

## QUALITY OF LIFE IN VITILIGO PATIENTS AND ITS RELATION TO VARIOUS VARIABLES IN DUHOK, KURDISTAN REGION, IRAQ

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### ABSTRACT

**Background:** Background and aim: Studies, mainly in developed countries, have found a negative impact of the disease on the Quality of Life (QoL). This was affected by different socio-economic factors and by clinical aspects of the disease. The aim of the present study is to measure the impact of vitiligo on the QoL among patients and to investigate its relation to socio-demographic and clinical factors, in Duhok, Kurdistan Region, Iraq.

**Patients and methods:** A cross-sectional hospital-based study was conducted on 143 patients aged 16 years and above diagnosed to have vitiligo by a consultant dermatologist. All available patients to the investigator in the outpatient dermatology unit at a tertiary care hospital were asked to participate. An oral consent was obtained then a short questionnaire was filled for each patient regarding socio-demographic factors and clinical features of the disease. The QoL was estimated by using the Dermatology Life Quality Index (DLQI).

**Results:** The mean age  $\pm$ SD was  $31.85 \pm 10.39$  years of which 76 were males, and 67 were females. The mean DLQI score was  $6.67 (\pm 4.81SD)$ . Only 13.3% reported no effect of the disease on their QoL while 39.9%, 16.8%, and 30.1% of patients reported that the disease has small, moderate and very large negative effect, respectively on their QoL. There were no significant differences between the mean DLQI scores and gender, job, type and duration of the disease and current treatment status. The QoL was significantly more negatively affected among younger patients, those with higher education, married women, patient with darker skin type, and patients with hands, arms and feet involvement and those with a negative family history of vitiligo.

**Conclusion:** The disease has a negative impact on the QoL in the majority of patients. The dermatologist should put an emphasis on the psychological problems of the disease among their patients during planning their future management course.

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**Keywords:** Vitiligo Patients, Dermatologist, Duhok, Kurdistan Region, Iraq.

Vitiligo is a common skin condition. It is pigmentary skin disorder with no physical impairment but with a significant psychological impact due to its disfiguring appearance. Globally the prevalence of the disease ranges from 0.4 to 2.0 %<sup>1-3</sup>.

Several studies have shown that patient's quality of life (QoL) is negatively affected by the disease. The majority of those studies, however, were conducted in developed countries, particularly in the U.S.A. and England<sup>3-5</sup>.

The Dermatology Life Quality Index (DLQI)<sup>6</sup> has been widely used in vitiligo

as a specific QoL instrument<sup>4,7</sup>. This index showed that the QoL is affected by the disease.<sup>5,7</sup> The negative impact has varied in different communities; and with different socio-demographic variables. There has been variation of the effect regarding gender and marital status. Some studies found no gender variation while others detected more impact on females than male<sup>1,7,8</sup>. Similarly married were found to have lower QoL in some studies, while singles were found to be more affected than married in other studies<sup>7,9,10</sup>. Generally the negative impact was more

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marked in young than in elderly, and patients with involvement of exposed sites. Moreover, depigmentation of dark skin people had enormous stigma than in white skin patients<sup>4,7,10</sup>.

The aim of this study is to assess the QoL of patients by using DLQI and to investigate its relation to socio-demographic and clinical factors, in Duhok, Kurdistan Region, Iraq.

**PATIENTS AND METHODS**

The study was approved by the scientific committee of Duhok college of Medicine. A cross-sectional study was conducted among patients attending the dermatology outpatient clinic of Azadi teaching hospital; during the period from 1st of January 2017 to 31<sup>st</sup> of March 2018. All available patients aged 16 years and above with at least one vitiligo patch of whatever type diagnosed by consultant dermatologist were approached and oral consent was obtained from them to participate in the study.

A short questionnaire was arranged and filled by the investigator. The questionnaire included data about age, gender, marital status, job and education level. Also information was collected regarding type and duration of the disease, site involved, and treatment, type of patient skin and family history of the disease. The type of skin was classified according to the Fitzpatrick scale of classifying skin into six types according to the intensity of color from blond to dark<sup>11</sup>.

The quality of life was assessed by using the Arabic version of Dermatology Life Quality Index (DLQI). Assistant in understanding questions was given, if needed. The DLQI scoring used according to the manual as<sup>6,12</sup>:

- 0–1: no effect on patient's life
- 2–5: small effect on patient's life
- 6–10: moderate effect on patient's life
- 11–20: very large effect on patient's life
- 21–30: extremely large effect on patient's life

In the analysis of correlation with different variable, the scoring was combined into 2 categories as small/ no effect and moderate/ large effect.

The statistical package for social sciences (SPSS), version 24 was used for data entry and analysis. Data was summarized using percentages and counting for categorical variables, the mean and standard deviation for continues variables. The X<sup>2</sup> and Fisher exact test, when indicated, were used for assessing statistical differences between proportions, and P-value ≤0.05 was considered significant.

**RESULTS**

Table 1 shows that out of the 143 patients included in the study 76 were males and 67 were females. About three quarter aged less than 40 years, with more than one third were in the age group 21-30 years. The mean age was 31.85 years (± 10.39SD); with an age range of 16-59 years.

**Table 1. Age-sex distribution of the vitiligo patients**

Age in years	Male		Female		Total	
	No.	%	No.	%	No.	%
≤ 20	16	21.1	8	11.9	24	16.8
21 – 30	27	35.5	26	38.8	53	37.1
31 – 40	18	23.7	16	23.9	34	23.8
≥41	15	19.7	17	25.4	32	22.4
Total	76	100.0	67	100.0	143	100.0

P = 0.499

The study found that the mean DLQI score was 6.67 ( $\pm 4.81$ SD). Table 2 shows that in 13.3 %, 39.9 %, 16.8%, and 30.1 % of patients the disease has either no effect, small, moderate and very large effect respectively on their QoL. None of the patients reported an extremely large effect of vitiligo on QoL.

**Table 2. Distribution of the patients according to DLQI scores**

DLQI scores	No.	%
No effect (0-1)	19	13.3
Small effect (2-5)	57	39.9
Moderate effect (6-10)	24	16.8
Very large effect (11-20)	43	30.1
Extremely large effect	0	0.0
Total	143	100.0

Table 3 reveals that the moderate to severe negative effect on the patient's QoL was significantly higher among younger in comparison to older patients, singles in comparison to married women, and among those with secondary and higher education in comparison to patients with low education. Table 3 also shows that gender and job have no significant effect on QoL among vitiligo patients.

**Table 3. Relation between the effects on patients and socio-demographic factors**

Socio-demographic factors		DLQI				Total no.	P
		No to small effect		Moderate to large effect			
		No.	%	No.	%		
Age in years	≤ 20	6	25.0	18	75.0	24	0.008
	21 – 30	33	62.3	20	37.7	53	
	31 – 40	16	47.1	18	52.9	34	
	≥41	21	65.6	11	34.4	32	
Sex	Male	38	50.0	38	50.0	76	0.422
	Female	38	56.7	29	43.3	67	
Job	Not employed	41	47.7	45	52.3	86	0.107
	Employed	35	61.4	22	38.6	57	
Education	Illiterate	12	75.0	4	25.0	16	0.002
	Primary	25	73.5	9	26.5	34	
	Secondary	24	38.1	39	61.9	63	
	University & above	15	50.0	15	50.0	30	
Marital status	Single	9	15.8	48	84.2	57	<0.001
	Married	64	77.1	19	22.9	83	
	Widowed	3	100.0	0	0.0	3	
<b>Total</b>		<b>76</b>	<b>53.1</b>	<b>67</b>	<b>46.9</b>	<b>143</b>	

Table 4 shows significantly more QoL impairment among patients with dark skin in comparison to those with fair skin type. Also the negative impact on the QoL was more significant among those with hands, arms and feet involvement in comparison

to those with no involvement. No such significant association was observed regarding involvement of the face. Table 4 also reveals that impairment of QoL was significantly higher among patient with no family history of the disease. Finally table

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4 also shows no significant differences in and type of the disease. QoL regarding treatment status, duration

**Table 4. Relation between the effect on patients' QoL and clinical factors**

Clinical factor		DLQI				Total no.	P
		No to low effect		Moderate to severe effect			
		No.	%	No.	%		
Skin type*	2	7	63.6	4	36.4	11	<0.001
	3	29	37.7	48	62.3	77	
	4	36	70.6	15	29.4	51	
	5	4	100.0	0	0.0	4	
Duration	< 1 year	27	50.0	27	50.0	54	0.090
	1- <5 years	33	64.7	18	35.3	51	
	5+ years	16	42.1	22	57.9	38	
Faces involved.	Yes	57	58.8	40	41.2	97	0.051
	No	19	41.3	27	58.7	46	
Hands involved.	Yes	40	43.5	52	56.5	92	0.002
	No	36	70.6	15	29.4	51	
Arms involved.	Yes	12	37.5	20	62.5	32	0.044
	No	64	57.7	47	42.3	111	
Feet involved.	Yes	9	19.1	38	80.9	47	<0.001
	No	67	69.8	29	30.2	96	
Family history	Yes	27	96.4	1	3.6	28	<0.001
	No	49	42.6	66	57.4	115	
Type of vitiligo	Generalized	34	54.8	28	45.2	62	0.153
	Focal	34	52.3	31	47.7	65	
	Segmental	0	0.0	4	100.0	4	
	Acrofacial	8	66.7	4	33.3	12	
Current treatment	Yes	31	50.8	30	49.2	61	0.631
	No	45	54.9	37	45.1	82	
<b>Total</b>		<b>76</b>	<b>53.1</b>	<b>67</b>	<b>46.9</b>	<b>143</b>	

\* Skin types 1 and 6 were not seen among participants

### DISCUSSION:

Vitiligo is an idiopathic acquired, depigmentary disorder of the skin. The disease has no physical impairment but is cosmetically disfiguring leading to stigma and psychological problems in daily life; particularly in dark skin patients.<sup>13</sup> The negative impact on the QoL has been attributed to lack of effective treatment, chronic and unpredictable course and chronicity of the disease. Several studies all over the world showed that vitiligo has a negative effect on the QoL<sup>14,15</sup>, and lower self-esteem and high prevalence of

psychiatric morbidity as compared to the normal populations.<sup>7,16</sup>

The majority of studies on QoL in vitiligo have been conducted in developed countries, mainly in Britain and the USA with a limited number in developing countries<sup>2,7</sup>.

Different methods have been used to measure the QoL among patients. The DLQI tool, which was developed in 1994, has been used in 80 countries for more than 40 different skin conditions. It can be simply conducted within a short period and has been proven to be one of the most

specific QoL instruments which have been widely used in vitiligo. Moreover a strong correlation was found between the scores of the total Vitiligo specific QoL(VitiQoL) and DLQI<sup>15,17-19</sup>.

The mean age of the patients was 31.85 years. This was similar to other studies<sup>5</sup>.

The mean DLQI score was 6.18. This is relatively similar to a study conducted in India (6.86) and Belgium (4.95)<sup>4,10</sup>, but lower than that found in Saudi Arabia(14.72) and Iran(8.16)<sup>8,9</sup>. This is because QoL is an index with several dimensions affected by socio-cultural and behavioral factors. This is why it is always essential to measure QoL in different societies.

The study found that vitiligo affected the QoL in 86.7% of patients with only 13.3 % reported no negative effect on their QoL. About 39.9% reported small effect and 16.8 % and 30.1% indicated that the disease had moderate and very large negative effect; while the extremely large effect was not detected among patients. A cross-sectional hospital-based study conducted in India on 100 patients similarly showed that 84% of the vitiligo patients had some effect on their QoL; with 47% suffered moderate to very large effect; 10 Other studies found relatively similar results<sup>7</sup>.

The study found that unmarried women had a significantly higher negative impact on their QoL in comparison to married women. Similar results have been reported in India, and authors suggested that it might be due to the concern that this might affect their marriage pathway<sup>10</sup>.

The study found no significant differences on QoL between males and females patients. Similar results have been found in

other studies<sup>8,10</sup>. This might indicate that both genders are concerned about the impact of vitiligo on their QoL

The negative impact on the QoL was significantly higher among dark skin in comparison to light skin patients and among those with involvement of exposed parts of the body. Similar results have been found in other studies.<sup>7</sup>

A positive family history was found in about 20% of cases. Relatively similar results were reported in Turkey and Saudi Arabia. The study found that patients with positive family history had significantly less effect on the QoL in comparison with those with no family history of vitiligo. This is because social stigma might be milder if other family members are affected.

There was a significantly higher DLQI scores among patients with secondary and higher education in comparison to those with lower education. This might be due to more concern about the general look among educated persons. Similar results were reported in Saudi Arabia<sup>20</sup>.

In conclusion, and despite being a hospital based study, the results indicated clearly that vitiligo has a negative impact on the QoL in the majority of patients. This should carry a message to dermatologist to put more emphasis on the psychological problems as part of their future management plan.

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پوخته

باشتریا ژیانی لنگ نه خوشین به له کیی و په یوه دنیا وی ب هوکارین کومه لایه تی و دیموگرافی و ته خته به ندی ل دهوک - هریمما کوردستانی - عراق

**پیشه کی:** فه کولینا دیارگریه ، ب تاییه ت ل وه لاتین پیشکه فتی کو کارتیکنه کا نه ریینی ل سهر نه خوشان هه یه ل سهر باشتریا ژیانی (QOL) نه وی چه ندی هوکارین کومه لایه تی و ئابوری یین هه مه جوړ و لایه نین ته خته به ندی یین نه خوشی کارلیکربوو.

نارمانج ژ فی فه کولینی پیفانا کارتیکنه به له کیی ل سهر (QOL) دناقبه را نه خوشاندا و تویژاندن د په یوه دنیا ویدا ب هوکاری کومه لایه تی دیموگرافی و ته خته به ندی ل دهوک هریمما کوردستانی - عراق.

**نه خوش و ریک:** فه کولینه کا به رفره هاته کرن ب پشت به ستنا نه خوشخانی ل سهر 143 نه خوشان کو ته مه نی وان دناقبه را 16 سالی و پیه ل بوو. توشبوونا وان ب به له کیی ژلایی راویژکاری نه خوشی پستی هاته دست نیشان کرن. داخاز ژ هه می نه خوشین به رده ستی فه کوله ری ل یه که یا نه خوشی پستی ل نه خوشخانا چافدییا سیانی د پشکدارین. رزاهه دنیا زاره کی هاته وه رگرتن. پاشی راوه رگرتنه کا کورت بو هه ر نه خوشه کی هاته پرکرن لدور هوکارین کومه لایه تی و دیموگرافی و ساخله تین ته خته به ندی یا نه خوشی QOL هاته هه لسه نگاندن بکارنیانا نیشاندهری باشتریا ژیانی بو نه خوشی پستی (DLQ1).

**نه نجام:** نافه ندا ته مه نی 31,85 سالبوون (SP 10,39 I) ژ وان 76 ژ ره گزی نیر و 67 ژ ره گزی می. تیكراتی نیشاندهری DLQ1 6,67 (SD 4,81 ±) تنی گه هشته 13,3% کو نه خوشی چ کارتیکن نین ل سهر QOL. ل 39,9% و 16,8% و 30,1% ژ نه خوشان گه هشته هندی کو نه فی نه خوشی کارتیکنه کا بچویک، نافه راست و گه له ک مه زن هه یه لدویف ئیک QOL2. ل چ جیاوازیین نیشادانا ئاماری نه بوون دناقبه را تیكرایی PLQ1 و ره گزی و فه رمانبه ری و جوړ و ده می نه خوشی و حاله تی چاره سه رکرنا نوکه، کارتیکنه QOL ب شیوه کی نه ریینی دناقبه را نه خوشین ته مه ن بچویک هه بوو. ژ نه ویین فیکنه بلند وه رگرتی و ئافره تین هوژینیکی و نه خوشی توشی جوړه کی ژ پستی تاری بووی و نه خوشین کازنده دکر ژ توشبوونا دست و پیان و نه ویین میژوویه کا خیزانی یا نه ریینی ژ به له کیی هه یه.

**دهر نه نجام:** نه فی نه خوشی کارتیکنه کا نه ریینی هه یه لسهر QOL د به هرا پتیریا نه خوشان. پیذقییه نوژداری نه خوشی پستی ته رکیزی ل سهر ئاریشین دهرونی یین نه خوشی دناقبه را نه خوشین وان ل ده می پلان دانانی بو چاره سه رکرنی.

## الخلاصة

## جودة الحياة لدى مرضى البهاق وعلاقتها بالعوامل الاجتماعية والديموغرافية والسرييرية في دهوك، إقليم كردستان-العراق

**خلفية البحث:** وجدت الدراسات، وخاصة في البلدان المتقدمة، تأثيرًا سلبيًا على المرض على جودة الحياة (QoL). وقد تأثر ذلك بالعوامل الاجتماعية والاقتصادية المختلفة والجوانب السرييرية للمرض. الهدف من هذه الدراسة هو قياس تأثير البهاق على QoL بين المرضى والتحقيق في علاقته بالعوامل الاجتماعية والديموغرافية والسرييرية في دهوك، إقليم كردستان العراق.

**المرضى والطرق:** أجريت دراسة مستعرضة مستندة إلى المستشفى على 143 مريضًا تتراوح أعمارهم بين 16 عامًا وما فوق تم تشخيص إصابتهم بالبهاق من قبل استشاري الأمراض الجلدية. طُلب من جميع المرضى المتاحين للباحث في وحدة الأمراض الجلدية الخارجية في مستشفى الرعاية الثالثة المشاركة. تم الحصول على موافقة شفوية ثم تم ملء استبيان قصير لكل مريض بشأن العوامل الاجتماعية والديموغرافية والسمات السرييرية للمرض. تم تقدير QoL باستخدام مؤشر جودة الحياة للأمراض الجلدية (DLQI).

**النتائج:** كان متوسط العمر 31.85 سنة ( $\pm 10.39$  SD)، منها 76 من الذكور، و67 من الإناث. كان معدل مؤشر DLQI 6.67 ( $\pm 4.81$  SD). أبلغ 13.3% فقط عن عدم وجود تأثير للمرض على QoL، بينما أبلغ 39.9% و16.8% و30.1% من المرضى أن هذا المرض له تأثير سلبي صغير، معتدل وكبير جدًا، على التوالي في QoL. لم تكن هناك فروق ذات دلالة إحصائية بين معدل DLQI والجنس، والوظيفة، ونوع ومدة المرض وحالة العلاج الحالية. تأثر QoL بشكل سلبيات دلالة إحصائية بين المرضى الأصغر سنًا، أولئك الذين حصلوا على تعليم عالٍ، والنساء المتزوجات، والمرضى المصاب بنوع من الجلد الغامق، والمرضى الذين يعانون من إصابة اليدين والذراعين والقدمين والذين لديهم تاريخ عائلي سلبي من البهاق.

**الاستنتاجات:** هذا المرض له تأثير سلبي على QoL في غالبية المرضى. يجب على طبيب الأمراض الجلدية التركيز على المشكلات النفسية للمرض بين مرضاهم أثناء التخطيط للعلاج.