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Eczema das Mãos: Qualidade de Vida e Gravidade da Doença numa População Portuguesa

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RESUMO – Introdução: O eczema das mãos é uma doença muito comum e com importante impacto social e ocupacional. **Objetivos:** Caracterizar a população seguida no Hospital de Braga por eczema das mãos no período de um ano; avaliar o impacto da doença na qualidade de vida; correlacionar a gravidade da doença com a qualidade de vida. **Métodos:** Os autores desenharam um estudo prospetivo. Todos os doentes preencheram um questionário para avaliar a qualidade de vida (*Dermatology Life Quality Index - DLQI*) e foram avaliados para determinar a gravidade da doença usando o HECSI (*Hand Eczema Severity Index*). Todos os pacientes foram submetidos a testes epicutâneos. Foi definida a etiologia e duração da doença, assim como existência de antecedentes de atopia e/ou psoríase. **Resultados:** Foram incluídos 85 doentes, a maioria mulheres (78,8%). A mediana do DLQI foi 9,0. Encontraram-se diferenças estatisticamente significativas na variável HECSI entre géneros com maior impacto no sexo masculino. Observou-se correlação positiva significativa entre HECSI e DLQI. As variáveis DLQI e HECSI revelaram-se independentes das variáveis atopia, psoríase ou etiologia. O aumento da idade afetou significativamente o DLQI, mas não o HECSI. **Conclusões:** O eczema das mãos tem impacto significativo na qualidade de vida. Embora a doença seja mais prevalente no sexo feminino, verificou-se maior gravidade da doença entre os homens. A qualidade de vida parece ser influenciada pela severidade da doença e aumento da idade, mas foi independente das outras variáveis estudadas.

PALAVRAS-CHAVE – Avaliação de Resultados; Dermatite de Contacto; Dermatite Ocupacional; Dermatoses da Mão; Eczema; Portugal; Qualidade de Vida.

Hand Eczema: Quality of Life and Disease Severity in an Outpatient Portuguese Population

ABSTRACT – Introduction: Hand eczema is a very common disease with a significant social and occupational impact. **Objectives:** To characterize a Portuguese outpatient population with hand eczema; to evaluate the impairment of the disease in quality of life (QoL); to relate the disease severity with QoL. **Methods:** The authors designed a prospective study. Information about atopy, psoriasis, occupational exposure and duration of disease, was recorded. The QoL was assessed by the DLQI questionnaire (*Dermatology Life Quality Index*) and the severity was assessed using the hand eczema severity index (HECSI). All participants were patch tested. **Results:** Eighty-five patients were included with a female predominance (78.8%). The median DLQI was 9.0. We found statistically significant differences in the variable HECSI between genders with greater impact in males. A significant positive correlation was found between HECSI and DLQI. DLQI and HECSI were independent of atopy, psoriasis or etiology. Increasing age significantly affects DLQI but not HECSI. **Conclusions:** Hand eczema has a significant impact in QoL. Although the disease is more prevalent among women it was found to be of greater severity among men. The QoL seems to be influenced by disease severity and increasing age but it was independent of the other studied variables.

KEYWORDS – Dermatitis, Contact; Dermatitis, Occupational; Eczema; Hand Dermatoses; Outcome Assessment (Health Care); Portugal; Quality of Life.

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INTRODUCTION

A hand eczema is one of the most frequent dermatoses in clinical practice, with a 1-year prevalence of 10% and a lifetime prevalence of 15% in the general population.¹

The typical hand eczema population has a clearly female predominance with a female to male ratio of 2:1.¹ These differences have been attributed to exposure patterns and a higher prevalence of atopic dermatitis in the female gender.^{1,2}

It causes an important impact in social and occupational context, leading to significant impairment in patient's quality of life (QoL), to the same degree as other diseases, such as psoriasis or atopic dermatitis.³

However, in Portugal there are few epidemiological data on this subject and few studies evaluating the impact of hand eczema in patient's QoL.

The objectives of this study were: to characterize the population from Hospital de Braga diagnosed with hand eczema (during one year), to evaluate the disease severity and its impact in QoL and to correlate the disease severity and the DLQI with other potential involved variables.

METHODS

The study was designed as a prospective study, to include patients with hand eczema who attended our Dermatology outpatient clinic from September 2014 to August 2015.

Eligible patients (referred for the evaluation of hand eczema; aged ≥ 18 years; capable of replying to questionnaires) were enrolled consecutively into the study after giving their informed consent.

As the participation only meant to complete the QoL questionnaire, virtually all invited patients accepted to participate.

The demographic profile and information on concomitant psoriasis or atopy (based on patient's history and clinical findings), occupational exposure and disease duration were recorded. Patients with biopsy proven palmar psoriasis were excluded from the study.

All participants were patch tested with the GPEDC - Portuguese Contact Dermatitis Group - baseline series and, when justified, complementary series, according to the recommendations from the European Society of Contact Dermatitis (ESCD).⁴

Data on QoL was obtained from a self-administered questionnaire using the dermatology life quality index (DLQI), a dermatology-specific questionnaire with 10 items that covers six aspects of daily life experienced during the previous week. The DLQI score is calculated by summing-up the score of each question, with a maximum score of 30 and a minimum of 0. The higher the score, the greater the impairment of quality of life.^{5,6}

The severity of hand eczema was assessed using the hand eczema severity index (HECSI) score. HECSI includes scoring for the following morphological symptoms

(erythema, infiltration, vesicles, fissures, scaling and edema) as well as the number of the affected area within the hands (fingertips, fingers (except fingertips), palms, back of the hands and wrists). The score given for the extent at each location is multiplied by the total sum of the intensity of each clinical feature, and the total sum called HECSI score is calculated, varying from 0 to 360 points.⁷

Although according to the European Environmental and Contact Dermatitis Research Group (EECDRG) five possible diagnostic options should be considered for hand eczema classification (allergic contact dermatitis (ACD); irritant contact dermatitis (ICD); atopic hand eczema; dyshidrotic/vesicular hand eczema; hyperkeratotic eczema),⁸ in this study, the authors decided, for practical and logistic reasons, to limit the analysis to only two diagnostic options (ACD or ICD), based respectively on the presence or absence of relevant positive reactions on patch tests. All patients with suspected purely atopic, dyshidrotic/vesicular or hyperkeratotic hand eczema were not included in this study. The ACD diagnosis was used when clinical relevant allergic exposures were assessed.

All the procedures were approved by our hospital Ethics Committee and were in accordance with the current Helsinki Declaration.

STATISTICS

Categorical data were analyzed with the chi-square test and logistic regression using the IBM SPSS® STATISTICS version 19.0 for Windows®. Both the HECSI and DLQI values were tested according to the normal distribution and turned out to be non-normal. Non-parametric tests were used (Mann-Whitney U test) for the comparison of continuous variables (i.e. HECSI, age, DLQI) between groups.

The Spearman correlation was used for correlation studies.

All p-values presented are two-sided and a $p < 0.05$ was considered for statistical significance.

RESULTS

A total of 85 patients met the inclusion criteria, 67 females (78.8%) and 18 males (21.2%), with a female-to-male ratio of 3.7:1.

The mean age was 37.9 years (standard deviation of 11.8 years).

A history of atopy (allergic asthma, rhinitis or atopic eczema) was found in 27 patients (31.8% of total), and psoriasis was present in 10 patients (11.8% of total).

Of the 85 patients, 47 (55.3%) were classified as ACD and 38 (44.7%) were classified as ICD. Metals (nickel sulfate, cobalt chloride), rubbers (thiuram mix), preservatives (methylisothiazolinone) and fragrances (fragrance mix I and II) were the most frequent allergens found in the patch tests. A relevant occupational exposure was highly probable in 33 patients (38.8%).

Table 1 - Characteristics of the studied sample (n=85), the severity of hand eczema evaluated by the HECSI score and the impact on the quality of life (QoL), evaluated by the DLQI.

Gender	n (%)
Female	67 (78.8)
Male	18 (21.2)
Age (years), mean (SD)	37.9 (\pm11,8)
Atopy, n (%)	27 (31.8)
Psoriasis, n(%)	10 (11.8)
Etiology	n (%)
Allergic	47 (55.3)
Irritant	38 (44.7)
Occupational cause, n (%)	33 (38.8)
Dermatosis evolution (years), median (P25-P75)	2.0 (2.0-5.0)
HECSI, median (P25-P75)	36.0 (21.0-55.0)
DLQI, median (P25-P75)	9.0 (6.0-15.0)
DLQI score, n (%)	
No effect at all on patient's QoL (0-1)	2 (2.4)
Small effect on patient's QoL (2-5)	13 (15.3)
Moderate effect on patient's QoL (6-10)	33 (38.8)
Very large effect on patient's QoL (11-20)	27 (31.8)
Extremely large effect on patient's QoL (21-30)	10 (11.8)

The median duration of the dermatoses was 2 years (P25: 2.0; P75: 5.0).

In the study population, the median HECSI score was 36 and the median DLQI was 9.0. Seventy patients had a DLQI higher than 5 and 37 patients had a DLQI higher than 10, meaning a great impact of the disease in the daily life (Table 1).

A statistically significantly higher mean HECSI score was found in males (50.0) compared to females (32.0) but no significant difference between genders was found for the DLQI score (Table 2). The presence of atopy, psoriasis or the etiology (ACD vs ICD) did not significantly affects the HECSI or DLQI scores (Table 2).

There was a significant positive correlation between age and DLQI ($p = 0.004$) but not between age and HECSI ($p = 0.052$).

There was no significant linear correlation between duration of the hand eczema and the HECSI ($p = 0.868$) or the DLQI ($p = 0.775$).

A statistically significant positive correlation was found between HECSI and DLQI ($p = 0.003$).

DISCUSSION

Hand eczema is one of the most common causes of dermatological consultation. Over the last years many studies have been published on this topic showing a significant impact on patient's QoL.⁸⁻¹² However, the hand eczema population in Portugal is yet to be accurately described and studied. We conducted this study to assess the severity of hand eczema and its impact in QoL in a public hospital outpatient population.

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Table 2 - HECSI and DLQI correlation with gender, atopy, psoriasis and etiology.

		Median HECSI (P25-P75)	p	Median DLQI (P25-P75)	p
Gender	♀	32.0 (20.0-48.0)	0.029	9.0 (6.0-15.0)	0.271
	♂	50.0 (26.8-87.5)		12.0 (7.5-20.0)	
Atopy	Yes	30.0 (16.0-45.0)	0.087	8.0 (5.0-15.0)	0.337
	No	40.0 (24.5-56.0)		9.0 (7.0-15.0)	
Psoriasis	Yes	36.0 (19.3-70.5)	0.973	12.5 (8.0-18.5)	0.126
	No	36.0 (22.0-54.0)		9.0 (6.0-21.4)	
Etiology	Allergic	40.0 (20.0-57.0)	0.744	10.0 (6.0-17.0)	0.288
	Irritant	32.0 (24.8-49.5)		8.5 (6.0-13.0)	

A typical cohort of hand eczema patients has a female to male ratio (F:M) of 2:1.1 In the population we studied however, we found a female to male ratio that was almost the double of that value (F: M = 3.7:1). Some possible explanations for that difference can be attributed to the referral of our patients that may have biased our study population. Only chronic and recalcitrant cases were sent to our clinic by general practitioners or colleagues from other medical specialties and as women are more prone to seek medical advice this may have influenced that gender ratio.

The median age of 37.9 years in our study is similar to the median age of a typical cohort of hand eczema patients.⁸

The prevalence of atopy and psoriasis was 31.8% and 11.8% respectively. In 2015, Agner et al published a paper on hand eczema classification and reported a prevalence of atopy of 25% and a prevalence of psoriasis of 5%.¹³ In our population the prevalence of atopy was similar but that of psoriasis was higher than in previous studies.^{13,14}

Work-relation was found in 38.8% of cases, which is lower than most studies published in the literature.^{8,13,14}

The median duration time of evolution of the dermatoses was 2 years, significantly lower than 6 years found by Agner et al.¹³

The distribution irritant/allergic dermatitis was 0.81 (ICD: 38 patients (44.7%); ACD: 47 patients (55.3%)). This is in complete contrast with the typical distribution with predominance of the irritant etiology but in accordance with the 63% contact sensitization previously published by Agner et al.^{8,15} As stated in the literature, these high values of contact sensitization are probably due to the extensive testing of the patients – the more you test the more you find.¹⁴

The clinical severity of hand eczema was objectively evaluated using the validated HECSI score and a median value of 36.0 was found, which is consistent with the mean HECSI values of 43.0 reported by Mollerup et al.¹⁶ This HECSI score correlates with a severely affected population.

The QoL of the study population was assessed subjectively by the DLQI questionnaire and a median value of 9.0 was obtained which corresponds to a moderate effect on patient's QoL, in agreement with similar studies.^{8,11,17} Further analysis showed a significant burden of hand eczema in our population based on the fact that 70 patients had a DLQI higher than 5 and 37 patients had a DLQI higher than 10 (Table 1).

In agreement with published data, we found statistically significant differences in the variable HECSI between genders ($p = 0.029$) with higher values in males (Table 2).⁸ Although men had a higher median DLQI score, this difference was not statistically significant ($p = 0.271$) (Table 2) and means that QoL was equally affected in both genders, which is in line with the findings of Agner et al.⁸

Quality of life and disease severity were independent of atopy, psoriasis or etiology (Table 2), in consonance to what has been described in previous reports.^{3,8}

A significant positive linear correlation was found between HECSI and DLQI ($p = 0.003$). This finding is in line with previous studies on this topic and substantiates the empiric impression that quality of life is related with hand eczema severity.⁸

Neither QoL nor disease severity seem to be influenced by the increased duration of the dermatitis.

We found that increasing age significantly affects QoL

($p = 0.004$) but not disease severity ($p = 0.052$), findings that are opposed to other reports in the literature.^{8,16} In fact, previous findings show that the increase in age significantly correlates with the severity of the disease but not with QoL, and this has been attributed to the fact that with the passing age the patients acquired strategies of adaptation and acceptance as well as a lower importance attributed to aesthetics at higher ages.⁸

The opposite seems to be the case in our study and we do not yet have an obvious explanation. We consider that there may be a possible representation bias because our sample has a very high female-to-male ratio, and therefore it is a sample with few men, which weakens these conclusions. On the other hand, we know that DLQI surveys are often difficult to interpret, especially at more advanced ages and this may have had some influence as well.

CONCLUSION

The data collected from this study confirms that hand eczema has a significant impact in patient's QoL. Although the disease is more prevalent among women a greater impairment in QoL and higher clinical severity was found among men but only with statistical significance for the latter.

The QoL seems to be influenced by disease severity and increasing age but it was independent of the other studied factors. This was, to the best of our knowledge, the first study in Portugal to investigate the impact of hand eczema in QoL in a sample of dermatological outpatients.

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Confidencialidade dos dados: Os autores declaram ter seguido os protocolos do seu centro de trabalho acerca da publicação dos dados de doentes.

Proteção de pessoas e animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial

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Protection of human and animal subjects: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

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