Quality of life of people living with vitiligo using a vitiligo specific scale (vitiqol) in a tertiary centre in South-South Nigeria

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Abstract

Background: Vitiligo is an acquired multifactorial pigmentary disorder of the skin affecting all ages. Emphasis needs to shift from assessing only the physical limitation of skin diseases to subtle psychological issues arising from the impact of the disease on patients. Despite the impressive track record of Dermatology Quality of Life Index (DLQI), there may be limitations in its assessment of the quality of life of persons with non-inflammatory skin diseases such as vitiligo. The objective of this study was to assess the quality of life of patients with vitiligo in Benin City, Edo State, Nigeria, using a vitiligo specific quality of life scale (VitiQol).

Methods: This is a cross sectional analytical study among adult vitiligo patients who attended dermatology clinic, patients were recruited consecutively. Data was obtained using a four section interviewer administered questionnaire which included the VitiQol. Data was analysed using univariate analysis, chi-square, Fisher's exact, t-test, ANOVA and pearson's correlation coefficient.

Results: A total of 40 patients with vitiligo were recruited.The mean age for the study group was 37.2513.31 (p = 0.69); male 24(60%) and females 16(40%). The mean score for VitiQol was 24.70$\pm$21.47

Conclusion: The quality of life of most vitiligo patients was impaired. The VitiQol is a valid scale for estimating QOL of vitiligo patients and is highly recommended as part of treatment protocol at first contact and subsequently during the course of management.

Qualité de vie des personnes atteintes de vitiligo à l'aide d'une échelle spécifique au vitiligo (vitiqol) dans un centre tertiaire du sud-sud du Nigéria

Abstrait

Objectif : Le vitiligo est une maladie pigmentaire multifactorielle acquise de la peau, touchant tous les âges. Il est nécessaire de ne plus se concentrer uniquement sur l'évaluation des limitations physiques des maladies cutanées, mais sur les troubles psychologiques subtils liés à l'impact de la maladie sur les patients. Malgré les résultats impressionnants de l'Indice de Qualité de Vie en Dermatologie (DLQI), son évaluation de la qualité de vie des personnes atteintes de maladies cutanées non inflammatoires comme le vitiligo peut présenter des limites. L'objectif de cette étude était d'évaluer la qualité de vie des patients atteints de vitiligo à Benin City, dans l'État d'Edo, au Nigéria, à l'aide d'une échelle de qualité de vie spécifique au vitiligo (VitiQol).

Méthodologie : Il s'agit d'une étude analytique transversale menée auprès de patients adultes atteints de vitiligo et consultés en dermatologie. Les patients ont été recrutés consécutivement. Les données ont été recueillies à l'aide d'un questionnaire en quatre sections, administré par un intervieweur, incluant le VitiQol. Les données ont été analysées par analyse univariée, khi-carré, test exact de Fisher, test t, ANOVA et coefficient de corrélation de Pearson.

Résultats : Au total, 40 patients atteints de vitiligo ont été recrutés. L'âge moyen du groupe d'étude était de 37,25 ans ± 13,31 ans (p = 0,69) ; les hommes étaient de 24 ans (60 %) et les femmes de 16 ans (40 %). Le score moyen au score VitiQol était de 24,70 $\pm$ 21,47.

Conclusion : La qualité de vie de la plupart des patients atteints de vitiligo était altérée. L'échelle VitiQol est une échelle valide pour évaluer la qualité de vie des patients atteints de vitiligo et est fortement recommandée dans le cadre du protocole de traitement, dès le premier contact, puis tout au long de la prise en charge.

Mots clés : Vitiligo, Qualité de vie, VitiQol.

INTRODUCTION

Vitiligo is an acquired cutaneous disorder of great significance with a worldwide prevalence of 0.5% - 0.8% (1). It is strikingly disfiguring in the darker racial ethnic groups with the resulting contrast, largely responsible for the stigmatization and psychological impact of this disorder (2-8). Although several theories have been proposed as to its cause (9-11), vitiligo is a condition associated with other autoimmune diseases of great clinical significance such as type 1 diabetes, alopecia, pernicious anemia and autoimmune thyroiditis (12-17). For a long time, the assessment of patients for medical therapeutic intervention was based mainly on the "somatic" target criteria, recently, there has been a paradigm shift, as the impact of skin disease on a patient's quality of life is of more importance than the somatic discomfort of a rash (18-22). The symptoms of the skin may be controlled with emollients and topical steroids but this may not eliminate the damage done to the self-esteem, this is particularly true in developing countries like Nigeria, where the low literacy level and strong religious inclinations contribute to the association of the skin disorder with derogation, rejection and stigmatization (23).

Attempts are now been made to record subjective factors related to patient's experiences and interpretation of disease in a standardized and reproducible manner, in order to apply them in assessing the course of the disease and therapeutic effects. In the same vein, disease specific scales are preferred to their general health related counterparts as they are tailored to the disease in question to identify peculiar challenges associated with the disease (3). This study sought to highlight the need for multidisciplinary management approach that may ultimately lead to improved outcome. Also, the information from this study will provide evidence that can be used to generate advocacies/policies in the best interest of persons with vitilgo.

MATERIALS AND METHODS

This study was conducted on 40 patients with vitiligo who attended the Dermatology clinic, University of Benin Teaching Hospital, Benin City, Edo State, Nigeria. Between May 2018 and June 2019. A Four (4) section questionnaire including; Section 1 for socio-demographics, Section 2 for history of dermatological problem and co- morbid associations, Section 3 for physical examination which included location of lesions and clinical type and morphology and Section 4 for the Vitiligo specific Quality of life (VitiQol) questionnaire was developed and interviewer administered (24). The VitiQol is an instrument with 16 questions each graded 0-6, 0-not at all to 6-very much. The highest score is 96 and the lowest is 0. The higher the score the more impaired the quality of life. The 16 questions were divided further into 3 domains: participation limitation, stigma, and behavior. Questions in the participation limitation domain included those asking about the patient's ability to perform daily activities, social and leisure activities. The stigma domain included questions about embarrassment and worrying about what others are thinking about the patient, while the behavior domain included questions on grooming practices and how vitiligo affected the choice of clothing worn by the patient. This tool was adapted by Lilly et al "Development and validation of Vitiligo specific quality of life instrument" (24). It has been standardized for use in USA, Iran and Mexico (25-27).

Data analysis

The questionnaires were screened for completeness, coded and entered into IBM SPSS VERSION 21.0 software and analysed. Univariate analysis was carried out on categorical data and presented as frequencies and percentages. Numerical data that was normal in distribution was expressed as mean and ±standard deviation and those skewed were expressed as median and range. The association between vitiligo and QOL score was assessed via the mean difference using the independent sample t-test. The association between other variables e.g sex, age, e.t.c and Qol scores were assessed via the mean difference using the independent t –test (if two categories) or the F-test (ANOVA) of >2 categories. The relationship between VASI and VitiQol scales was assessed using the Spearman's correlation coefficient.

Ethical Consideration

Ethical clearance was obtained from the University of Benin Teaching Hospital ethical committee. Written informed consent was obtained from each of the respondents before conducting interviews. In order to ensure confidentiality, serial numbers rather than names were used to identify respondents and interviews were conducted at the convenience of the respondent in or around the consulting room to allow the patient speak freely.

RESULTS:

A total of forty (40) subjects were recruited for this study. They included adults with vitiligo presenting to the dermatology clinic at the

University of Benin Teaching Hospital. They consisted of 24 males and 16 females while the control group had 40 subjects (20 males, 20 females) with a male to female ratio of 1.5:1 and 1.1:1 (table 1)

Vitiligo was most common among the 31-40 years age group (14; 35.0%) with the mean age of affected persons been 38.43 ±12.94yrs. Married subjects were (23;57.5%) while (31;77.5%) were employed with traders and artisans being the majority. Most of the study group (30;75%) had tertiary level of education while only one (1;2.5%) person had no formal education. Majority of subjects earned <50,000 naira per month (19;47.5%) followed by (11;27.5%) who earned between 50,001- 100,000 naira per month while (4,10%) earned > 200,000. (table 1)

The mean score of the of the Vitiqol instrument was 24.70±21.47, with the stigma domain having the highest mean scores and the behavior domain the least scores (tables 2 and 3)

The highest VitiQol mean score was seen among respondents in the Vitiligo group within 51-60 years age group 37.50 ± 35.83 while the least was among the 61-70 age group, p= 0.21

Patients with vitiligo who were employed had a higher VitiQol mean score 25.23± 23.73 while the unemployed had 22.78 ± 11.44, p= 0.76.

Also, the results show that higher mean VitiQol score 25.23 ± 23.73 was noted among patients with vitiligo who were single compared to their married counterparts 22.78±11.44. This was however not statistically significant p=0.76.

Respondents with vitiligo having primary level of education had the highest VitiQol mean score of 53.50 ± 9.19 while the least mean was seen among patients with tertiary level of education 20.17 ± 17.052 p = 0.07

Subjects in the middle-income class had the highest mean VitiQol score of (31.67 ± 25.07). This was not statistically significant p=0.15.

Patients with lesions lasting >10 years had the highest mean VitiQol score 31.25±28.06, while those with vitiligo for <1year had the least mean score but p = 0.88

The highest mean VitiQol score was noted in patients on treatment for vitiligo for <1 year (37.00±14.05), while those on treatment for 6-10 years had the least mean value. p =0.26.

Higher mean was recorded among patients with lesions on exposed areas of the body 24.89± 21.04 but this was not statistically significant. See table 4 below.

In addition, involvement of the face in patients with Vitiligo was associated with significantly higher VitiQol scores (36.07±22.40), the p value was 0.012 (table 5), however, the specific type/ variant of vitiligo had no significant impact on the quality of life of participants.

Finally, there was no correlation between VASI scores and quality of life of the study group using the VitiQol (r= -0.077), this was not statistically significant (p= 0.635). (Table 7, figure 1)

DISCUSSION

Vitiligo remains a skin condition of great significance as it affects all ages especially during the second and third decades of life as also seen in this study (4, 25-29). This age group accounts for the majority of the nation's workforce and been financially empowered can explain why they seek specialist help (4). The mean VitiQol score in this study was 24.68+21.48 which was lower than scores by Hedayat 30.4 and Morales Sanchez 32.1, however, this study shared similar ranges of 0-92 with these studies (25,26). The reason for this low score could be attributed to the presence of more men than women in the vitiligo study group (1.5:1). Although this finding was not statistically significant, men have been said to be less aesthetically inclined as against their female folks (4,5, 29).

On further analysis of the VitiQol scale, the impacted domain that contributed to the total score of VitiQoL was the stigma domain. As in other studies, frustration about the skin condition (question 2) had the largest input in the stigma domain. This is quite important, as it has already been documented that self-esteem of patients is strongly affected in vitiligo and stigmatization is well associated with the disease (24-26,29,31).

There was no statistically significant association between gender and QOL in this study, Hedayat (Iran) and Boza (Brazil) on the other hand, documented significant impairment of QOL in women (25,31). It is a well recognized fact that the female gender show more concern as regards their aesthethics then their male counterparts, however the finding in this study may be attributed not only to the higher ratio of males in this study but also that more participants were married and had tertiary level of education. Several studies show that been single increased the sense of insecurity felt by patients (32).

There was also no statistically significant difference in the VitiQol mean scores between the single and married patients, although, single patients had higher VitiQol scores than the married. This concurs with findings by Olasode from Nigeria where family and sexual relationships were well preserved in patients with

vitiligo (23), Morales Sanchez (Mexico) also found equal impact on both single and married while Boza (Brazil) noted that the married were significantly more affected then the single (26,31). These differences may be attributed to the varying socio- cultural practices in various parts of the world.

As in other studies, there was no statistically significant difference in the mean VitiQol scores between the age groups, employment status, different levels of education, various socioeconomic status categories and duration of disease and treatment. Although Sanchez et al documented no correlation between time of onset of vitiligo and VitiQol scores, there are varying results for other studies (24-27, 29, 31).

There was no significant relationship between the quality of life using the VitiQol scale and the several clinical types of vitiligo using the VitiQol in this study. This concurs with documentation by Hedayat et al and Dolatshahi et al nevertheless, this scale confirms that lesions on exposed areas of the body especially the face and extremities had a profound impact on the QOL of affected persons (25-29). This agrees with previous studies that used the VitiQol instrument (25,33)

LIMITATIONS

- This study was done in a tertiary (referral) health institution, therefore the sample may not be representative of the spectrums of vitiligo patients in the society.
- Information was obtained from self-reporting by participants, so verification of their claims was not possible.
- Some persons declined participation since it was voluntary. Efforts to resolve this included assurance to participants that the information they gave would be treated as confidential.
- Patients in this study had a one-time assessment of their quality of life, periodic assessment of QOL during the course of treatment would be beneficial.

RECOMMENDATIONS

1) The use of Vitiligo specific quality of life indices is highly recommended as part of the first contact evaluation protocol for vitiligo patients in the clinic. This may help for early identification of patients with impaired quality of life especially in patients with small body surface area involvement.
2) Vitiligo specific quality of life scales (VitiQol) can also be suggested a tool for measuring effectiveness of mode of treatment.

Conflicts of interest: None declared.

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Table 1: Socio -demographics Characteristics of people living with Vitiligo in Ubth

Variables	Vitiligo n=40(%)
Sex	
Male	24(60.0)
Female	16(40.0)
Age (years)	
16-25	6(15.0)
26-35	9(22.5)
36-45	13(32.5)
46-55	7(17.5)
56-65	5(12.5)
Employment Status	
Employed	31(77.5)
Unemployed	9(22.5)
Marital Status	
Single	17(42.5)
Married	23(57.5)
Tribe	
Bini	16(40.0)
Delta	7(17.5)
Edo	3(7.5)
Esan	2(5.0)
Estako	1(2.5)
Hausa	1(2.5)
Ibo	7(17.5)
Yoruba	3(7.5)
Educational Status	
None	1(2.5)
Primary	2(5.0)
Secondary	7(17.5)
Tertiary	30(75.0)
Monthly Income	
≤50,000	31(77.5)
50,001 -100,000	7(17.5)
100,001 -150,000	1(2.5)
150,001 -200,000	0(0.0)
>200,000	1(2.5)

Mean Age ±SD = Vitiligo = 38.43±12.94;

Table 2: Mean Score of VitiQol amongst vitiligo patients

Study group & scores	Median (Range)	Mean	Std. Deviation
VitiQoL Score	18.00 (0.0 – 92.00)	24.70	21.50

Table 3: VitiQol domains analysis amongst vitiligo patients.

Domain analysis of VitiQol	Mean± Std. Deviation
Participation Limitation	3.18±4.70
Stigma	7.58±3.88
Behaviour	2.38±4.07

Table 4: Association between characteristics and quality of life of vitiligo patients using VitiQol scale

Variables	N	Mean±SD	Test Statistics	P-value
Sex				
Male	24	25.88±24.05	0.428††	0.67
Female	16	22.88±17.51		
Age(years)				
≤20	5	23.80±15.55	1.507†	0.21
21-30	6	30.67±19.67		
31-40	14	25.86±17.56		
41-50	7	13.86±15.26		
51-60	6	37.50±35.83		
61-70	2	1.00±0.00		
Employment Status				
Employed	31	25.23±23.73	0.298††	0.76
Unemployed	9	22.78±11.44		
Marital Status				
Single	17	27.53±22.88	0.718††	0.47
Married	23	22.57±20.64		
Educational Status				
None	1	42.00±0.00	2.490†	0.07
Primary	2	53.50±9.19		
Secondary	7	33.29±32.61		
Tertiary	30	20.17±17.05		
Skin Type				
IV	12	17.17±19.12	1.296†	0.28
V	23	29.17±21.86		
VI	5	22.00±23.88		
Monthly Income				
≤50,000	19	28.16±20.49	0.288†	0.884
50,001 -100,000	11	19.82±25.43		
100,001 -150,000	3	27.00±22.91	.	
150,001 -200,000	3	23.33±20.65	.	
>200,000	4	20.75±22.28		
Duration of Vitiligo (years)				
<1year	11	21.55±25.56	0.221†	0.88
1-5years	20	25.65±19.06		
6-10years	5	22.40±21.54		
>10years	4	31.25±28.06		
Vitiligo Support Group				
No	37	25.16±22.21	0.499††	0.62
Yes	3	18.67±7.23		
Duration of Treatment (years) n=14				
<1year	4	37.00±14.05	1.517†	0.26
1-5years	8	26.88±22.22		
6-10years	2	8.00±4.24		
Exposed				
Yes	35	24.89±21.04	0.162††	0.872
No	5	23.20±27.01		

††t-test; **†F -Test** *Statistically Significant

Table 5: Relationship between affected parts of the body and quality of life of patients with vitiligo using the VitiQol

Parts of the body	Present Mean±SD	Others parts Mean±SD	t-test	p-value
Neck	47.00±0.00	24.10±21.44	-1.054	0.298
Hands	25.79±25.27	23.67±17.95	-0.309	0.759
Lips	18.86±21.19	27.81±21.37	1.267	0.213
Genitals	20.00±21.071	25.05±21.75	0.388	0.700
Scalp Hair	13.50±3.54	25.26±21.87	0.751	0.457
Face	36.07±22.40	18.54±18.61	-2.645	0.012*
Feet	20.71±14.63	25.52±22.75	0.532	0.598
Forearms	39.00±37.99	22.63±18.02	-1.628	0.112

*Statistically Significant

Table 6: Association between Clinical types/variants of vitiligo and quality of life of vitiligo patients using the VitiQol.

	Present Mean±SD	Others (clinical types) Mean±SD	t-test	p-value
Clinical Types				
Segmental	33.14±22.02	22.88±21.26	-1.153	0.256
Focal	8.80±7.63	26.94±21.91	1.819	0.077
Acrofacial	12.33±4.93	25.68±22.01	1.036	0.307
Mixed	51.00±0.00	24.00±21.32	-1.250	0.219
Vulgaris	29.47±24.18	20.33±18.20	-1.359	0.182
Mucosal	10.00±11.31	25.45±21.69	0.991	0.328
Liptip	19.00±0.00	24.82±21.74	.264	0.793
Universalis	12.00±2.83	25.34±21.84	.853	0.399

Table 7: Relationship between VASI Score and quality of life of the study group using VitiQol

		VASI Score
VitiQoL Score	Correlation Coefficient	-0.077
	P	0.635

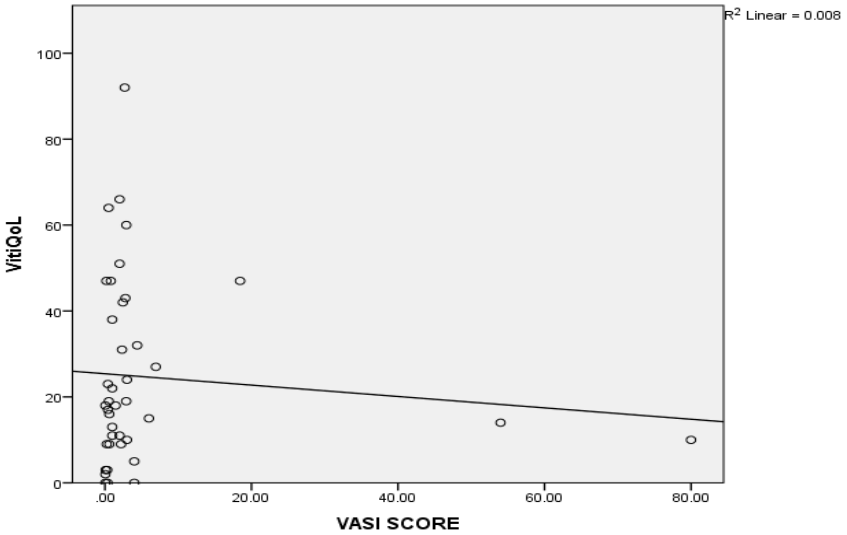

Figure 1: Scatter plot showing correlation of Vitiligo Area Severity Index (VAS