

Impact of hand eczema severity on quality of life

Ujwala Priya Charan, C. V. Dincy Peter, Susanne A. Pulimood

Departments of
Dermatology, Venereology
and Leprosy, Christian
Medical College, Vellore,
Tamil Nadu, India

ABSTRACT

Background: Hand eczema is a common disease seen in dermatological practice comprising of a spectrum ranging from mild disease to a severe distressing and chronic course with a negative impact on the quality of life. **Aim:** To assess the impact of hand eczema severity on quality of life. **Materials and Methods:** Patients with hand eczema were enrolled in a prospective study. Disease severity was assessed by hand eczema severity index (HECSI) score and quality of life by dermatology life quality index (DLQI) questionnaire. **Results:** Forty-six patients participated of which 22 (47.8%) were males and 24 (52.2%) females. The commonest age group affected among men and women was 50-59 years (31.8%) and 40-49 years (41.7%) respectively. History of atopy was found in 23.9% and 63% had persistent disease. In 28 (60.9%), the trigger was washing soaps and detergents of which 21 (87.5%) were housewives. Of those employed, 27.7% reported loss of work days. The mean HECSI score was 14.46 (S.D = 20.98) and mean DLQI score was 9.54 (S.D = 5.62). Gender, age, occupation and duration of disease did not significantly affect the quality of life or disease severity. Increased episodes of eczema (>4 episodes/year) showed a statistically significant correlation with DLQI (P value = 0.021). There was no significant correlation between HECSI score and DLQI in this study. **Conclusion:** Majority of the patients with hand eczema had a significant impairment of their quality of life. The impairment of quality of life in this study was mainly dependent on increased frequency of the eruptions and not on hand eczema severity.

Key words: Hand eczema, hand eczema severity index, quality of life

INTRODUCTION

Hand eczema is one of the most frequently seen diseases in dermatological practice causing emotional and physical distress. Its 1 year prevalence in the general population is 10% with a lifetime prevalence of 15%.^[1] For one-third patients the disease starts before 20 years of age and is often occupation related.^[2]

Hand eczema comprises a continuum of symptoms and severities, from very mild disease to severe illness demanding sick leave, change of occupation or permanent disability, thus in turn affecting the quality of life.^[3] There are various morphological patterns of hand eczema described in literature.^[4] Various endogenous and exogenous factors contribute to the development of hand eczema of which atopy and contact sensitization to various allergens has been largely studied over the years.^[5]

In this study, we assessed the impact of hand eczema severity on the quality of life of patients attending a tertiary care centre in South India. We also assessed whether there was any

correlation of age, gender, occupation, duration and frequency of episodes of disease with hand eczema severity and quality of life.

MATERIALS AND METHODS

A prospective study was done including consecutive patients with hand eczema who attended the Dermatology outpatient department at a tertiary care center in South India during August and September 2010.

Inclusion criteria

All patients who presented with hand lesions suggestive of eczema were included in the study after informed consent.

Exclusion criteria

Patients less than 16 years of age.

Patients whose skin scraping for fungus was positive on potassium hydroxide (KOH) mount.

Patients who had palmar psoriasis (biopsy proved or with other psoriatic skin lesions and/or nail involvement).

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Address for correspondence:

Dr. Ujwala Priya Charan,
Department of
Dermatology,
Venereology and Leprosy,
Christian Medical
College, Vellore - 632 004,
Tamil Nadu, India.
E-mail: ujwalacharan@rediffmail.com

Patients who did not give consent to be part of the study.

Demographic profile, details of occupation, atopy (based on patient's history and clinical findings), duration and frequency of eruption, aggravating factors and number of days of loss of work due to the disease were recorded.

The severity of hand eczema was assessed by use of the hand eczema severity index (HECSI) score. HECSI includes scoring of morphological symptoms including erythema, infiltration, vesicles, fissures, scaling, and edema as well as a scoring of the affected area on the hands. Each hand is divided into five areas: Fingertips, fingers (except the tips), palms, back of hands, and wrists. For each of these areas the intensity of erythema, induration, papulation, vesicles, fissuring, scaling, and edema is graded on the following scale: 0-no skin changes; 1-mild disease; 2-moderate; and 3-severe. For each location (total of both hands) the affected area is given a score from 0-4 (0: 0%; 1: 1-25%; 2: 26-50%; 3: 51-75%; and 4: 76-100%) for the extent of clinical symptoms. Finally, 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 the HECSI score is calculated, varying from 0 to a maximum severity score of 360 points.^[3]

Data on quality of life was obtained from a self-administered questionnaire using the dermatology life quality index (DLQI). It is a 10-item questionnaire, which covers six aspects of daily life experienced during the past week: (i) symptoms and feelings, (ii) daily activities, (iii) leisure items, (iv) work and school, (v) personal relationship items, and (vi) treatment. The DLQI score is calculated by summing the score of each question, with a maximum score of 30 and a minimum score of 0. The higher the score, the greater the impairment of life.^[6]

Hongbo, *et al.* in his study looked at the relationship between DLQI and the patients' views of the overall impairment of their skin-related quality of life. He proposed the following classification of DLQI score: 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. He stated that classifying DLQI will aid in the clinical interpretation of an individual's DLQI score, thus help in making clinical decisions.^[7]

The study was carried out after approval by the institutional research and ethics committee.

Statistical analysis

Analysis of the data was done with the STATA version 10 software package. A sample size of 46 patients was arrived at using a correlation co-efficient of +0.4, power -80% and level of significance -5%. Spearman's rank correlation and Chi square tests were used for data analysis.

RESULTS

Forty-six patients participated, of which 22 (47.8%) were males and 24 (52.2%) females. Commonest age group affected among men and women was 50-59 years (31.8%) and 40-49 years (41.7%) respectively.

History of atopy was present in 23.9% of patients and 63% had persistent disease. In our study, 21 (45.6%) patients were housewives, 8 (17.4%) were manual labourers, 10 (21.7%) were industrial workers while 7 (15.2%) were unemployed. In 28 (60.9%) patients, the trigger was washing soaps and detergents and among them 21 (87.5%) were housewives. A diagnosis of wear and tear dermatitis (60.8%) [Figure 1], pompholyx (8.6%) [Figure 2] and discoid eczema (4.3%) was made based on history and physical examination. Twenty-six percent had history suggestive of dermatitis due to a contact allergen. Of those employed, 5/18 (27.7%) reported loss of work days; three patients reported upto 5 weeks loss of



Figure 1: Wear and tear dermatitis



Figure 2: Pompholyx

work days and less than 1 week in two patients. One patient reported necessity to change the occupation. The mean HECSI score was 14.46 (S.D = 20.98) and mean DLQI score was 9.54 (S.D = 5.62) in the study population [Table 1].

Increased episodes of eczema (>4 episodes/year) showed a statistically significant correlation with DLQI (P value = 0.021). Gender, age, and duration of disease did not significantly affect the quality of life (P values = 0.234, 0.097, 0.612). Disease severity did not show any significant correlation with the above parameters (P values = 0.523, 0.218, 0.653). The number of days of loss of work was not affected by the hand eczema severity (P value = 0.176) nor did it affect the quality of life of an individual (P value = 0.517).

There was no significant correlation between HECSI and DLQI in this study (P value = 0.078). However, 43.6% (17/39) of the patients with low HECSI scores (score <20) had DLQI score >10. This clearly shows that hand eczema with low HECSI score also have a large negative impact on their quality of life.

DISCUSSION

Hand eczema is a common occupational dermatoses requiring dermatological care. Studies published in the past have shown significant negative impact of severity of hand eczema on the quality of life of an individual.^[5,8-14] We conducted this study to assess the severity of hand eczema and its impact on quality of life of the population group attending the dermatology outpatient department at a hospital in South India.

Men and women were almost equally affected in our study (47.8% and 52.2% respectively) as compared to some studies in the recent past which have shown an increase in the incidence of hand eczema in the men.^[15-17] According to literature, in one-third of patients, the disease occurs before the age of 20 years.^[2] In contrast, in our study group only 2 (4.25%) patients had onset of disease before the age of 20 years. Among men the commonest age group involved was between 50-59 years (31.8%) and among women it was 40-49 years (41.7%). Thus in our study population mainly the middle aged and the elderly suffered from the ailment. The disease occurred earlier in women as compared to men probably due to the fact that Indian women,

predominantly the housewives, get exposed to various irritants and allergens early in life. The risk of hand eczema is occupation-related as well, being higher in industrial workers and masons due to exposure to various chemicals.^[17,18] In our study, majority of the patients, 21 (45.6%) were housewives, 8 (17.4%) were manual laborers and 10 (21.7%) were industrial workers. Majority of the patients (60.9%) reported soaps and detergents as the commonest aggravating factor, of which 21 (87.5%) were housewives. This is similar to the trend seen in some studies.^[19-21]

Among the endogenous factors for hand eczema, atopy is one of the commonest factors and the prevalence of hand involvement in patients with active atopic dermatitis was 58.9% in one study.^[22] In our study, 11/46 (23.9%) patients presented with a history of atopy, though none had active atopic dermatitis lesions. Sixty-three percent (29/46) had persistent disease and there was significant correlation between DLQI and the frequency of the eruptions (P value = 0.021). However, the disease chronicity and frequent recurrences did not show significant correlation with the severity of the disease as assessed by the HECSI score.

The mean DLQI in the study was 9.54, underlining that hand eczema has a significant negative impact on the quality of life. This finding is similar to the observation in other similar studies.^[8,10,13,14,23] In contrast to the study by Agner *et al.*,^[8] gender, age, occupation, and duration of disease did not significantly affect the quality of life or disease severity in our patients. There was no significant correlation between disease severity assessed by HECSI score and quality of life, however patients with even low HECSI score had a significant negative impact on their quality of life.

The limitation of the study included inability to establish the etiology of hand eczema since a patch test could not be done for all patients as many could not afford it or were unwilling to stay on for the reading of the results.

CONCLUSION

In this study, a significant impairment in quality of life was seen in patients with even low HECSI scores, emphasizing that any extent of disease needs specialized care. Scoring systems assessing hand eczema severity need to assign weightage to frequency of recurrences in addition to areas involved. It is also important to identify means to reduce the frequency of eruptions since it has a correlation with an individual's quality of life.

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Table 1: Mean values for dermatology life quality index and hand eczema severity index for males and females (n=46)

Parameters	Total	Males	Females	P value
DLQI	9.54 (S.D-5.62)	8.86 (S.D-6.37)	10.17 (S.D-4.90)	0.234
HECSI	14.46 (S.D-20.98)	17.64 (S.D-29.14)	11.54 (S.D-8.19)	0.523

DLQI: Dermatology life quality index, HECSI: Hand eczema severity index, S.D: Standard deviation

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