



# Analysis of the quality of life of patients with chronic urticaria in Aracaju - Sergipe

*Avaliação da qualidade de vida de pacientes com urticária crônica em Aracaju - Sergipe*

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## ABSTRACT

**Introduction:** Chronic urticaria is a disease with a prevalence in at least 0.1% of the population, defined by the presence of pruritic papules, angioedema or both for a period longer than six weeks. Patients with chronic urticaria have a severe loss in quality of life. **Objective:** To assess the impact of chronic urticaria on the quality of life of patients with the disease within a specialized service in the state of Sergipe. **Methods:** This is a descriptive observational study based on data collected from 40 patients treated, in 2021, at the Allergy and Immunology Service of the Allergy and Immunology Outpatient Clinic of Decós Day Hospital, using two specific questionnaires for quality assessment of life in chronic urticaria: the Chronic Urticaria Quality of Life Questionnaire and the Urticaria Control Test. **Results:** It was possible to identify a positive correlation, through the Urticaria Control Test questionnaire, between the intensity of symptoms and the worsening of quality of life ( $r = 0.774$ ,  $p < 0.001$ ). It was also possible to identify a positive correlation between the intensity of symptoms and worsening quality of life, this time measured by the Chronic Urticaria Quality of Life Questionnaire scale ( $r = 0.768$ ,  $p < 0.001$ ). 90% said they felt tired during the day because they didn't sleep well, 87.5% found it difficult to concentrate, 90% felt nervous, 80% said they felt down, 75% said they were ashamed of the urticaria lesions that appear on the body and 60% are ashamed to go to public places. **Conclusions:** Chronic urticaria compromises quality of life, as measured by the Urticaria Control Test and the Chronic Urticaria Quality of Life Questionnaire. The impairment of the quality of life of patients with chronic urticaria occurs mainly in the psychological aspects, in social relationships and in the quality of sleep.

**Keywords:** Chronic urticaria, quality of life, surveys and questionnaires.

## RESUMO

**Introdução:** A urticária crônica é uma doença com prevalência em pelo menos 0,1% da população, definida pela presença de pápulas pruriginosas, angioedema ou ambos por período superior a seis semanas. Os pacientes com urticária crônica têm um severo prejuízo na qualidade de vida. **Objetivo:** Avaliar o impacto da urticária crônica na qualidade de vida dos portadores da doença dentro de um serviço especializado no estado de Sergipe. **Métodos:** Trata-se de um estudo descritivo observacional a partir de dados coletados de 40 pacientes atendidos, em 2021, no Serviço de Alergia e Imunologia do Ambulatório de Alergia e Imunologia do Decós Day Hospital, através de dois questionários específicos para a avaliação da qualidade de vida na urticária crônica: o *Chronic Urticaria Quality of Life Questionnaire* e o *Urticaria Control Test*. **Resultados:** Foi possível identificar uma correlação positiva, através do questionário *Urticaria Control Test*, entre a intensidade dos sintomas e a piora da qualidade de vida ( $r = 0,774$ ;  $p < 0,001$ ). Também foi possível identificar uma correlação positiva entre a intensidade dos sintomas e a piora da qualidade de vida, desta vez mensurada pela escala *Chronic Urticaria Quality of Life Questionnaire* ( $r = 0,768$ ;  $p < 0,001$ ). Noventa por cento dos pacientes afirmaram se sentir cansados durante o dia porque não dormiram bem, 87,5% sentem dificuldade para se concentrar, 90% sentem-se nervosos, 80% afirmaram sentirem-se para baixo, 75% disseram ter vergonha das lesões da urticária que aparecem no corpo, e 60% tem vergonha de frequentar lugares públicos. **Conclusões:** A urticária crônica compromete a qualidade de vida, medida pelos questionários *Urticaria Control Test* e *Chronic Urticaria Quality of Life Questionnaire*. O comprometimento da qualidade de vida dos doentes com urticária crônica ocorre principalmente nos aspectos psicológicos, nos relacionamentos sociais e na qualidade do sono.

**Descritores:** Urticária crônica, qualidade de vida, inquéritos e questionários.

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Funding Sources: Undergraduate Research Scholarship from Tiradentes University (PROBIC-UNIT).

Submitted: 08/11/2021, accepted: 11/13/2021.

Arq Asma Alerg Imunol. 2022;6(1):108-15.

## Introduction

Chronic urticaria (CU) is a disease with prevalence in at least 0.1% of the population,<sup>1</sup> defined by the presence of pruritic papules, angioedema or both for a period longer than six weeks. Of recurrent evolution, it can even last for years; there is a tendency to spontaneous remission. In spite of adequate investigation, the etiology is rarely found.<sup>2</sup> Wheals are papules and/or plaques that appear suddenly and are characterized by a light or reddish color, of varying sizes, almost always surrounded by a reflex erythema, associated with intense itching or, sometimes, a burning sensation. Chronic urticaria is a disease that affects not only the physical, but also the social and emotional aspects.<sup>3</sup> Chronic spontaneous urticaria, which is the focus of the present work, presents spontaneous symptoms that are not associated with any specific trigger.

Illness-related quality of life can be defined as the impact of illness and treatment on the physical, psychological, social and somatic domains of functioning and well-being.<sup>4</sup> Because it presents a benign evolution from a clinical point of view, without significant mortality, with fleeting lesions and temporary disfigurement, health professionals tend to underestimate the impact of chronic urticaria on patients' quality of life.<sup>5</sup> Despite the small mortality rates from dermatological diseases, the importance of aesthetic appearance means that changes without great clinical significance can negatively influence patients' daily activities.<sup>3</sup>

The impact of a disease on quality of life may not be directly related to its clinical severity, but to the stigmatization and discomfort caused, which reinforces the importance of quality of life studies in diseases with dermatological manifestations, such as chronic urticaria.<sup>6,7</sup> Therefore, in its follow-up, as in other chronic conditions, it is extremely important to use standardized tools that can provide objective information regarding the impact of the disease on the various aspects of the patient's quality of life, to improve the clinical approach of these cases. The instruments available to measure the quality of life of patients with chronic urticaria can help in the continued assessment of patients with this variable condition. Therefore, the use of Patient Reported Outcomes (PROs), or patient-reported outcomes, are critical in the assessment and monitoring of activity, control, and quality of life in chronic urticaria. Therefore, the Chronic Urticaria Quality of Life Questionnaire (CUQ2oL) and the Urticaria Control Test (UCT) were applied.<sup>8</sup>

The CUQ2oL (Figure 1) was created and validated in 2005 by Baiardini et al. The questionnaire has 23 items, which in the original Italian version are divided into six domains, and in the Portuguese version, into three: I - sleep/mental state/eating (questions 10, 11, 12, 13, 14, 15, 16 and 17); II - pruritus/impact on activities (questions 1, 2, 5, 6, 7, 8, 9 and 22); and III - edema/limitations/appearance (questions 3, 4, 18, 19, 20, 21 and 23). Patients responded, taking into account the last two weeks, indicating the intensity of each item separately on a five-point Likert scale, ranging from 1 to 5. The higher the score, the worse the patient's perception of their quality of life.<sup>3</sup>

The UCT (Figure 2) is a retrospective questionnaire that assesses urticaria control based on the patient's perception of the previous 4 weeks. It is easy to fill out, as it consists of only 4 questions, with 5 answer options. The minimum total score of the questionnaire is 0, which is calculated by the sum of the minimum value (0: quite/very often) given to each answer by the patient. This score indicates the worst quality of life. The maximum score is 16, which is reached when the patient assigns maximum scores to all questions (4: nothing/never). The higher the score, the better the patient's perception of their quality of life.

The aim of the present study is to evaluate the impact of spontaneous chronic urticaria on the quality of life of patients with the disease, including the identification of the main factors that negatively affect the quality of life of patients with CSU.

## Methods

### Participants

The work consists of a cross-sectional study. Patients treated at the Immunology and Allergology Outpatient Clinic of Décos Day Hospital, Aracaju, Brazil, were included.

The inclusion criteria were patients who had a conclusive diagnosis of chronic spontaneous urticaria performed through evaluation of the clinical history and physical examination, according to the *Guideline for the definition, classification, diagnosis and management of urticaria*<sup>9</sup> at any age and who allowed the completion of the questionnaire. The following exclusion criteria were used: patient not wanting to participate in the study, or cognitive impairment.

## Procedures

Data on the quality of life of patients with chronic urticaria were collected online using an electronic form created on Google forms. Patients were approached through contact via the communication application (WhatsApp), with the telephone number obtained from the medical records. The analyzed variables obtained from the patient's medical record were sex, age group, triggering factor of the disease,

marital status and previous medications to control the symptoms of chronic urticaria. Two previously validated questionnaires were compiled in the form, the Chronic Urticaria Quality of Life Questionnaire (CUQ2oL) and the Urticaria Control Test (UCT).

There was submission to the Research Ethics Committee (CEP) from Tiradentes University - SE, which was approved under opinion number 4,630,658.

### Question: in the last 15 days

How bothered were you by the following symptoms?

1. Itch
2. Red plates
3. Swollen eyes
4. Swollen lips

Not at all (1) A little (2) More or less (3) Often (4) Very often (5)

How much did the urticaria get in the way of the following moments of your daily life?

5. Work
6. Physical activity
7. Sleep
8. Leisure
9. Social relationships
10. Food

Not at all (1) A little (2) More or less (3) Often (4) Very often (5)

Difficulty and problems that may be linked to urticaria

11. Do you have trouble sleeping?
12. Do you wake up during the night?
13. During the day, do you feel tired because you don't sleep well at night?
14. Do you have trouble concentrating?
15. Do you feel nervous?
16. Do you feel "down"?
17. Do you feel limited in your choice of food?
18. Are you ashamed of the urticaria patches that appear on your body?
19. Are you embarrassed to go to public places?
20. Is it a problem for you to use certain cosmetics (perfumes, creams, lotions, soaps and makeup)?
21. Do you feel limited in choosing your clothes?
22. Are your sports activities limited because of urticaria?
23. You stay bothered by the side effects caused by the medicines used to treat urticaria?

Not at all (1) A little (2) More or less (3) Often (4) Very often (5)

**Figure 1**

Chronic Urticaria Quality of Life Questionnaire (CUQ2oL)

**How much have you suffered from the physical symptoms of hives (itching, blistering and/or swelling) in the last 4 weeks?**

Very often ( ) Often ( ) More or less ( ) A little ( ) Not at all ( )

**How much your quality of life was negatively affected because of urticaria in the last 4 weeks?**

Very often ( ) Often ( ) More or less ( ) A little ( ) Not at all ( )

**How often your treatment for hives was not enough to control the symptoms of in the last 4 weeks?**

Very often ( ) Often ( ) More or less ( ) A little ( ) Not at all ( )

**Overall, how much were you able to get your hives under control in the last 4 weeks?**

Very often ( ) Often ( ) More or less ( ) A little ( ) Not at all ( )

**Figure 2**

Questionnaire to assess urticaria control (UCT)

### **Instruments**

The Chronic Urticaria Quality of Life Questionnaire (CUQ2oL) and the Urticaria Control test (UCT) were applied.

To obtain an indicator of the health of the participant, an indicator was developed, obtained with the computation of three questions related to the general health conditions of the patients, in an index that oscillated between the value 0 and 1, with value 1 indicating excellent health habits. The questions were about food, hobbies and regular

practice of physical exercise. In addition, questions about age, sex, marital status, use of medication to control symptoms of chronic urticaria, stress factor in triggering chronic urticaria and stress were also added (Table 1).

### **Analysis direction**

Data were saved in Microsoft Excel® program version 2016, and subsequently submitted to descriptive and inferential analysis using version 0.14.1 of the JASP statistical analysis software.

**Table 1**

Sociodemographic and personal information

What is your age?

What is your gender?

What is your marital status?

Do you use any medication to control the symptoms of urticaria?

Did any stressors occur in your life when your urticaria symptoms first appeared?

Do you consider yourself a stressed person?

Do you have any hobbies?

Do you exercise regularly?

Do you think you have a healthy diet?

## Results

The data, collected between April 14 and May 23, 2021, refer to a total of 40 participants. Of the total number of participants, 35, which corresponds to 87.5%, declared themselves to be women. In relation to age, the range oscillated between the values of 16 and 59 years, with a mean of 33.8 years and a standard deviation of 10.8 years. Regarding medication use, 82% reported using antihistamines to control symptoms. Regarding the presence of triggering factors for the onset of chronic urticaria, 60% stated that some stressful event had occurred just before the onset of the disease, and 67.5% of the participants reported that they considered themselves stressed. Regarding the relationship level, of the total number of participants, 16 said they were single, 8 declared they were in a dating relationship, and 16 said they were married.

Initially, the analysis of the results obtained on the correlation between the level of control of chronic urticaria and its effects on the quality of life of patients was performed, through the CUQ2oL and UCT questionnaires.

The first domain of the CUQ2oL questionnaire is related to the patients' quality of life. The mean quality of life obtained in the CUQ2oL questionnaire was 2.8, and the standard deviation was 0.8; This data indicates an intermediate quality of life among the participants, since the scale score oscillates between 1 and 5. To control the effect of traumatic events on quality of life, a *t* test was conducted for the difference between the samples, the which indicated a significant difference ( $t(38) = 2.214$ ;  $p < 0.05$ ). A statistically significant difference was also found for stress ( $t(38) = 2.214$ ;  $p < 0.5$ ). To assess the influence of age and general health status of participants on quality of life, we conducted two correlation analyses, one regarding age, and a significant correlation was found ( $r = 0.373$ ;  $p < 0.05$ ), and another about health, with no significant correlation ( $r = 0.189$ ;  $p = 0.242$ ). The same *t* test was used to identify whether a difference was found between male and female participants, which showed no statistically significant differences ( $t(38) = 1.479$ ;  $p = 0.147$ ). There was also no difference regarding the use of medication ( $t(38) = 1.638$ ;  $p = 0.110$ ). There was also no difference in relation to marital status ( $F(37) = 0.007$ ;  $p = 0.993$ ).

In general, we can identify that the level of quality of life of the patients was reasonable, and this result

suffered changes in variables such as traumatic events, stress and age. It was observed that traumatic events, stress and advancing age are factors that contribute to the impairment of the quality of life of patients with chronic urticaria.

The mean of symptoms obtained in the second and third domains of the CUQ2oL questionnaire was 2.4, and the standard deviation was 1.0; This data indicates a low incidence of symptoms among the participants, since the scale score oscillates between 1 and 5. To assess the influence of age and general health status of participants on the incidence of symptoms, we conducted two correlation analyses; in relation to age, a positive correlation was identified between age and the incidence of symptoms, indicating that the older the person, the greater the severity of symptoms ( $r = 0.388$ ;  $p < 0.05$ ). In the case of the association between health status and symptoms, there was no statistically significant correlation between the variables ( $r = 0.153$ ;  $p = 0.346$ ). To identify whether a difference was found between male and female participants, a *t* test was conducted for the difference between samples, which showed the absence of statistically significant differences ( $t(38) = 0.302$ ;  $p = 0.765$ ). The same *t* test was used to control for the effect of traumatic events on the initial expression of symptoms, and no difference was found ( $t(38) = 1.776$ ;  $p = 0.084$ ). Regarding the use of medication, there was also no difference ( $t(38) = 0.811$ ;  $p = 0.422$ ). There was also no difference in relation to marital status ( $F(37) = 0.998$ ;  $p = 0.378$ ) and stress ( $t(38) = 0.123$ ;  $p = 0.903$ ).

To calculate the instrument's degree of internal consistency, Cronbach's alpha was calculated, which for the first domain presented a value of 0.90, a good indicator of the quality of the measurement, and for the second and third domains it offered an alpha of 0.90. Cronbach who presented the value of 0.882.

The mean of symptoms obtained in the UCT questionnaire was 3.0, and the standard deviation was 1.0; This data indicates an intermediate incidence of symptoms among the participants, since the scale score oscillates between 1 and 5. To identify whether a difference was found between male and female participants, a *t* test was carried out for the difference between the samples, which showed no statistically significant differences ( $t(38) = 0.514$ ;  $p = 0.610$ ). The same *t* test was used to control for the effect of traumatic events on the expression of symptoms, and no difference was found ( $t(38) = 1.563$ ;  $p = 0.126$ ). Regarding the use of medication, there was also



no difference ( $t(38) = 1.795$ ;  $p = 0.081$ ). There was also no difference in relation to marital status ( $F(37) = 1.223$ ;  $p = 0.369$ ) and stress ( $t(38) = 0.508$ ;  $p = 0.614$ ). To assess the influence of age and health status of participants on the incidence of symptoms, we conducted two correlation analyses, both of which did not demonstrate a statistically significant correlation: age ( $r = 0.194$ ;  $p = 0.231$ ) and health ( $r = 0.163$ ;  $p = 0.314$ ).

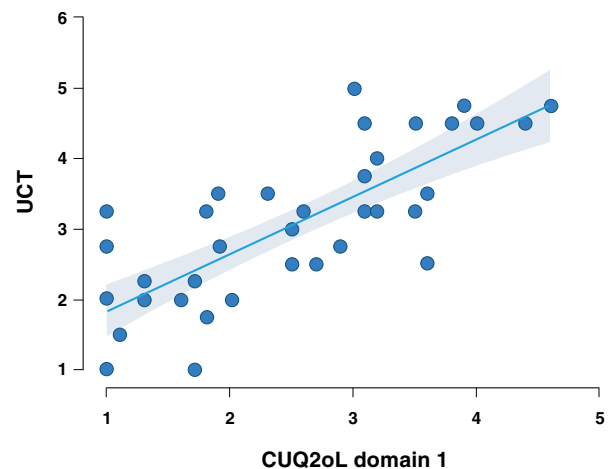
To calculate the degree of internal consistency of the instrument, Cronbach's alpha was calculated, which supplied the value of 0.856.

In general, we can identify that the level of symptoms of the patients was from low to intermediate in both questionnaires used, and these results changed in variables such as age, but did not change in variables such as gender, traumatic events, pain control drugs urticaria symptoms, marital status, stress and health status.

Having presented the descriptive analyses, we will now test our hypothesis that there is an inversely proportional relationship between the level of chronic urticaria activity and the patients' quality of life. To this end, we ran two bivariate correlations, one between the two dimensions of the CUQ2oL, relating to symptoms and quality of life, and a second, between the measure of the CUQ2oL dimension relating to symptoms and the UCT, a second indicator of symptom intensity.

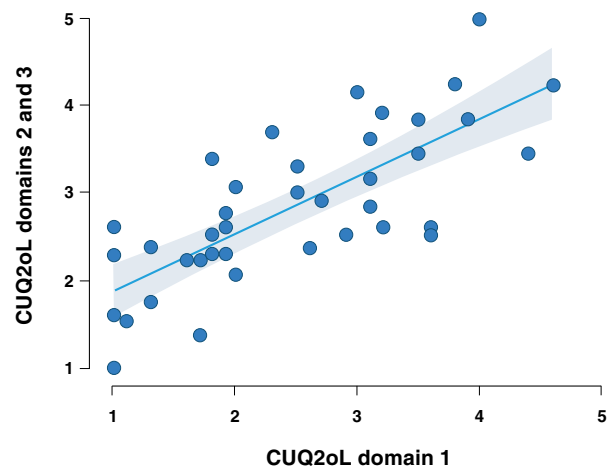
As observed in the scatter diagram presented in Figure 3, it was possible to identify a positive correlation between the intensity of symptoms and the worsening of quality of life ( $r = 0.774$ ;  $p < 0.001$ ), a result that proved to be independent of the effects of variables such as gender, age, traumatic events, medications to control urticaria symptoms, marital status, stress and health status of the participants.

As can be seen in the scatter diagram presented in Figure 4, it was also possible to identify a positive correlation between the intensity of symptoms and the worsening of quality of life, this time measured by the CUQ2oL scale ( $r = 0.768$ ;  $p < 0.001$ ), a result which was independent of variables such as gender, age, traumatic events, medications to control urticaria symptoms, marital status, stress and health status of the participants. The impairment of the quality of life of patients with chronic urticaria occurred mainly in the psychological aspects, in social relationships and in the quality of sleep. 77.5% said they had some difficulty sleeping, 92.5% said they woke up at night, 90% said



**Figure 3**

Positive correlation between the intensity of symptoms and worsening of quality of life



**Figure 4**

Positive correlation between the intensity of symptoms and the worsening of quality of life measured by the CUQ2oL scale

they felt tired during the day because they didn't sleep well, 87.5% found it difficult to concentrate,

Therefore, both analyzes indicated a strong positive correlation between disease activity and worsening of quality of life, which corroborates our working hypothesis.

## Discussion

Urticaria is called chronic (UC) when it has daily or almost daily symptoms for a period longer than six weeks. As a result, patients suffer not only from the impacts of erythematous lesions, intense itching and painful swelling, but also from the insecurity that these symptoms can manifest at any time and in any place. In this chronic form, it often compromises the patient by interfering with their daily activities, with loss of self-esteem and interpersonal relationships.<sup>10,11</sup> Chronic spontaneous urticaria is also frequently associated with absences from school and work, which also has an economic impact on patients' lives.<sup>12</sup>

Urticaria is not emotional, it is not psychological and it is not caused by stress, although these factors can exacerbate the symptoms.<sup>13,14</sup>

Those who have chronic urticaria, whether due to itching or the appearance of the lesions, end up having the insecurity of not knowing when they will have an attack or not. This has an impact on various aspects of social and affective life. All this together, in some people, probably in those more predisposed, can lead to depression, because of the impact it has on quality of life as a whole.<sup>15</sup> The present study corroborated the findings above, as it showed a statistically significant association between stress and quality of life in patients with chronic urticaria ( $t(38) = 2.214$ ;  $p < 0.5$ ).

Although urticaria is common at any age, we have observed that acute urticaria (UA) is more frequent in children and young adults, while UC usually occurs in middle age.<sup>16,17</sup> The present study corroborated the previous data by demonstrating that in relation to age, a positive correlation was identified between age and the incidence of symptoms, indicating that the older the person, the greater the severity of symptoms ( $r = 0.388$ ;  $p < 0.05$ ).

Comfort and a sense of well-being, the ability to maintain reasonable physical, emotional and intellectual function and the degree of retention of the ability to participate in activities with family members, co-workers and the community are some of the attributes valued by patients.<sup>18</sup> In chronic urticaria, chronic pruritus with the presence of urticaria and/or angioedema, and other factors such as the cost of therapy and social isolation, contribute to the frustration these patients experience.<sup>19</sup> Thus, it can be said that the social, psychological, environmental and physical impact of the urticaria lesion on the affected individual, and even on his/her group, is significant.

The patient has significant emotional instability, due to the public nature of the symptoms. In its severe forms, consequent profound negative impact on quality of life.<sup>5,13</sup> The present study corroborated the previous data by demonstrating a positive correlation between the intensity of symptoms and the worsening of quality of life ( $r = 0.774$ ;  $p < 0.001$ ).

Chronic urticaria is significantly more common in women than in men.<sup>20</sup> The real incidence of CSU is unknown, but a variation of 0.1% to 3% in the general population is estimated, being more common in women, in a proportion of two women for every man.<sup>21</sup> According to the Brazilian Association of Allergy and Immunology (2018), 60% of all chronic urticaria are spontaneous, affecting mainly middle-aged women. The present study did not find a statistically significant association between sex and chronic urticaria, possibly because more women seek health services than men.

The treatment of CSU aims to control the symptoms and improve the patient's quality of life. A dual approach has been suggested: the first represents the attempt to identify and eliminate possible triggering factors, and the second represents the pharmacological treatment. Controlling CSU is not easy due to the difficulty in identifying the etiology of the disease and the poor therapeutic response in most patients.<sup>13</sup> The present study did not find a statistically significant association between the use of medication to control symptoms and the worsening of the quality of life of patients with chronic urticaria, possibly due to the fact that only 6 patients in the study were not using medication for the disease.

It is concluded that chronic urticaria compromises the quality of life measured by the UCT and CUQ2oL questionnaires. There was a statistically significant association between the activity of chronic urticaria and the worsening of quality of life, affected by the variables age, stress and traumatic events. However, no statistical significance was found in relation to sex, drugs to control urticaria symptoms, marital status and health status. The impairment of the quality of life of patients with chronic urticaria occurred mainly in the psychological aspects, in social relationships and in the quality of sleep.

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No conflicts of interest declared concerning the publication of this article.

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