

The Quality of Life in Patients with Chronic Urticaria

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ABSTRACT

Background: Chronic skin urticaria (CU) is a type of skin illness that is characterized by pruritus, angioedema, or wheals for longer than six weeks. It has a major impact on patients quality of life.

Study aim: To identify the impact of chronic skin urticaria on the patients quality of life.

Study setting: Erbil Dermatology Teaching Center.

Study sample: One hundred and three patients, above 16 years of both sexes who were having chronic urticaria were included in the study sample.

Study design: A case series research was used in this study.

Study period: The study was conducted from the first of March 2021 to the end of January 2022.

Data collection: All patients were interviewed by the researcher using a specially designed questionnaire sheet and the needed information was filled by the researcher. These information include age, gender, education, occupations, residence, marital status, and skin types in addition to the DLQI questionnaire which was downloaded from Cardiff University website. There are 10 questions or items in the DLQI questionnaire, which are further subdivided into six subdomains of life.

Result: The score mean of DLQI was (9.3±4.37); 24 (23.3%) CU patients have a low effect, 39 (37.9%) with moderate effect and 40 (38.8%) patients have high effects. The mean DLQI score was higher among self employed patients and lower among retired patients and higher among CU patients were visiting more than two doctors and among patients who receiving treatment.

Conclusion: Chronic skin urticaria has commonly moderate effect on the patients' quality of life and affected by occupation, severity of disease, and treatment.

Recommendations: This study recommended that the physician should adopt an integral plan in management of CU taking in consideration mental and social wellbeing of patients. Additionally, more national researches on the QoL of CU patients must be maintained.

Keywords: Chronic skin urticaria, Case series, Quality of life.

تقييم جودة الحياة لمرضى الشرى المزمن

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الخلاصة

الخلفية: شرى الجلد المزمن هو نوع من الأمراض الجلدية التي تتميز بالحكة أو الوذمة الوعائية أو الشروية لمدة تزيد عن ستة أسابيع. لها تأثير كبير على نوعية حياة المرضى.

هدف الدراسة: تحديد تأثير شرى الجلد المزمن على نوعية حياة المرضى.

مكان الدراسة: مركز تعليم الامراض الجلدية في اربيل

عينة الدراسة: ضمت الدراسة مائة وثلاثة مرضى ، فوق 16 عاما (من كلا الجنسين) يعانون من شرى مزمن.

زمن الدراسة: كان وقت الدراسة من الاول من آذار 2021 الى الاول من شباط 2022.

تصميم الدراسة: تم اختيار طريقة دراسة سلسلة الحالات لهذا البحث.

طريقة الدراسة: جميع المرضى تم تقييمهم من خلال ورقة استبيان اعدتها الباحثة وملئها من خلال المقابلة المباشرة. وضمت الاستمارة المعلومات التالية : العمر ، الجنس والتعليم والمهن والإقامة والحالة الاجتماعية وأنواع البشرة بالإضافة إلى استبيان جودة حياة المرضى الذي تم تنزيله من موقع جامعة كارديف. هناك 10 أسئلة أو عناصر في استبيان جودة حياة المرضى ، والتي تنقسم إلى ستة مجالات فرعية للحياة.

النتائج: متوسط درجة جودة حياة المرضى كان (9.3 ± 4.3) ؛ ٢٤ (٢٣.٣٪) من مرضى شرى الجلد المزمن لديهم تأثير ضئيل، ٣٩ (٣٧.٩٪) بتأثير متوسط و ٤٠ (٣٨.٨٪) مريض لديهم تأثيرات كبيرة جدًا. كان متوسط درجة جودة حياة المرضى أعلى بين المرضى العاملين لحسابهم الخاص وأقل بين المرضى المتقاعدين وأعلى بين مرضى شرى الجلد المزمن الذين زاروا أكثر من طبيبين وبين المرضى الذين يتلقون العلاج. الخلاصة: شرى الجلد المزمن له تأثير معتدل بشكل عام على نوعية حياة المرضى ويتأثرون بالمهنة، وشدة المرض، والعلاج. **التوصيات:** أوصت هذه الدراسة أن الطبيب يجب أن يتبنى خطة متكاملة في علاج الشرى المزمن مع الأخذ بنظر الاعتبار الصحة العقلية والاجتماعية بالإضافة إلى ذلك، يجب إجراء المزيد من الأبحاث الوطنية.

الكلمات المفتاحية: شرى الجلد المزمن، سلسلة الحالات، جودة الحياة.

INTRODUCTION

Puritus with abrupt and recurrent bouts of angioedema, wheals, or may be both which extended beyond the six weeks duration is referred to as chronic urticaria (CU) ¹. Chronic urticaria is supposed to affect 1% of the people worldwide ². Chronic urticaria is predicted to affect 2.4 percent of people in rural Nepal, according to a research ³. According to the current research, urticaria has a significant influence on both objective and subjective well-being in sufferers ⁴⁻⁶. Chronic urticaria patients' health status scores were comparable to those of patients with coronary artery disease ⁷, indicating that the disease had a significant consequence on the quality of life of patients ⁸.

When compared to other dermatological illnesses, persistent urticaria can have similar effects on LQ as acne and psoriasis ⁹. Acute urticaria (less than 6 weeks in duration and generally resolves within hours to days) and CU (more than 6 weeks in duration, with daily wheals or episodic) are the two types of urticaria ¹⁰. CU can be spontaneous in origin or inducible, depending on whether the skin lesions arise on their own or are triggered by a specific trigger; both forms can coexist ^{1,11}. Chronic spontaneous urticaria (CSU) is distinguished by the presence of wheals with or without angioedema for a period of six weeks or more ¹².

The prevalence of CSU in the United States and internationally, is estimated to be between 0.23 percent and 1.8 percent of the population ¹³. There is a pronounced feminine bias, with women being affected twice as often as males ¹⁴. Children and adults are both afflicted; with the prevalence among individuals between the ages of 40 and 60 of the highest rate.

The CSU is diagnosed mostly through blood tests for complete blood count and C-reactive protein and/or erythrocyte sedimentation rate, which are used to exclude further disorders ¹⁵.

The CSU can have a chief consequence on a patient's QoL ^{6,15}. The consequences of CSU on patients' QoL should not be overlooked, and counseling and psychotherapy can sometimes

have a significant impact on these patients' overall health outcomes ¹⁶.

The Dermatology Life Quality Index (DLQI) was the primary dermatology-specific tool established to assess the consequences of skin diseases in a person's life based on the preceding seven days' experiences ⁷. It is a validated instrument of measuring the QoL and has been used to over 30 different skin diseases ^{17,18}. It also evaluates the efficiency of treatments or interventions in CU patients ⁷. There are limited studies conducted about the QoL in patients with CU in Kurdistan Region and in Iraq.

The aim of this study is to measure the DLQI score to assess the effect of CU on the QoL of patients attending Erbil Dermatology Teaching Center.

PATIENTS AND METHODS

A case series research design was used in this study. The study carried out from the 1st of March 2021 to the 1st of February 2022.

One hundred and three patients, above 16 years of both sexes who were having chronic urticaria were included in the study sample. The sample was taken from patients attending Erbil Dermatology Teaching Center. The participants in study were interviewed by the investigator about the aim and purposes of the study and were agreed to participate.

All patients who were 16 years or more and clinically diagnosed with CSU were included in this study. Exclusion criteria were patients less than 16 years old, patients complaining from only chronic inducible urticaria or angioedema and patients with other chronic diseases that may affect the QoL. The assessment of the patients done through a questionnaire sheet prepared and filled by the researcher.

The designed questionnaire of this study is based on Dermatology Life Quality Index (DLQI) questionnaire along with socio-demographic questions and other specific questions about the topic. The DLQI questionnaire was downloaded from Cardiff University website ¹⁹. There are 10

questions or items in the DLQI questionnaire, which are further subdivided into six subdomains of life. Symptoms and feelings are addressed in items 1 and 2, everyday activities are addressed in items 3 and 4, leisure is addressed in items 5 and 6, job and school is addressed in item 7, personal affiliations are addressed in items 8 and 9, and management is addressed in item 10. There are four choices to choose from in response to each of the items: "not at all," "a little," "a lot," and "very much" which are scored as 0, 1, 2, and 3, respectively. Some of the items include a fifth option, "not relevant" which is scored as 0.

The DLQI can have a maximum value of 30. A higher score suggests a higher level of quality of life impairment. The scores are alienated into five categories for simplicity of understanding, each signifying a distinct level of disease severity. In summary, a total score of 0-1 indicates no influence on the patient's quality of life; 2-5, a minor effect; 6-10, a moderate effect; 11-20, a very big effect; and 21-30, an extremely huge effect.

The Hawler Medical University's ethics committee/ College of Medicine approved the trial, and the Erbil Directorate of Health provided a letter of facilitation. Each participant was given a comprehensive explanation of the study's purpose before giving their informed verbal consent during the direct interview with the researcher. This data will be kept confidential.

The CU patients' information were recorded and analyzed statistically by statistical package of social sciences (SPSS) software version 26. Suitable statistical tests (unpaired t-test for independent sample and one way ANOVA analysis) were used for analysis of means of DLQI score accordingly with p value of ≤ 0.05 as significant.

RESULTS

In this study, one hundred and three patients with chronic urticaria (CU) were enrolled with mean age of (37.9±12.2 years) and range of (16-68 years); 8.7% of them were in age of less than 20 years, 14.6% of them were in age group 20-29 years, 24.2% of them were in age group of 30-39 years, 37.9% of them were in age group of 40-49 years, 9.7% of them were in age group of 50-59 years and 4.9% of them were in age of 60 years and more.

Female patients with CU were more than males (64.1% vs. 35.9%).

The educational level of CU patients was distributed as followings; illiterate (29.1%), primary level (29.1%), secondary level (25.3%) and college/institute (16.5%).

About half of CU patients were housewives, 19.4% of them were self employed, 16.5% of them were public employees, 10.7% of them were students and 2.9% of them were retired.

The residence of CU patients was urban for 62.1% of them and rural for 37.9% of them. The marital status was single in 19.4% of CU patients, married in 78.7% of them and widow in 1.9% of them. The skin types of CU patients were normal in 59.2% of them, dry in 20.4% of them and oily in 20.4% of them (Table 1).

Table 1: Frequency distribution of study population according to socio demographic and skin characteristics.

Variable	No.	%	
Age groups (in years)	<20 years	9	8.7
	20-29 years	15	14.6
	30-39 years	25	24.2
	40-49 years	39	37.9
	50-59 years	10	9.7
	≥60 years	5	4.9
Gender	Male	37	35.9
	Female	66	64.1
Educational level	Illiterate	30	29.1
	Primary level	30	29.1
	Secondary level	26	25.3
	University	17	16.5
Occupation	Student	11	10.7
	Housewife	52	50.5
	Public employee	17	16.5
	Self employed	20	19.4
	Retired	3	2.9
Residence	Urban	64	62.1
	Rural	39	37.9
Marital status	Single	20	19.4
	Married	81	78.7
	Widowed	2	1.9
Skin type	Normal	61	59.2
	Dry	21	20.4
	Oily	21	20.4

The answers for DLQI score questions were mostly higher (very much) for question 1 (49.5%), while high prevalence of a lot answer in questions 7 (50%), 1 (39.8%) and 2 (31.1%) and high prevalence of a little answer in question 3 (25.3%).

Higher prevalence of not at all answer was in questions 4, 5, 8, 9 and 10 (50.5%, 49.5%, 70.9%, 51.5% and 38.8%, respectively).

Higher prevalence of not relevant answer was shown for questions 6 and 7 (72.8% and 58.3%). The mean DLQI score was (9.3±4.37) with range of (2-19); 24 (23.3%) CU patients had perceived a small effect of CU on quality of life, 39 (37.9%) patients perceived moderate effect of CU on quality of life and 40 (38.8%) patients were perceived very large effect of CU on quality of life (Table 2 and Figure 1).

Table 2: DLQI score questions and patients responses.

Variable		No.	%
Q1: Over the last week, how itchy, sore, painful or stinging has your skin been?	Very much	51	49.5
	A lot	41	39.8
	A little	11	10.7
	Not at all	0	0.0
Q2: Over the last week, how embarrassed or self conscious have you been because of your skin?	Very much	20	19.4
	A lot	32	31.1
	A little	18	17.5
	Not at all	33	32.0
Q3: Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden ?	Very much	19	18.4
	A lot	20	19.4
	A little	26	25.3
	Not at all	36	35.0
Q4: Over the last week, how much has your skin influenced the clothes you wear?	Very much	11	10.7
	A lot	15	14.6
	A little	23	22.3
	Not at all	52	50.5
	Not relevant	2	1.9
Q5: Over the last week, how much has your skin affected any social or leisure activities?	Very much	12	11.7
	A lot	18	17.5
	A little	19	18.4
	Not at all	51	49.5
	Not relevant	3	2.9
Q6: Over the last week, how much has your skin made it difficult for you to do any sport ?	Very much	4	3.9
	A lot	5	4.9
	A little	7	6.8
	Not at all	12	11.6
	Not relevant	75	72.8
Q7: Over the last week, has your skin prevented you from working or studying ?	Yes	15	14.6
	No	28	27.3
	Not relevant	60	58.3
If No, over the last week how much has your urticaria been a problem at work or studying?	A lot	14	50.0
	A little	7	25.0
	Not at all	7	25.0

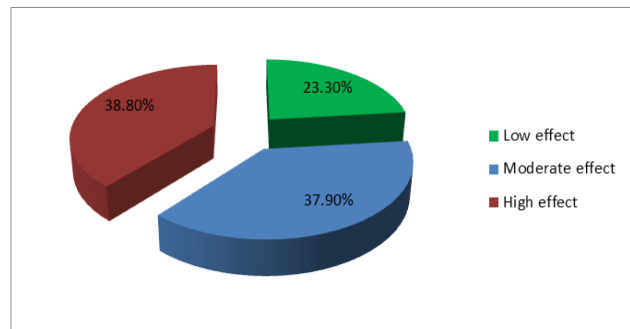


Figure 1: DLQI score interpretation of CU patients.

About half of CU patients had visited more than two dermatologists for urticaria, 15.5% of them visited two dermatologists, 20.4% of them visited one dermatologist and 14.6% of them visited no one. Most (93.2%) of CU patients had received treatment, while 6.8% of them were not.

The treatment types taken were antihistamine tablets (92.2%), steroids tablets (37.9%), steroid injection (58.3%), Hijama (17.5%) and antihistamine injection (55.3%) (Table 3).

Table 3: Treatments of CU patients.

Variable		No.	%
Number of medical doctors visited for your urticaria	More than two	51	49.5
	Two doctors	16	15.5
	One doctor	21	20.4
	No one	15	14.6
Treatment	Absent	7	6.8
	Present	96	93.2
Antihistamine tablets	Present	95	92.2
	Absent	8	7.8
Steroid tablets	Present	39	37.9
	Absent	64	62.1
Steroid injection	Present	60	58.3
	Absent	43	41.7
Hijama	Present	18	17.5
	Absent	85	82.5
Antihistamine injection	Present	57	55.3
	Absent	46	44.7

As shown in table (4); the mean DLQI score was not significantly different in regard to age, gender, educational level, residence, marital status and skin types of CU patients (p>0.05). The mean DLQI score was significantly higher among self employed patients and lower among retired patients (p=0.01).

Table 4: Distribution of DLQI score according to Socio demographic characteristics of CU patients.

Variable	DLQI score Mean \pm (2SD)	P-value	
Age groups (in years)	<20 years	7.7 (4.4)	0.6*
	20-29 years	9.8 (5.5)	
	30-39 years	8.9 (3.6)	
	40-49 years	9.4 (4.9)	
	50-59 years	11.1 (5.1)	
	≥ 60 years	7.4 (4.5)	
Gender	Male	9.4 (4.4)	0.7**
	Female	9.2 (4.8)	
Educational level	Illiterate	9.8 (4.5)	0.1*
	Primary school	9.9 (3.8)	
	Secondary school	9.6 (5.1)	
	University	6.7 (4.9)	
Occupation	Student	7.1 (4.2)	0.01*
	Housewife	9.8 (4.9)	
	Public employee	7.4 (4)	
	Self employed	11.3 (3.8)	
	Retired	5.3 (2)	
Residence	Urban	9.1 (4.4)	0.69**
	Rural	9.5 (5)	
Marital status	Single	8.6 (4.3)	0.18*
	Married	9.6 (4.7)	
	Widowed	4 (1.4)	
Skin type	Normal	9.5 (4.7)	0.7*
	Dry	9 (3.7)	
	Oily	8.8 (5.4)	

*One way ANOVA was used, **t-test for independent two means was used

As shown in table (5); the mean DLQI score was significantly higher among CU patients were visiting more than two dermatologists ($p=0.01$). The mean DLQI score was significantly higher among CU patients were receiving treatment, while lower among patients not receiving treatment ($p=0.01$).

Table 5: Distribution of DLQI scores according to clinical features of CU patients.

Variable	DLQI score Mean \pm (2SD)	P-value	
Number of medical doctors visited for your urticaria	More than two	10.6 (4.2)	0.01*
	Two doctors	9.3 (4.6)	
	One doctor	7.1 (4.2)	
	No one	7.8 (5.3)	
Treatment	Absent	5.1 (3.6)	0.01**
	Present	9.6 (4.6)	

*One way ANOVA, **t-test for independent two means

DISCUSSION

The CU is an allergic dermatological disease with uncertain etiology and complex treatment. The QoL for CU patients is important to evaluate the general health status of patients and assessing the effect of treatment²⁰. The current work showed that mean score of DLQI was (9.3 \pm 4.37). This finding is close to results of Paudel et al⁷ retrospective study of 7 in Nepal on 149 patients with CU which found that the mean score of DLQI for CU patients was (8.3 \pm 0.55). However, the mean score of DLQI for the current work is better than the results of Silves et al²¹ study in Brazil on 100 patients with CU which reported that mean score of DLQI of CU patients was (13.5 \pm 5.3). In Japan, RELEASE study conducted by Itakura et al²² on 552 CU patients revealed that mean total score of DLQI was (4.8 \pm 5.1). These differences might be attributed to discrepancies in socioeconomic status and cultural habits between communities in addition to differences in CU severity and inclusion criteria between different studies.

In current study, 23.3% of CU patients had perceived a small effect of CU on quality of life, 37.9% of patients perceived moderate effect of CU on quality of life and 38.8% of patients were perceived very large effect of CU on quality of life. These findings are close to results of Lacour et al²³ international observational study in France on 101 patients with chronic spontaneous urticaria which reported mean DLQI score as (9.7±6.9) with predominant large effect of CU on quality of life (40%). Stull et al²⁴ clinical trial study in UK reported that the DLQI score is an excellent indicator for urticarial activity score and helpful for physicians in routine assessment for patients with CSU/idiopathic urticaria. The chronic urticaria is highly associated with psychiatric co-morbidities such as sleep-wake diseases, anxiety diseases, mood disturbances (29.4%) and others^{25, 26}.

An observational study carried out in Portugal by Almeida et al²⁷ on 112 patients with CU revealed a strong positive significant correlation between poor QoL and CU which related commonly to psychological co-morbidity associated with CU. The United States Food & Drug Administration²⁸ and the European Medicines Agency²⁹ urged on developing guidelines regarding health related QoL for patients with CU and integrating QoL in decisions regarding the management of CU. In present study, the mean score of DLQI was significantly higher among self employed patients and lower among retired patients (p=0.01). This finding coincides with results of Arias-Cruz et al³⁰ cross sectional study in Mexico which reported that economic status of CU patients is related directly to their QoL and high efforts of patients was done to remove the itching and social image.

The non-interventional prospective study done by Rossi et al³¹ in Italy found a profound socioeconomic burden by chronic urticaria and treatment of chronic urticaria lead to better work productivity. Many authors reported the social strain facing CU patients in their life and work which expressed in different psychological problems like anxiety and stress that lead to declination of health related QoL and sometimes to treatment non-compliance and refractory urticaria cases³²⁻³⁴.

The current study showed that mean score of DLQI was significantly higher among CU patients were visiting more than two doctors (p=0.01). This finding is matching with results of Maurer et al³⁵ study in Germany which found a significant impact of CU quality of life and the satisfaction of CU patients and their relationship with the physicians. Additionally, a multicenter study conducted in Italy by Rimoldi et al³⁶ stated that a defect either in implementing guidelines or in quality of life of CU patients lead to low satisfaction and defective

patients-physicians relationship. However, increased DLQI score with increased doctors visits might be attributed to severe and refractory cases of chronic urticaria. The mean DLQI score in current study was higher among CU patients receiving treatment in a statistically significant way, while lower among patients not receiving treatment (p=0.01). This finding is inconsistent with results of Weller et al³⁷ research in Germany which found that mean DLQI score was significantly decreased after treatment. This discrepancy could be related to fact that patients who received treatment were severe cases of CU. Similarly, Dias et al³⁸ cross sectional research in Brazil on 112 patients with chronic urticaria revealed a direct relationship between large effect on QoL and severe cases of chronic urticaria. Costa et al³⁹ study in Portugal exposed that CU had a great impact on quality of life in patients' refractory to anti-histamine treatment.

CONCLUSION

The chronic urticaria has commonly moderate to very large consequence on QoL for patients. The QoL for CU patients is affected by occupation of patients, severity of disease and treatment.

RECOMMENDATIONS

This study recommended:

1. The physician should adopt an integral plan in management of CU taking in consideration mental and social wellbeing of patients.
2. More national researches on the QoL of CU patients must be maintained.

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