ORIGINAL ARTICLE

Quality of life in chronic urticaria: a survey at a public university outpatient clinic, Botucatu (Brazil)

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SUMMARY

Objective: To evaluate the impact of chronic urticaria on quality of life of outpatients through the university questionnaire Dermatology Life Quality Index (DLQI). **Methods:** Survey of the impact on quality of life caused by chronic urticaria, using the DLQI questionnaire validated for the Portuguese language. Patients were interviewed during visits to a specialized outpatient clinic between May 2009 and May 2010 at a Brazilian public service (Botucatu-SP). DLQI scores were analyzed according to the following subgroups: age, gender, education, disease duration, and presence of angioedema. **Results:** We interviewed 100 patients with chronic urticaria. There was a female predominance (86%), mean age 41.8 years, mean disease duration of 6 years, and angioedema occurrence in 82% of patients. The mean DLQI score was 13.5, characterized by serious impact on quality of life, higher than Hansen's disease, psoriasis, atopic eczema, and basal cell carcinoma. The presence of angioedema was associated with higher scores: 14.5 x 9.9 ($p < 0.01$). Female patients reported greater impact on clothing, while male patients reported treatment interference with work and study ($p < 0.05$). **Conclusion:** Chronic urticaria seriously compromises the quality of life of patients evaluated at a university service in Brazil, particularly of patients with angioedema.

Keywords: Angioedema, urticaria, quality of life, sickness impact profile; quality of life index.

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INTRODUCTION

Chronic urticaria (CU) is a complex disease, which is rarely fatal, but significantly undermines the patients' quality of life[1]. It is characterized by erythematous-edematous papules and plaques, which are pruritic, evanescent, and recurrent at irregular intervals. It lasts more than six weeks and is not clinically different from the acute form. CU may occur concomitantly with angioedema in about 40% of patients[1-3]. It is a common clinical condition, which is among the ten most common diagnoses in dermatological services[1].

The disease prevalence is 0.1% in the general population; 0.27-2.1% in familial research; 1-5% in dermatological care; and 10% in visits to allergy clinics[3-7]. It is estimated that 12-25% of the population has had at least one episode of urticaria in their lifetime[5,8], however, epidemiological studies of UC are scarce.

The impact of CU clinical symptoms on patients' quality of life (QoL) is often underestimated, with few reports in literature. The Dermatology Life Quality Index (DLQI) was the first construct for assessing the quality of life specifically related to dermatology, developed by Finlay and Khan in 1994[9]. It consists of 10 questions that estimate the influence of disease with regard to symptoms, daily activities, leisure, work, school, personal relationships, and treatment. DLQI was translated and validated into Portuguese (Table 1) and has been already applied to several skin diseases[10-16].

Perceptions about the impact of disease on patients' lives are supported by cultural aspects, which justify its assessment in different populations. To date, there are no studies of QoL and CU in Latin American populations. The authors' aim was to assess the impact of chronic urticaria on quality of life of patients treated at a university service in the city of Botucatu, Brazil.

METHODS

A survey of the impact on quality of life caused by CU was performed using the DLQI questionnaire validated for the Portuguese language (Table 1)[16].

From May 2009 to May 2010, we selected consecutive patients with CU during their visits to the outpatient clinic of urticaria, Medical School, Unesp (Botucatu, SP). Patients were well informed and agreed to participate in the study. The project was approved by the local Institutional Ethics Committee (protocol nº 3159/09).

Demographic, clinical, and health-related QoL data were investigated. DLQI total score was calculated by summing the score of each of the 10 questions assessed and interpreted as no impairment of quality of life (0-1), mild impairment (2-5), moderate impairment (6-10), severe impairment (11-20), or very severe impairment (21-30)[9].

Categorical data were represented by percentage frequencies; confidence intervals were estimated at 95% (95% CI) and compared by Person's chi-square test for trend and residual analysis of the contingency table. Continuous data were represented as means and standard deviations, and confidence intervals estimated at 95% (95% CI) and compared by Student's *t* test. Normality was assessed by Shapiro-Wilk test and homoscedasticity by Levene[17,18].

Table 1 – Questions and domains assessed by the DLQI questionnaire, validated for the Portuguese language[16]

Questions*	Domains
1. How much has your skin been affected during the past week because of itching, inflammation, pain, or stinging? 2. How much embarrassment or other type of limitation was caused by your skin during the past week?	Symptoms and feelings
3. How has your skin interfered with your activities of going shopping or sight-seeing, at home or public places during the past week? 4. Over the last week, how much has your skin influenced the clothes you regularly wear?	Daily activities
5. How much has your skin affected any of your social or leisure activities over past week? 6. How difficult was it for you to practice sports over the past week?	Leisure
7. Did your skin prevent you from working or studying over the past week? **	Work and school
8. How much trouble has your skin created with your partner or any of your close friends or relatives? 9. How much difficulty has your skin created in your sex life over the past week?	Personal relationships
10. How much trouble did your skin treatment create for you over the last week?	Treatment

DLQI, Dermatology Life Quality Index; *Admits as answers: 3 (very much), 2 (a lot), 1 (a little), 0 (no or not relevant); **Admits: 3 (very much) or 0 (no or not relevant). If not, ask: Has your skin been a problem for you at work or school? If yes: 2 (very much) or 0 (no or not relevant).

Subsequently, analysis of total scores and independent variables (gender, age, education, disease duration and presence of angioedema), according to subgroups, was performed. Data were adjusted by analysis of covariance[17].

The result of question scores was assessed by dendrogram resulting from hierarchical cluster analysis, and the questionnaire internal consistency was estimated by Cronbach's alpha[17].

Sample size was based on pre-test with 80 patients, assuming alpha and beta errors of 5% and 20%, respectively, and results were tabulated in MSExcel 2003 and analyzed by SPSS 17.0 software[19]. Two-sided p-value of < 0.05 was considered statically significant[17].

Results

One hundred patients with UC were interviewed. The main demographic and quality of life data are shown in Table 2.

It is noteworthy that there was a female predominance (6:1), involvement of working-age adults, mean total DLQI score classified as "severe impairment of quality of life", and high frequency of angioedema.

There was no exclusion of patients, and all agreed to participate.

Cronbach's alpha resulted in 0.73, ensuring internal consistency of the questionnaire.

Scores of the different domains assessed by the DLQI questionnaire are shown in Figure 1. Analysis of scores (hierarchical clustering) and residual analysis of the contingency table showed more severe involvement of CU in areas relating to symptoms and feelings (questions 1 and 2), daily activities (question 3) and leisure (question 5).

Presence of angioedema was the only variable that was significantly associated with worst scores on DLQI, even when adjusted for gender, age, disease duration and education. The mean score (± SD) of DLQI for patients with angioedema was 14.3 (± 5.3) versus 9.9 (± 3.8) for patients without angioedema ($p < 0.01$).

Regarding gender, there was a greater impact of CU on quality of life of women in question 4 (clothing), while in question 7 (work/study) and question 10 (treatment), the impact was greater for men ($p < 0.05$).

Patients with more education (secondary and higher education) reported higher impact of CU on quality of life on questions 2 (embarrassment) and 6 (sports), when compared with those without education or with primary education ($p < 0.05$). Older ages were significantly associated with lower scores only on question 4 (clothing).

Finally, longer duration of illness was associated with lower scores on questions 1 (symptoms) and 4 (clothing), but with higher scores on questions 2 (embarrassment) and 7 (work/study) ($p < 0.05$).

Discussion

In this study of Brazilian adult patients, CU has caused severe impairment of quality of life, particularly among patients with CU and angioedema (DLQI 14.3 points) compared with patients with CU alone (DLQI 9.9 points).

Angioedema is often associated with long-lasting and resistant cases of CU, as occurs in patients with physical urticaria; positive autologous serum test; and more extensive cases[7,20,21].

In addition, patients with angioedema suffer major limitations related to different daily activities, especially due to the symptoms that cause embarrassment in public places, sports, work/study, and leisure.

The authors believe that the high frequency of angioedema in this series occurred because the institution is a referral service, which receives cases that are more severe, long-lasting, and less responsive to treatment with conventional antihistamines[22].

Table 2 – Demographic variables and patients' quality of life

Variables	Data	95% CI
Sex (n)		
Female	86	79.1%-92.9%
Male	14	7.1%-20.9%
Age (years) – mean (SD)	41.8 (14.5)	38.9%-44.7%
Age at onset	36.1 (14.0)	33.3%-38.9%
Disease duration	5.7 (4.6)	4.8%-6.6%
Education (n)		
Illiterate	5	0.7%-9.3%
Elementary school	57	47.2%-66.8%
High school	34	24.6%-43.4%
Higher education	4	0.1%-7.9%
Angioedema (n)	82	74.4%-89.6%
DLQI total – mean (SD)	13.5 (5.3)	12.4%-14.5%

DLQI, Dermatology Life Quality Index; SD, standard deviation; 95% CI, 95% confidence interval.

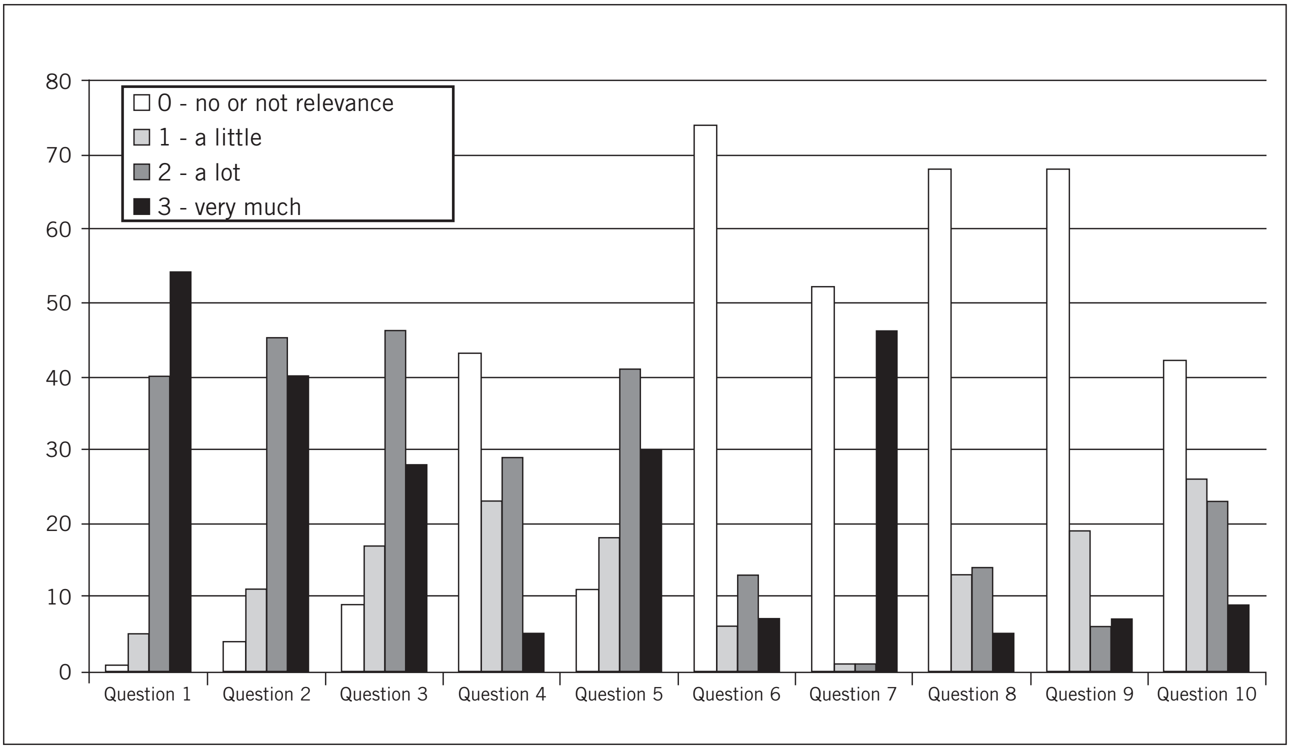

Figure 1 – Frequency of the questionnaire Dermatology Life Quality Index (DLQI) answers according to the question evaluated.

National studies of other dermatoses, also chronic, such as Hansen's disease and psoriasis, atopic dermatitis, and vitiligo, among others (Table 3), also observed a substantial impact on QoL of their patients, indicated by the high scores on DLQI[7,16,23-26]. However, in this work, we found mean scores even higher for patients with CU.

In fact, the CU has an impact on QoL, and its indices resemble those of patients after myocardial infarction[7,20,21,27]. Although chronic, CU has features of acute and unusual onset. Such unpredictability can limit everyday activities and generate sudden limitations.

Another factor that may contribute to the perception of QoL impairment refers to the high coexistence of psychiatric disorder (35-50%), especially anxiety, depression, somatoform disorders, and sleep disorders, as identified in other studies involving series of patients with CU[28-30].

We also found strong association of female with CU; this finding is consistent with other previous studies[6,7,22]. In fact, women are more affected not only by CU, but by other autoimmune diseases.

Similarly, the perceived impact on the QoL of women was different from men in domains related to clothing, work/study, and treatment. A possible explanation for this is the characteristic of female vanity that may have influenced the higher scores for daily activities. Jobs requiring concentration, such as drivers and machine operators, are predominantly male, which may explain the higher scores of men in these domains, mainly influenced by the side effects of treatments.

Table 3 – DLQI mean scores for dermatological conditions in Brazilian populations[16,26]

Disease	Mean DLQI
Chronic urticaria	13.5
Hansen's disease	11.0
Psoriasis	10.3
Basal cell carcinoma	8.5
Atopic dermatitis	7.9
Acne	7.4
Contact dermatitis	6.5
Alopecia areata	4.6
Vitiligo	4.0

DLQI, Dermatology Life Quality Index.

The impact on clothing was also significantly higher among young people, probably due to the more meaningful representation of clothing in their everyday lives.

The educational level was associated with greater impact on questions relating to symptoms and feelings, as well as leisure, suggesting that patients with more education are more socially exposed or overconcerned with such exposure.

Patients with long-lasting disease complain less about the impact related to symptoms and clothing, however, they reported greater social embarrassment and impact on work.

Resignation in the face of chronic disease can result from strong doctor-patient relationship and realistic understanding of disease severity, minimizing their fears. On the other hand, the chronicity of disease can lead to events of absenteeism, professional rehabilitation, and frustrations in social relations.

Possible limitations of this study may be the lack of comparative analysis with other dermatoses and the homogeneity of patients coming from a tertiary public service, restricting data generalization, mainly related to socioeconomic characteristics and severity of clinical conditions. However, qualitative studies are, per se, population perceptions linked to cultural aspects that should not be compared between groups, but that characterize a population.

Conclusion

Chronic urticaria seriously compromises the quality of life of patients evaluated at a university service in Brazil, particularly of patients with angioedema.

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