test-retest reliability, intraclass correlation coefficients (ICC) and paired t-tests were used.

Results: The mean age of the patients was 32.85±10.43 years, and the mean total AA-QLI score was 41.77±14.76. The Cronbach's alpha value was 0.941 for the entire scale. The ICC ranged from a minimum of 0.773 (0.716-0.846) to a maximum of 0.922 (0.885-0.947). Factor analysis indicated that the scale fit a three-factor structure, with factor loadings exceeding 0.4. The external validity assessment revealed a positive correlation between the AA-QLI and DLQI. The validity analysis of the questionnaire demonstrated that the scale has strong validity (R=0.934, p=0.0001) and reliability (internal consistency R=0.89, p=0.0001, α=0.941), as supported by the factor analysis.

Conclusion: The AA-QLI questionnaire was successfully adapted into Turkish. It was found to be appropriate for the Turkish population, and its reliability and validity analyses were completed.

Keywords: Alopecia areata, hair loss, health-related quality of life, quality of life, reliability, validity

Öz

Amaç: Alopesi Areata (AA), yaşam kalitesini olumsuz etkileyen yaygın bir saç dökülmesi nedenidir. Bu çalışmada, Alopesi Areata Yaşam Kalitesi Ölçeği (AAYKİ)'nin Türkçeye uyarlanması ve geçerlik-güvenirliğinin değerlendirilmesi amaçlanmıştır.

Gereç ve Yöntem: Dünya Sağlık Örgütü ölçek uyarlama kriterlerine uygun olarak, ön çalışma kapsamında AA tanısı almış 20 hastaya AAYKİ uygulanmıştır. Anketin çeviri aşamaları tamamlandıktan sonraki altı ay içinde, ana çalışma için 78 hasta çalışmaya dahil edilmiştir. Ölçeğin eşzamanlı geçerliliğini değerlendirmek amacıyla Dermatoloji Yaşam Kalitesi İndeksi (DYKİ) kullanılmıştır. İç tutarlılık Cronbach alfa katsayısı ile değerlendirilmiş; grup karşılaştırmaları için bağımsız örneklem t-testi, değişkenler arası ilişkileri belirlemek için Pearson korelasyon testi uygulanmıştır. Test-tekrar test güvenilirliği için sınıfiçi korelasyon katsayısı (SKK) ve eşleştirilmiş t-testi kullanılmıştır.

Bulgular: Katılımcıların yaş ortalaması 32,85±10,43 yıl, ortalama toplam AAYKİ puanı 41,77±14,76 olarak bulunmuştur. Ölçeğin genel Cronbach alfa değeri 0,941 olarak saptanmıştır. SKK değeri minimum 0,773 (0,716-0,846) ile maksimum 0,922 (0,885-0,947) arasında değişmiştir. Faktör analizi, ölçeğin üç faktörlü bir yapıya uygun olduğunu ve faktör yüklerinin 0,4'ün üzerinde olduğunu göstermiştir. Dış geçerlilik değerlendirmesinde AAYKİ ile DYKİ arasında pozitif korelasyon saptanmıştır. Anketin geçerlilik analizinde ölçeğin güçlü geçerlilik (R=0,934, p=0,0001) ve güvenirlik (iç tutarlılık R=0,89, p=0,0001, α=0,941) değerlerine sahip olduğu gösterilmiştir.

Sonuç: AAYKİ ölçeği başarıyla Türkçe'ye uyarlanmıştır. Türk popülasyonu için uygun bir ölçme aracı olduğu belirlenmiş ve geçerlilik-güvenirlik analizleri tamamlanmıştır.

Anahtar Kelimeler: Alopesi areata, saç dökülmesi, sağlıkla ilişkili yaşam kalitesi, yaşam kalitesi, geçerlilik ve güvenilirlik

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Introduction

Alopecia areata (AA) is an autoimmune disorder characterized by non-scarring hair loss[1,2]. While it generally manifests as well-demarcated patches of hair loss on the scalp, it can progress to total hair loss on the scalp and body. Although AA can appear at any age, it is more prevalent among younger individuals, who often exhibit more pronounced aesthetic concerns[1]. This condition can negatively affect patients' self-perception due to its effect on physical appearance, consequently disturbing social relationships. Numerous studies have shown that AA negatively impacts the quality of life (QoL) of patients[2,3].

Several QoL assessment tools, such as the Dermatology Life Quality Index (DLQI) and Skindex, are frequently employed to evaluate the psychosocial burden of dermatologic diseases. Nonetheless, disease-specific scales are typically considered more sensitive and precise in reflecting the distinct effects of various illnesses on patients' lives. Currently, no QoL measure specific to AA has been adapted and validated for the Turkish language.

The AA-QLI, developed by Fabbrocini et al.[5] in 2013, has been validated and assessed for reliability in countries such as Iran[4]. However, to date, no psychometric evaluation has been performed in the Turkish community.

We aimed to conduct a Turkish validity and reliability assessment of the AA-QLI, which we consider a valuable instrument for measuring the QoL in patients with AA.

Materials and Methods

Study Population (Subjects)

This study included individuals aged 18 years and older who presented to the dermatology outpatient clinic with a diagnosis of AA and no other stigmatizing dermatological disorders. Patients without scalp involvement and those presenting solely with other body locations were excluded.

In the power analysis conducted to determine the sample size, the study by Nasimi et al.[4] was taken as a reference, and the effect size was calculated as 0.28 with an alpha error probability of 0.05 using G*Power[1]. Based on a power value of 0.80, the sample size analysis indicated that a minimum of 78 participants was required. An initial pilot study was conducted with 20 patients. Based on the findings of this initial phase, suitable adjustments were implemented, following which patient recruitment proceeded in accordance with the revised protocol. The study was approved by the Ethics Committee of University of Health Sciences Türkiye Haydarpaşa Numune Training and Research Hospital with decision no: HNEAH-KAEK 2021/KK/28, date: 29.11.2021.

Scales Used in the Study

Alopecia Areata Quality of Life Index (AA-QLI)

The questionnaire consists of 21 items designed to assess the disease's impact on the individual in the preceding month. The structure comprises three distinct domains: the first assesses subjective symptoms, the second examines interpersonal relationships, and the third evaluates the objective clinical manifestations. Each item is rated by the patient on a four-point scale from 1 (not at all) to 4 (completely), resulting in a cumulative score between 21 and 84. Higher scores indicate a more pronounced negative impact on the patient's QoL[5].

DLQI

This 10-item questionnaire requires patients to evaluate their condition based on the past week. Items 1 and 2 assess symptoms and feelings, items 3 and 4 assess everyday activities, items 5 and 6 relate to leisure time, item 7 pertains to work or school life, items 8 and 9 evaluate personal relationships, and item 10 addresses treatment-related issues. Each item is scored on a 4-point scale ranging from 0 to 3, with an additional option of "not relevant," which is scored as 0. Higher total scores indicate a greater negative impact on QoL[6,7].

Clinical Assessment

Sociodemographic features of the patients, age at disease onset, extent of scalp involvement, and disease severity evaluated using the Severity of Alopecia Tool (SALT) score were recorded. Additional data collected included disease duration, anatomical distribution of lesions, type of AA, accompanying comorbidities, and nail involvement. The patients were asked to complete both the DLQI and AA-QLI under the same conditions on two consecutive days.

Translation Process

The validity and reliability of the scale were evaluated in accordance with the WHO recommendations for scale adaptation. Three people fluent in both English and Turkish initially translated the original scale into Turkish. The translated versions were subsequently reviewed and summarized as follows. A panel of dermatologists, public health specialists, and psychiatrists assessed the clarity and appropriateness of each item.

The experts received both the original English version and the Turkish translations in an "Evaluation Form." A bilingual expert performed back-translation of the scale into English. A pilot test was administered to 20 participants. Participants were asked to explain the meaning of each question in their own words. Participants were asked to provide alternative terms for any unclear or unsuitable words.

In the translation process, the term "unpleasant" in item 10 proved challenging for patients to understand. Based on feedback from the participants, this term was replaced with "discomfort." As a result, the item was revised to "I feel that people are uncomfortable when they look at me". Another term that posed comprehension issues was "party" in item 13. The limited cultural use of the word in Turkish leads to difficulties. According to the Cambridge Dictionary, "party" is defined as "a social event at which a group of people meet to talk, eat, drink, dance, etc., often to celebrate a special occasion."[8]. Therefore, we adapted the term to "social meeting" (e.g., birthday parties, gatherings, weddings, etc.) to better reflect its meaning in the local context.

Following these steps, the final version of the questionnaire was prepared in written form. The final version of the translation was established and is presented in the Supplementary Material 1.

Statistical Analysis

Statistical analyses in this study were conducted using the NCSS (Number Cruncher Statistical System) 2007 Statistical Software (Utah, USA). In addition to descriptive statistical methods (mean and standard deviation), the Shapiro-Wilk normality test was used to assess the distribution of variables.

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For variables that followed a normal distribution, one-way analysis of variance (ANOVA) was employed for time and intergroup comparisons, and the Tukey multiple comparison test was used for subgroup analyses. An independent samples t-test was used for comparisons between the two groups. Pearson's correlation analysis was used to evaluate the relationships between variables. To assess test-retest reliability, ICC and paired-sample t-tests were utilized. The Varimax rotation method was applied for factor analysis. Internal consistency and item compatibility were evaluated using Cronbach's alpha. Results were considered statistically significant at a p-value of less than 0.05.

Results

Of the 80 participants in the study, 2 were excluded from the analysis owing to incomplete responses on the second questionnaire. The final sample comprised 78 patients, of whom 57.7% (n=45) were male and 42.3% (n=33) were female. The mean age of the participants was 32.85±10.43 years. The demographic characteristics of the patients are presented in Table 1.

Table 1. Socio-demographic and clinical characteristics of the study population (n=78)

Variable	Category	n	%
Gender	Male	45	57.7
	Female	33	42.3
Age group (years)	18-29	38	48.7
	30-39	21	26.9
	40-49	13	16.7
	50-64	6	7.7
Marital status	Single	44	56.4
	Married	34	43.6
Educational level	Primary school	5	6.4
	Middle school	5	6.4
	High school	29	37.2
	University	35	44.9
	Postgraduate (master's degree)	4	5.1
Disease duration	<1 month	8	10.3
	1-12 months	51	65.4
	>12 months	19	24.4
SALT score distribution	S1 (<25%)	66	84.6
	S2 (25-49%)	7	9.0
	S3 (50-74%)	4	5.1
	S4 (75-99%)	0	0
	S5 (100%)	1	1.3
Anatomical localization	Scalp only	53	67.9
	Scalp and eyebrows	1	1.3
	Scalp and beard	18	23.1
	Scalp and body hair (1 region)	2	2.6
	Scalp and multiple body hair regions	4	5.1
Nail involvement	Absent	74	94.9
	Present	4	5.1
Comorbid conditions	None	54	69.2
	Depression	6	7.7
	Asthma	4	5.1
	Thyroid disorders	4	5.1
	Other systemic disorders	8	10.2
	Concomitant dermatological conditions	2	2.6

SALT: Severity of Alopecia Tool Score

The mean illness duration was 15.74±25.61 months, and the average treatment duration was 8.16±18.06 months. Table 1 summarizes the distribution of SALT scores, anatomical distribution of lesions, associated nail involvement, and systemic illnesses.

Reliability Analysis of the AA-QLI

Assessment of Internal Consistency and Test-Retest Reliability

The internal consistency of the AA-QLI was evaluated using Cronbach's alpha. Cronbach's alpha was 0.941 for the entire scale, indicating excellent internal consistency. The values for the subscales were 0.857 for subjective symptoms, 0.891 for interpersonal relationships, and 0.924 for objective symptoms. All Cronbach's alpha values exceeded the acceptable threshold of 0.700, suggesting that both the total scale and its subdomains demonstrated strong internal consistency and reliability.

Test-retest reliability was assessed using ICC. The ICC values for individual items ranged from a minimum of 0.773 (95% CI: 0.716-0.846) to a maximum of 0.922 (95% CI: 0.885-0.947). In the subscale analyses, the ICC was 0.935 (95% CI: 0.904-0.956) for subjective symptoms, 0.936 (95% CI: 0.906-0.957) for interpersonal relationships, and 0.932 (95% CI: 0.901-0.954) for objective symptoms. The total score demonstrated an ICC of 0.949 (95% CI: 0.925-0.966). All ICC values were above the recommended threshold of 0.70, indicating high test-retest reliability for the scale and its subcomponents.

No statistically significant differences were observed between the test and retest mean scores for any of the items (p>0.05). Similarly, there were no significant differences between the test and retest scores in the subscales of subjective symptoms (p=0.376), interpersonal relationships (p=0.656), objective symptoms (p=0.112), or total score (p=0.943). Furthermore, no statistically significant differences were found between the test and retest mean scores for each of the 21 individual items (p>0.05), confirming the temporal stability of the instrument.

Validity Analysis Results of the AA-QLI

Exploratory factor analysis was initially conducted to evaluate construct validity and determine the factors within the items, followed by confirmatory factor analysis. The Kaiser-Meyer-Olkin measure of sampling adequacy was 87%, and Bartlett's test of sphericity yielded a significance level of 99%, confirming the adequacy of the data for factor

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analysis. These indicators support the psychometric appropriateness of this test.

To determine the construct validity of the AA-QLI scale, Principal Component Analysis (PCA) and the varimax rotation method with Kaiser normalization were used for factor analysis. The factors obtained using this method are shown in Figure 1. Following the application of the Varimax rotation method to the correlation matrix based on the data used in this study, three factors were extracted using PCA. The lowest and highest item loading values were 0.477 and 0.843, respectively. A factor analysis was conducted to evaluate the construct validity of the scale, which revealed that the test had adequate validity (r=0.934, p=0.0001) and reliability (internal consistency: r=0.89, p=0.0001, and α=0.941).

Table 2 summarizes a comparison of the six main domains of the DLQI questionnaire and the three main domains of the AA-QLI.

The correlations between the total and subdomain scores of the AA-QLI and DLQI with age, disease duration, treatment duration, and SALT score values are summarized in Figure 2. A statistically significant positive correlation was observed between the total SALT score and the AA-QLI subdomains, including subjective symptoms (r=0.284, p=0.003), relationships (r=0.252, p=0.009), objective symptoms (r=0.344, p=0.0001), and total AA-QLI score (r=0.315, p=0.001).

The independent t-test and one-way ANOVA analyses demonstrated statistically significant differences in the AA-QLI and DLQI scores based on sex, education level, and anatomical localization. Female participants reported significantly higher subjective and objective

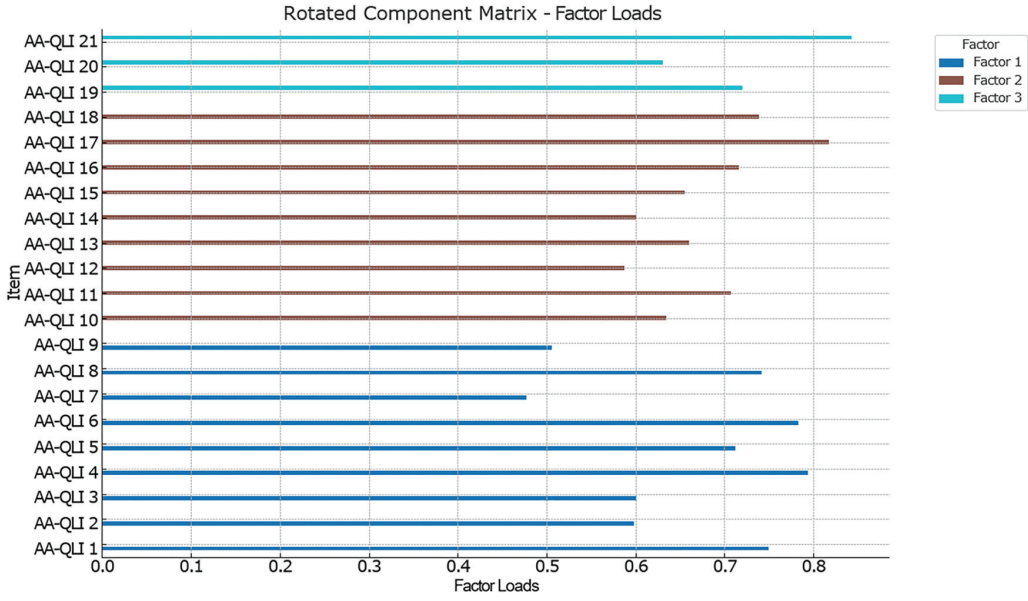


Figure 1. Varimax factor analysis (factor loadings for items)

Table 2. Correlation of the total and subdomains of the DLQI and AA-QLI Questionnaires

DLQI Subdomains		Subjective symptoms	Relationships	Objective symptoms	AA-QLI total score
Symptoms and feelings	**r**	0.284	0.243	0.501	0.334
	p	**0.003**	**0.013**	**0.0001**	**0.001**
Daily activities	**r**	0.507	0.601	0.345	0.578
	p	**0.0001**	**0.0001**	**0.0001**	**0.0001**
Leisure time	**r**	0.496	0.632	0.357	0.589
	p	**0.0001**	**0.0001**	**0.0001**	**0.0001**
Personal relationships	**r**	0.443	0.561	0.436	0.548
	p	**0.0001**	**0.0001**	**0.0001**	**0.0001**
Work-school	**r**	0.446	0.536	0.347	0.519
	p	**0.0001**	**0.0001**	**0.0001**	**0.0001**
Treatment	**r**	0.289	0.300	0.263	0.326
	p	**0.003**	**0.002**	**0.007**	**0.001**
DLQI total	**r**	0.580	0.700	0.491	0.687
	p	**0.0001**	**0.0001**	**0.0001**	**0.0001**

DLQI: Dermatology Life Quality Index, AAQLI: Alopecia Areata Quality of Life Index

symptom scores than males. Participants with lower education levels, particularly those with only middle school education, exhibited higher total scores on both the AAQLI and DLQI. Additionally, individuals with more widespread involvement (e.g., scalp, eyebrows, beard, or the entire body) had significantly higher scores. Nail involvement, although not statistically significant in most subdomains, showed a trend toward higher DLQI scores (Table 3).

When examining the anatomical involvement sites, a statistically significant difference was observed between the groups involving only the scalp, the scalp-eyebrows-beard region, and whole-body hair in

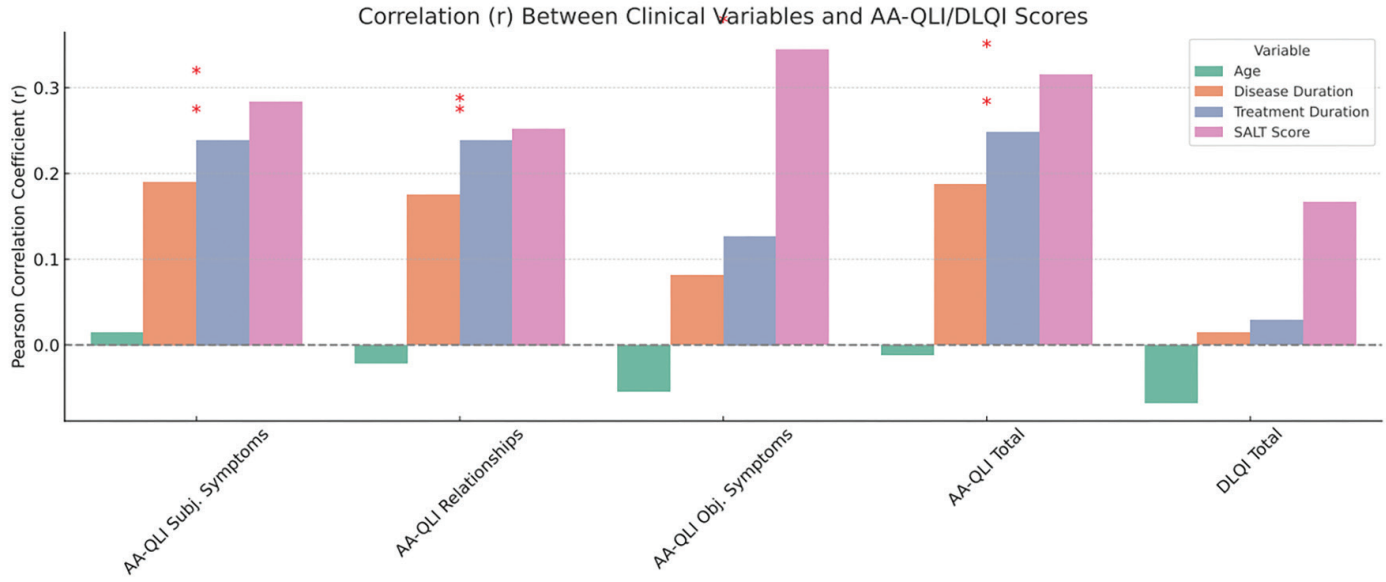


Figure 2. Correlation of age, disease duration, treatment duration, and SALT Score with AA-QLI total and subdomains and DLQI total score

Table 3. Independent t-test and One-Way ANOVA results for AA-QLI total and subdomains and DLQI according to gender, education level, marital status, anatomical localization, and nail involvement

Variables		Subjective symptoms (mean ± SD)	Relationships (mean ± SD)	Objective symptoms (mean ± SD)	AA-QLI total (mean ± SD)	DLQI (mean ± SD)
Gender	**Male**	17±6.47	16.34±6.97	6.54±2.76	39.77±14.76	4.75±6.02
	Female	20.88±6.49	17±7.14	8.06±2.71	45.94±14.08	4±2.74
	p*	**0.005**	0.652	**0.009**	**0.045**	0.493
Education level	**Primary school**	19.25±8.35	16.13±6.88	8.25±3.11	43.63±15.91	3.25±3.62
	Middle school	21.38±8.09	24.50±9.18	9.88±3.36	54.88±20.17	10.5±9.41
	High school	19.45±6.69	17.45±6.60	7.08±2.63	43.98±14.15	4.33±3.68
	University	16.98±6.13	14.61±6.20	6.22±2.61	37.8±13.15	4.12±5.44
	Postgraduate	14.75±4.77	14.50±5.37	6.88±2.23	36.13±10.9	2.63±2.2
	p‡	0.141	**0.004**	**0.009**	**0.019**	**0.012**
Marital status	**Single**	17.47±6.66	15.71±6.64	6.78±2.87	39.85±14.69	4.31±5.46
	Married	19.26±6.68	17.63±7.36	7.35±2.77	44.24±14.64	4.76±4.85
	p*	0.176	0.164	0.309	0.131	0.657
Anatomical location	**Scalp only**	18.1±6.54	15.21±5.99	7.15±2.78	40.46±13.5	3.62±3.18
	Scalp + Brows + Beard	20.95±5.99	20.4±6.98	8.45±2.63	49.6±13.84	6.9±7.03
	Whole body	24.14±7.67	21.71±10.48	7.29±2.98	53.14±19.07	6.43±9.14
	p‡	**0.036**	**0.003**	0.205	**0.012**	**0.036**
Nail involvement	**Absent**	18.11±6.64	16.46±6.93	7±2.82	41.5±14.65	4.36±4.86
	Present	22±8.21	19±9.35	7.75±3.3	48.75±18.28	8.25±11.18
	p*	0.256	0.478	0.605	0.337	0.141

p*: Independent t-test, p‡: One-way ANOVA, SD: Standard Deviation, DLQI: Dermatology Life Quality Index, AAQLI: Alopecia Areata Quality of Life Index, ANOVA: Analysis of variance

terms of AA-QLI subjective symptoms, relationship scores, and total AA-QLI scores (p=0.036, p=0.003, and p=0.012, respectively). Pairwise comparisons based on the involved anatomical sites were evaluated using Tukey's post-hoc multiple comparison test.

Patients with only scalp involvement had significantly lower scores for subjective symptoms, relationships, and total AA-QLI than those with more extensive involvement (i.e., scalp-eyebrows-beard or whole-body hair involvement). Specifically, the difference in scores between the scalp-only and whole-body involvement groups was significant in all domains (p<0.05).

Discussion

Alopecia areata is a non-scarring autoimmune condition that results in hair loss[9]. Although the clinical progression of AA is frequently mild, the severity of the condition does not consistently align with its psychological impact. Currently, the DLQI is the most commonly used scale in clinical practice to assess the QoL of patients with AA. Disease-specific scales offer a better representation of the effects of dermatological disorders. AA-specific QoL scales have been defined: the Alopecia Areata Symptom Impact Scale, AA-QLI, Alopecia Areata Patients' Quality of Life, and Alopecia Areata Patient Priority Outcomes survey[10-13].

In 2013, to assess the QoL in patients with AA more comprehensively, a disease-specific questionnaire, the AA-QLI, was developed in English by Fabbrochini et al.[5] in Italy. The AA-QLI scale evaluates subjective symptoms such as anxiety, unhappiness, and itching caused by the disease[5]. A review of the literature shows that another reliability and validity study of the AA-QLI questionnaire was conducted in Iran by Nasimi et al.[4] in 2020.

The assessment of the scale's convergent validity involved analyzing the correlation between every question, subscale, and total score of the AA-QLI questionnaire with the DLQI, as investigated in the studies by Fabbrochini et al.[5], Nasimi et al.[4], and our own research. A statistically significant positive correlation was established between the scale questions, subcategories, and total scores, in alignment with the findings of the previous two studies regarding the DLQI questionnaire. Fabbrocini et al.[5] discovered that the "relationships" subcategory exerted a more significant impact on the DLQI than subjective symptoms and objective signs. Conversely, in the study conducted by Nasimi et al.[4], subjective symptoms and objective signs had a higher correlation with the total DLQI score than the "relationships" subcategory. Our study revealed a high correlation between the DLQI scores and all subgroups and the total score of the AA-QLI scale.

In our study, the mean scores of the AA-QLI scale for subjective symptoms, objective symptoms, and total scores were significantly higher in women than in men. However, no significant difference was observed in the DLQI scores. Nasimi et al.[4] found that women with AA had psychological disorders more often than men, according to both the DLQI and AA-QLI scales, and that women had higher total DLQI scores. This difference was attributed to the fact that appearance is more important for women[4]. Data related to sex differences in patients is controversial. However, the general observation is that female patients tend to experience more deterioration in their quality of life than male patients.

Willemse et al.[14] showed that the quality of life in patients with AA was negatively affected in those with severe disease, those who had experienced hair loss for a long period, those with recurrent attacks, patients with nail involvement, and those with concomitant autoimmune diseases[15]. Consistent with the literature, our investigation revealed a statistically significant positive correlation between the SALT and scale scores. In individuals with hair loss only on the scalp, the average total AA-QLI and DLQI scores were significantly lower than those of patients with two or more affected areas.

Our investigation revealed no statistically significant impact of age or illness duration on the scale scores. However, a significant correlation was observed between the duration of treatment and the scores for the subjective and relationship questions on the scale, while no statistically significant correlation was observed for objective scores. This finding suggests that prolonged treatment duration leads to an increase in patients' subjective symptoms and deterioration in their relationships with those around them.

The research conducted by Nasimi et al.[4] indicated that patients with lower education levels had elevated scores on both the total DLQI and AA-QLI. In our study, whereas the majority of the patient cohort consisted of individuals with high school or university degrees, akin to the findings of Nasimi et al.[4], the cohort with a lower level of education (middle school graduates) showed statistically significantly higher average scores on the AA-QLI. This evidence demonstrates that, in our society, patients' AA negatively impacts their quality of life, especially among those with lower educational attainment.

Some studies indicated a beneficial impact of marital status on the quality of life of patients with AA, while others have reported no effect[16]. Our investigation revealed no statistically significant differences between marital status and the average subscale scores, total scores of the AA-QLI, and total scores of the DLQI scale. These findings indicate that marital status does not significantly influence the QoL of patients with AA in our community.

Nasimi et al.[4] identified significant differences in the AA-QLI relationship scores and DLQI total scores between patients with nail involvement and those without. Our investigation revealed no statistically significant changes in the AA-QLI subscale scores, total average scores, or DLQI total scores concerning the existence of nail involvement. This may indicate that nail involvement does not affect the QoL of patients with AA in our community. However, our study did not conduct a thorough assessment of nail involvement. Nail findings are typically noted in instances of greater severity, such as alopecia totalis and alopecia universalis (AU); therefore, their impact on quality-of-life ratings may be indirectly observed. Because only one patient with AU was included in our study, no significant variations in quality-of-life scores may have been detected.

The presence of the relationships category in the AA-QLI scale allowed us to identify the social effects on patients with AA. It also indicates that individuals with severe AA experience social discomfort, necessitating alterations in their hairstyles, modifications in their dress choices, and avoidance of social events.

Recently created AA-specific scales show potential, but further assessments and studies are required to determine their validity and reliability[16].

The AA-QLI questionnaire, used for evaluating quality of life in AA, has been translated into Turkish, with reliability and validity studies conducted. This scale is an effective and reliable tool for assessing the quality of life of patients with AA.

Study Limitations

One of the limitations of this study was the relatively small sample size. Additionally, because the study was conducted at a single center, it may not fully reflect regional variations. However, the sensitivity of the scale to changes over time has not yet been fully established. In this study, a test-retest evaluation was conducted over two consecutive days. This approach aimed to ensure that the participants were in conditions as close as possible to the same clinical and emotional state to assess the measurement consistency of the scale. However, the two-day interval was shorter than the standard duration recommended in the literature and may be considered a limitation of the study. Additionally, prospective studies are needed to evaluate the scale's sensitivity in clinical follow-up to determine its ability to reflect pre- and post-treatment changes over time.

Conclusion

This study demonstrated that the Turkish version of the AA-QLI is a valid and reliable instrument for assessing the quality of life in patients with AA. The scale showed strong internal consistency, high test-retest reliability, and a clear three-factor structure, supported by factor analysis. Furthermore, the significant correlation with the DLQI supports its concurrent validity. Despite limitations such as a relatively small sample size and single-center design, the findings indicate that the AA-QLI can be effectively used in both clinical practice and future research to evaluate the disease-related quality of life among Turkish-speaking AA patients.

Ethics

Ethics Committee Approval: The study was approved by the Ethics Committee of University of Health Sciences Türkiye Haydarpaşa Numune Training and Research Hospital with decision no: HNEAH-KAEK 2021/KK/28, date: 29.11.2021.

Informed Consent: Written informed consent was obtained.

Footnotes

Authorship Contributions

Concept: G.A., Design: S.S.E., G.A., Data Collection or Processing: S.S.E., Analysis or Interpretation: S.S.E., G.A., A.Ş.S., Ş.Y., Literature Search: S.S.E., G.A., A.Ş.S., Writing: S.S.E., G.A., A.Ş.S., Ş.Y.

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Supplementary Material 1: https://d2v96fxpocvxx.cloudfront.net/17d041fe-057c-4c8e-a75d-948e33c0152a/content-images/f2b7056a-3b36-4910-acb5-090965fc43b7.pdf

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