Vitiligo in the cosmetic division of the dermatovenereology outpatient clinic at Dr. Soetomo General Academic Hospital Surabaya, Indonesia: A study of the correlation between the Vitiligo Area Scoring Index (VASI), patient self-esteem, and life quality

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Abstract

Background Skin areas that are no longer pigmented due to the loss of melanocytes characterize the inherited skin condition known as vitiligo. Patients with vitiligo may experience a decline in self-esteem and quality of life due to the condition's cosmetic effects. A particular instrument is needed to measure the quality of life in vitiligo patients in Indonesia, as the Dermatology Life Quality Index (DLQI) is a generic questionnaire for assessing the well-being of dermatology patients across the board. This study aimed to examine the relationship between the Vitiligo Area Scoring Index (VASI) and patients' self-esteem and quality of life, as measured by the Rosenberg Self-Esteem Scale (RSES) and the Dermatology Life Quality Index (DLQI).

Methods The VitiQol was initially cross-culturally adapted to the Indonesian language. The Indonesian version of the VitiQol was distributed to 39 vitiligo patients and the dermatology life quality index (DLQI) and Rosenberg Self Esteem Scale (RSES) at Dr. Soetomo General Hospital Surabaya in December 2021- January 2022. This study was conducted by cross-sectional analytic observation. Sociodemographic data and patient characteristics with VASI, DLQI, VitiQol, and self-esteem were analyzed.

Results There is a correlation between VASI with DLQI (p=0.001) and VitiQol (p=0.001), but no correlation between VASI and self-esteem (p= 0.174). There was a significant correlation between marital status and self-esteem (p=0.002), vitiligo type with VASI score (p=0.000), vitiligo type with VitiQol score (p=0.022), vitiligo location with DLQI (p=0.009), and vitiligo location with VitiQol score (p=0.001).

Conclusion There is a significant correlation between the increase in VASI and the effect of vitiligo on the patients as assessed by the DLQI and VitiQol questionnaires, and there is no effect of vitiligo on self-esteem as assessed by the Rosenberg Self Esteem Scale (RSES) questionnaire.

Key words
Vitiligo; VASI; Quality of life; DLQI; VitiQol Indonesia; Self-esteem.

Introduction

Depigmentation occurs in patches on people with vitiligo, an autoimmune skin disorder that causes the death of melanocytes.[1] Studies report a prevalence of vitiligo of less than 0.6%; however, this ranges from 0.5 to 2% worldwide.[2] Hutomo's 2012 retrospective study found that between 2009 and 2011 (three years), 0.35% of new patients at the

Dermatovenereology outpatient clinic at Dr. Soetomo General Hospital had vitiligo, with that number rising to 0.5% in 2014.[3]

The severity of vitiligo is assessed to determine the prognosis and treatment options and as a basis for assessing the efficacy of therapy. The Vitiligo Area Scoring Index (VASI) is a quantitative measurement method developed by Hamzavi and colleagues in Vancouver in 2004. The VASI method is a standardized semi-objective method to measure the extent, severity, and percentage of de/repigmentation of vitiligo patients and is easy to do by clinicians.[4]

While vitiligo seldom causes serious medical sickness, it can create major psychological disturbance in those who have it. Most people with the condition experience feelings of shame, embarrassment, poor self-esteem (SE), and isolation as a result of the condition. People who have high self-esteem view themselves as deserving, capable, independent, hard-working, productive, and successful. According to Khattri *et al*., vitiligo patients generally have lower SE scores than the general population. The Rosenberg Self-Esteem Scale (RSES) is a questionnaire established by Rosenberg in 1965 to assess SE.[5,6] It's clear that the aforementioned causes can have a negative impact on one's quality of life (QOL).[7] One of the goals of vitiligo management is to assess the patient's standard of living and work toward making it better.[8]

Patients with skin conditions in Indonesia can have their quality of life evaluated with the use

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of the Dermatology Life Quality Index (DLQI) survey. Because itching, scale, and discomfort are rarely present in vitiligo patients, a more nuanced quality of life assessment is required for those with vitiligo than is provided by the DLQI. VitiQol is a specific instrument for vitiligo patients, aiming to assess the impact of skin effects in the last 1 month on stigma, limited participation, and patient behavior. VitiQol has been widely developed and has been tested for validity and reliability in several countries.[9] The VitiQol Questionnaire in Indonesian has only been conducted in a limited trial in the city of Yogyakarta.[8] Patients with vitiligo at the Dermatovenereology outpatient clinic of Dr. Soetomo General Hospital Surabaya will participate in an investigation of the relationship between VASI scores and scores on the translated versions of the DLQI and VitiQol questionnaires, which assess the patient's sense of self-esteem and quality of life.

Methods

This study employed a cross-sectional, analytical observational research strategy. This research was carried out on 39 vitiligo patients at the Dermatovenereology outpatient clinic at Dr. Soetomo General Hospital in Surabaya, Indonesia, between December 2021 and January 2022. Quality of life in vitiligo patients was measured using both the DLQI and the VitiQol. There were fifteen questions in VitiQol, and each was graded on a seven-point Likert scale (0-6). Patients whose final scores were higher on a scale from 0 to 90 had a lower quality of life. Patients with vitiligo's self-esteem were measured with the help of the Rosenberg Self-Esteem Scale (RSES) questionnaire. The RSES survey has 10 items, each on a 4-point Likert scale (0-3). Scores might be anywhere from 0 to 30. If the self-esteem score is between 15 and 25 mean average, and if it's below 15 mean low self-esteem. VitiQol questionnaire was

translated into Indonesian version by Airlangga University Language Centre. Finally, the dermatologist and a psychiatrist confirmed the Indonesian questionnaire.

Patients who meet the inclusion requirements will be the subject of the study. Inclusion criteria were new and old vitiligo patients who had been clinically diagnosed with vitiligo, aged more than 17 years, and were willing to be a research subject by signing a research approval letter after being explained (informed consent).

Determination of the severity of vitiligo disease by assessing the Vitiligo Area Scoring Index (VASI) score was conducted on the patient. Vitiligo patches on the head and neck region, hands, upper extremities, trunk, lower extremities, and feet were counted to assess the VASI area, then interviews were conducted to determine self-esteem based on the RSES questionnaire and the patient's quality of life based on the DLQI and Indonesian VitiQol.

Statistical Package for the Social Sciences (SPSS) for Windows, version 23, was used to enter and analyze the study's data. Descriptive statistics were used to compile an overview of the sample's demographics and other features. Frequencies and percentages were used to illustrate the categorical information. Both Kruskal-Wallis and Mann-Whitney U To compare two skewed variables, U tests were performed. To compare two continuous variables, both the Pearson and Spearman correlations were utilized. The significance level used for evaluating data was P<0.05 for all variables. Ethics approval for this study was granted by the Clinical Research Unit of Dr. Soetomo General Academic Teaching Hospital Surabaya (0211/KEPK/VI/2021).

Results

There were 39 subjects, with the majority of subjects having mild VASI scores of 37 respondents (94.9%). Based on the DLQI questionnaire, it was found that 23 respondents (59%) of patients experienced little impact on the quality of life related to vitiligo. A total of 26 respondents (66.7%) with a range of VitiQol scores between 0-30. A total of 36 respondents (92.3%) with standard self-esteem.

In the group of patients with mild vitiligo, only 6 patients (16.2%) felt that their disease did not affect their lives, while the other 31 patients (83.8%) felt that their disease affected their lives. A total of 23 patients (62.2%) felt that they had a small effect, 4 patients (10.8%) thought that they had a moderate effect, and 4 patients (10.8%) thought that they had a very large effect. In the group of moderate vitiligo patients, only 1 vitiligo patient (20%) felt that their disease had a moderate effect on life. In the group of patients with severe vitiligo, only 1 patient with vitiligo (20%) felt that their illness had a very large effect on their lives. A significant correlation exists between patients' quality of life with mild, moderate, and severe vitiligo with p value = 0.001.

In 37 patients with mild vitiligo, a minimum value of vitiQol 4 was obtained, with a maximum value of 77. One patient with moderate vitiligo had a vitiQol score of 43, and 1 patient with severe vitiligo had a vitiQol score of 48. The mean value obtained for mild vitiligo was 25.81, moderate vitiligo with a mean of 43, and severe vitiligo with a mean value of 48. The analysis showed a significant correlation between the severity of vitiligo and quality of life as assessed by the VitiQol questionnaire, with p=0.001. No vitiligo patients with mild, moderate, or severe degrees had high self-esteem. Thirty-five patients (89.7%) with mild vitiligo had standard self-esteem, while 2 patients with mild vitiligo (5.1%) had low self-esteem. One patient with moderate vitiligo

Table 1 Demographic data of research subjects.

	Subjects (n=39)	*Percentage (%)*
Gender		
Male	17	43.6%
Female	22	56.4%
Age		
17-25	9	23.1%
26-35	8	20.5%
36-45	5	12.8%
46-55	11	28.2%
56-65	4	10.3%
>65	2	5.1%
Education		
Elementary school	2	5.1%
Junior high school	2	5.1%
Senior high school	14	35.9%
Diploma	1	2.6%
Bachelor	20	51.3%
Employment status		
Not working	5	12.8%
Housewife	7	17.9%
College student	6	15.4%
Private employee	14	35.9%
Civil servant	7	17.9%
Marital status		
Not married	13	33.3%
Married	25	64.1%
Divorce	1	2.6%

(2.6%) had low self-esteem, and 1 patient with severe vitiligo (2.6%) had standard self-esteem. The analysis showed no statistically significant relationship between the severity of vitiligo and self-esteem, with a p value of 0.174.

There were 39 subjects, with the majority of subjects being women, with approximately 22 respondents (56.4%). The age range of subjects was 19-66 years old, with a mean of 40.41±15.11 years old. The education level varies with the majority of bachelor's degrees as many as 20 respondents (51.3%). Most patients work as private employees, with as many as 14 respondents (35.9%). There were 25 subjects (64.1%) who were married.

The demographic data of the research subjects are contained in **Table 1**.

Table 2 Characteristics of research subjects.

Category	*N (%)*
Age at onset (years)	
< 10	3 (7.7%)
10-20	10 (25.6%)
21-30	9 (23.1%)
31-40	3 (7.7%)
41-50	8 (20.5%)
> 50	6 (15.4%)
Duration of vitiligo (years)	
< 5	18 (46.2%)
5-10	7 (17.9%)
>10	14 (35.9%)
Duration of treatment (years)	
First time	7 (17.9%)
<1	25 (64.1%)
>1	7 (17.9%)
Vitiligo location	
Visible	13 (33.3%)
Invisible	6 (15.4%)
Visible and invisible	20 (51.3%)
Lesion	
Active	16 (41%)
Stable	23 (59%)
Repigmentation	
Yes	22 (56,4%)
No	17 (43,6%)
History of vitiligo in family	
Yes	8 (20.5%)
No	**31 (79.5%)**
Other disease	
Yes	7 (17.9%)
No	**32 (82.1%)**
Type of vitiligo	
Segmental	3 (7.7%)
Focal	11 (28.2%)
Acrofacial	4 (10.3%)
Vulgaris	9 (23.1%)
Mixed	11 (28.2%)
Universal	**1 (2.6%)**
Treatment	
No treatment	7 (17.9%)
Topical	11 (28.2%)
Topical dan phototherapy	**21 (53.8%)**

Table 2 shows the characteristics of the research subjects. Three (7.7%) study subjects experienced the disease onset at the age of <10 years, 10 (25.6%) study subjects at the aged of 10-20 years, 9 (23.1%) study subjects at the aged of 21-30 years old, 3 (7.7%) study subjects at the aged of 31-40 years, 8 (20.5%) study subjects with onset of illness in the aged of

41-50 years, and 6 (35.9%) study subjects experienced disease onset at the age of >50 years.

The duration of vitiligo <5 years was experienced by 18 (46.2%) research subjects, the duration of illness >10 years in 14 (35.9%) study subjects, and the duration of disease 5-10 years experienced by 7 (17.9%) research subjects. A total of 25 (64.1%) subjects had received treatment for <1 year, 7 (17.9%) subjects had never received treatment, and 7 (17.9%) subjects had received treatment for >1 year.

Vitiligo is distinguished based on the location of the lesion in visible areas (head, face, neck, hands, and feet), invisible (back, chest, genitals, thighs), and visible and invisible, which are a combination of the two. The location of vitiligo in visible and invisible areas of the body was the most common in 20 (51.3%) subjects, the location of vitiligo lesions on visible areas of the body was found in 13 (33.3%) study subjects, and the location of lesions in invisible body areas was found in 6 (15.4%) study subjects. Twenty-three (59%) subjects had stable lesions, while 16 (41%) subjects still had active lesions. Repigmentation of vitiligo lesions was found in 22 (56.4%) subjects, while 17 (43.6%) subjects had not experienced repigmentation of vitiligo lesions. A total of 31 (79.5%) subjects did not have a family history of vitiligo, and 8 (20.5%) subjects had a family history of vitiligo.

The most common type of vitiligo in this study was focal in 11 (28.2%) subjects and mixed in 11 (28.2%) subjects, followed by vitiligo vulgaris in 9 (23.1) subjects, acrofacial in 4 (10.3%) subjects, segmental in 3 (7.7%) subjects, and 1 (2.6%) subjects had universal vitiligo. Twenty-one (53.8%) subjects had received topical therapy and phototherapy, 11 (28.2%) subjects had only received topical therapy, and 7 (17.9%) did not or had not received therapy.

Table 3 VASI and its correlation with demographic and characteristics of patients with vitiligo.

	Subjects (n=39)	p value
Gender		
Male	17	0.443
Female	22	
Age		
17-25	9	
26-35	8	
36-45	5	0.943
46-55	11	
56-65	4	
>65	2	
Education		
Elementary school	2	
Junior high school	2	
Senior high school	14	0.185
Diploma	1	
Bachelor	20	
Employeement status		
Not working	5	
Housewife	7	
College student	6	0.594
Private employee	14	
Civil servant	7	
Marital status		
Not married	13	
Married	25	0.881
Divorce	1	
Type of vitiligo		
Segmental	3	
Focal	11	
Acrofacial	4	0.000
Vulgaris	9	
Mixed	11	
Universal	1	

*Spearman correlation test, significant if the p value <0.05.

The correlation between VASI and patient-reported outcomes is displayed in **Table 3**. The VASI was found to have a statistically significant (p=0.05) correlation with the different types of vitiligo (universal > vulgaris >acrofacial >mixed >segmental > vitiligo focal). There was no statistically significant correlation between VASI and demographic variables such as gender, age, education, marital status, or occupation (p>0.05). The correlation between DLQI and patient-reported outcomes is displayed in **Table 4**. The DLQI was found to have a statistically significant correlation with

Table 4 DLQI and its correlation with demographic and characteristics of patients with vitiligo.

	Subjects (n=39)	p
Gender		
Male	17	0.985
Female	22	
Age		
17-25	9	
26-35	8	
36-45	5	0.797
46-55	11	
56-65	4	
>65	2	
Education		
Elementary school	2	
Junior high school	2	
Senior high school	14	0.368
Diploma	1	
Bachelor	20	
Employment status		
Not working	5	
Housewife	7	
College student	6	0.773
Private employee	14	
Civil servant	7	
Marital status		
Not married	13	
Married	25	0.396
Divorce	1	
Type of vitiligo		
Segmental	3	
Focal	11	
Acrofacial	4	0.528
Vulgaris	9	
Mixed	11	
Universal	1	
Vitiligo location		
Visible	13	
Invisible	6	0.009
Visible and invisible	20	

*Spearman correlation test, significant if the p value <0.05

the site of vitiligo (p=0.05). No significant correlation was found between VASI and sex, age, level of education, employment, marital status, or vitiligo subtype (p>0.05).

The correlation between VitiQol and patient clinical data is displayed in **Table 5.** VitiQol was found to have a significant (p=0.05) correlation with both the vitiligo subtype and

vitiligo location. There was no statistically significant correlation between VASI and demographic variables such as gender, age, education, marital status, or occupation (p>0.05).

In **Table 6**, we see how RSES correlates with various patient-reported outcomes. Significant relationships between RSES and married status (0.002) were found (*p*<0.05). No statistically significant correlation was found between VASI and sex, age, level of education, employment, vitiligo subtype, or vitiligo location.

Discussion

One of the most important skin disorders that typically does not lead to significant physical damage is vitiligo. Disfigurement is just one of the ways that this disease affects a person's emotional and physical well-being, and it has been linked to a variety of health problems (QoL).[10] Larger vitiligo areas (body surface area [BSA]>10%) were related to lower quality of life (p=0.001), according to research by Radtke and colleagues. A prospective research of 78 Belgian adolescents or adults with vitiligo indicated that DLQI was connected with the degree of vitiligo severity, supporting the findings of a study by Silverberg that found a strong relationship between the proportion of afflicted BSA and DLQI scores.[11] Although Kent and Al-Abadie discovered a poor association between BSA and DLQI, Wong *et al*. identified a favorable one. Since body mass index (BSA) is used as an indicator in determining VASI, the aforementioned study is very similar to this one, which also discovered a statistically significant correlation between VASI and DLQI (p=0.001). Patients with more severe vitiligo will have higher DLQI scores. Mishra *et al.* study's was the lone exception; they did not identify a connection between BSA and DLQI scores. This difference can be caused by different characteristics and epidemiology,

Table 5 VitiQol and its correlation with demographic and characteristics of patients with vitiligo.

		Subjects (n=39)	Mean	Median	Standard deviation	p value
Gender	Male	17	28.29	26	20.37	0.671
	Female	22	25.68	21	17.98	
Age	17-25	9	22.33	18	13.89	
	26-35	8	42.13	34.50	21.35	
	36-45	5	32.60	46	24.14	0.321
	46-55	11	19.91	19	12.39	
	56-65	4	10.50	8.50	5.91	
	>65	2	42	42	22.62	
Education	Elementary school	2	20	20	7.07	
	Junior high school	2	4	4	0.00	
	Senior high school	14	30.29	30	19.85	0.324
	Diploma	1	7	7	-	
	Bachelor	20	28.35	24	18.60	
Employment status	Not working	5	20.20	7	22.91	
	Housewife	7	23	19	13.85	
	College student	6	20.67	20.50	6.05	0.412
	Private employee	14	35.21	35	21.84	
	Civil servant	7	23.86	19	19.41	
Married Status	Not married	13	26.72	24	18.69	
	Married	25	28.46	25	19.83	0.490
	Divorce	1	8	8	-	
Type of vitiligo	Segmental	3	15	12	11.79	
	Focal	11	19.51	17	18.80	
	Acrofacial	4	13.50	11	9.25	0.022
	Vulgaris	9	40.89	42	16.50	
	Mixed	11	28.36	24	18.26	
	Universal	1	48	48	-	
Vitiligo location	Visible	13	17.69	18	10.22	
	Invisible	6	15.17	16	9.06	0.001
	Visible and invisible	20	36.25	39.50	20.71	

*Spearman correlation test, significant if the p value <0.05

such as age, marital status, occupation, skin color, and location of vitiligo lesions.[12]

A study by Hedayat *et al*., Hammam *et al*., and Patverkar *et al*. all show a positive relationship between illness severity (as measured by VASI) and quality of life.[13] This may be because the disease is spreading to more areas of the body, especially more exposed areas, reflecting its severity and having a more negative effect on the quality of life. As an added psychological complication, vitiligo conditions can make it difficult for patients to select appropriate clothing to hide their skin discoloration. Vitiligo severity (as measured by the VASI) was shown to have a statistically significant (p=0.001)

correlation with VitiQol-measured quality of life (as measured by the VitiQol questionnaire) in this study. This conclusion agrees with previous studies by Abdullahi and colleagues (p = 0.036, r=0.517) and Hedayat and colleagues (p = 0.015, r=0.187) on the correlation between the VASI and VitiQol scores.

One definition of self-esteem is a person's general attitude toward themselves. Persons with high self-esteem recognize their own strengths and use them to their advantage in all aspects of life. A person's optimistic feelings and peaceful behavior derive from the underlying cognitive positivity that comes from holding optimistic thoughts about the event. Patients with vitiligo

Table 6 RSES and its correlation with demographic and characteristics of patients with vitiligo.

	Subjects (n=39)	p value
Gender		
Male	17	1
Female	22	
Age		
17-25	9	0.790
26-35	8	
36-45	5	
46-55	11	
56-65	4	
>65	2	
Education		
Elementary school	2	0.543
Junior high school	2	
Senior high school	14	
Diploma	1	
Bachelor	20	
Employment status		
Not working	5	0.128
Housewife	7	
College student	6	
Private employee	14	
Civil servant	7	
Marital status		
Not married	13	0.002
Married	25	
Divorce	1	
Type of vitiligo		
Segmental	3	0.972
Focal	11	
Acrofacial	4	
Vulgaris	9	
Mixed	11	
Universal	1	
Vitiligo location		
Visible	13	1
Invisible	6	
Visible and invisible	20	

*Spearman correlation test, significant if the p value <0.05

may experience a decrease in self-esteem due to negative attitudes and perceptions, including feelings of worthlessness, inadequacy, or unlovedness for their appearance. Numerous studies have found that attractive people enjoy a higher level of social acceptance, superior social skills, and less frequent negative judgment from their peers. Relationship maintenance is more challenging for those with vitiligo who are less physically attractive. As a result, they engage in

destructive habits of conduct and experience unpleasant emotions.[14] It showed that 35 patients with mild VASI had standard self-esteem, 2 patients with mild VASI, and 1 with moderate VASI had low self-esteem. There were no patients with high self-esteem, so it may be necessary to consult a psychiatrist so that patients do not experience a decrease in self-esteem. In addition, the results showed that there was no relationship between VASI and self-esteem. The result of this study is in contrast to the results of research by Mohammed and colleagues and Kara and colleagues. More than half of those with vitiligo surveyed reported low levels of self-esteem and overall satisfaction with life. It may be due to differences in patient characteristics in the study, such as childhood experiences, parenting patterns, family environment, and genetic influences.

There are two types of vitiligo lesions, localized (focal, segmental, and mucosal vitiligo) and generalized (vitiligo over a large area) (acrofacial, vulgaris, universal, mixed). Segmental vitiligo, undetermined/unclassified vitiligo (focal, mucosal (1 isolated area)), and nonsegmental vitiligo (acrofacial, mucosal (more than one mucosal area), vulgaris, universal, mixed, rare variant) are the other classifications based on the Bordeaux Vitiligo Global Issues Consensus Conference (VGICC). This study's most common types of vitiligo were focal vitiligo in 11 subjects (28.2%) and mixed vitiligo in 11 subjects (28.2%). Focal vitiligo was reported to be the most common kind of vitiligo in this study, echoing previous findings by Fahaad and colleagues, Fatani comrades, and Alzolibani.[15] Even so, vitiligo vulgaris was reported to be the most frequent form of vitiligo in several additional investigations.[13] VASI is a measure of the severity of vitiligo that measures the extent and percentage of de/repigmentation based on 1 hand unit, so the wider the affected area, the greater the VASI value. This study

showed a relationship between the type of vitiligo and the VASI score with p = 0.000. Universal type vitiligo had a mean VASI of 89.9, vitiligo vulgaris with a mean of 11.9, acrofacial vitiligo with a mean of 4.7, mixed vitiligo with a mean of 4, segmental vitiligo with a mean of 0.3 and focal vitiligo with a mean of 0.3 (universal > vulgaris> acrofacial> mixed> segmental> focal).

Visible vitiligo lesions on the face, hands, and feet can be disconcerting and even trigger negative emotions like shame and frustration. Visible vitiligo lesions might reduce an applicant's employability and restrict their professional alternatives during the interview process.[10] The results of this study showed that the mean DLQI in vitiligo patients with visible and invisible lesion locations was higher than that of non-visible lesions (6.40 vs. 3.17). This is in accordance with the study of Kota and colleagues, who also obtained the same results (mean of 7.53 for open lesions and 5.71).[16] This study's data showed a relationship between vitiligo lesions (visible and invisible) and the DLQI score (p=0.009). This is in line with the findings of Silverberg and Silverberg, who discovered that vitiligo lesions located in the genital area and the chest were significantly associated with sexual dysfunction, while lesions located on exposed body parts, like the face and the extremities, were significantly associated with self-awareness of vitiligo. The total DLQI score increases dramatically when lesions occur anywhere on the body.[10] This is different from the research of Mashayekhi and colleagues and Kiprono and colleagues. They stated that there was no relationship between the DLQI score and the location of the visible lesions.

The analysis of the type of vitiligo and the VitiQol score found a significant relationship (p = 0.022). Patients with universal vitiligo had a mean VitiQol score of 48, vitiligo vulgaris with a mean of 40.8, mixed vitiligo with a mean of 28.3, focal vitiligo with a mean of 19.9, segmental vitiligo with a mean of 15, and acrofacial vitiligo with a mean of 13.5. The wider the area of the body affected, the worse the patient's quality of life (universal<vulgaris<mixed<focal<segmental< acrofacial). The result is the same as Hedayat's research, which found a relationship between the type of vitiligo and the VitiQol score (p= 0.001). The study concluded that poorer quality of life was found in vitiligo patients with more extensive disease (vulgaris<focal<segmental).[13]

People with lesions on more prominent portions of their bodies were stigmatized more than those with lesions on less visible parts of their bodies. As a result, unfavorable remarks tend to be made about them. The mean value of VitiQol in vitiligo patients with the location of the visible lesion was higher than that of the invisible lesion (17.69 vs. 15.17). This study's data showed a significant relationship between the location of vitiligo (visible and invisible) and the VitiQol score (p=0.001). The results of this study follow the research of Abdullahi and colleagues, Anaba and colleagues, Radtke and colleagues, Wong and colleagues, and Amer and colleagues. They stated the relationship between vitiligo lesions and VitiQol scores.[7] In contrast to the results of research by Hedayat and colleagues, Parsad and colleagues, Dolatshasi and colleagues, Chen and colleagues, Ongenae and colleagues, and Sampogna which stated that there was no relationship between the location of vitiligo with the VitiQol score. The difference in the results of this study may be due to the use of camouflage in visible areas or to visible vitiligo lesions such as the neck, hands, and feet covered by the use of hijab in female patients.

Social relationships are essential for self-esteem based on an interpersonal perspective. Self-

esteem acts as a barometer for one's level of social inclusion, as stable and positive relationships are seen as crucial to satisfying the underlying human need for belonging. Having a spouse or partner is correlated with higher levels of self-esteem, according to empirical studies. Multiple studies of young adults throughout time have found that committed romantic partnerships boost confidence.[17] The data from this study showed that of the 25 married vitiligo patients, 24 had standard self-esteem, and only 1 vitiligo patient had low self-esteem. In contrast, 1 vitiligo patient with divorced status had low self-esteem (p=0.002). Numerous cross-sectional research are summarized in a single study, and the results reveal that married people do, in fact, have higher self-esteem than never-married persons (including divorced and widowed).[17] According to Ramakrishna and Rajni's study, singles with vitiligo have poorer self-esteem than married persons do (p=0.054).[18]

This study's participants were limited to only those who presented to a Dermatology clinic, which may not be a statistically valid representation of the general population of people with vitiligo.

Conclusion

Vitiligo is the most common form of skin depigmentation, and it has a profound effect on patients' quality of life. Impairment in vitiligo patients' quality of life is highly related to disease severity, vitiligo type, vitiligo location, and marital status. Patients with vitiligo can have their quality of life evaluated using a VitiQol, and their sense of self-esteem should be taken into account using RSES, ensuring that all psychological elements of the disease are properly addressed.

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