

## A Cross-Sectional Analysis on Hand Eczema: Severity and Quality of Life

Sir,

Hand eczema denotes eczema primarily originating from the hands or which is largely confined to it, with only minor involvement of other areas.<sup>[1,2]</sup> Chronic hand eczema is defined as one, which lasts for more than three months or occurs at least twice a year despite adequate treatment.<sup>[3]</sup> Manifestations of hand eczema range from mild to severe. Hand eczema has a negative impact on the quality of life. We did a study to find out how the severity of hand eczema impacts the quality of life of the sufferers.

This cross-sectional study was conducted in a tertiary care center over a period of one and a half years. The severity of hand eczema was assessed using hand eczema severity index (HECSI) and quality of life was measured using dermatology life quality index (DLQI) questionnaire.<sup>[4]</sup> DLQI was measured only in patients above 16 years. The sample size calculated using correlation coefficient + 0.4 based on a prior similar study was 41.<sup>[5]</sup> But, we recruited all patients with clinically diagnosed hand eczema, characterized by lichenified/hyperkeratotic and fissured or oozing and crusted plaques or vesicular lesions on palms dorsum of hands or fingers, irrespective of age attending our outpatient department during one year. Those patients who had hand eczema as a part of generalized dermatitis, those who had lesions on hands as part of other diseases like psoriasis or dermatophytosis, and those who did not give consent for the study were excluded. Skin biopsy and other relevant investigations like fungal scraping were done when there was doubt in the diagnosis. Statistical analysis was done using SPSS version 22. Quantitative variables are expressed as mean ( $\pm$  standard deviation), median values, or as percentage. Chi-square test and Anova were done to find an association among different categorical and multiple independent variables, respectively. Pearson's correlation was used for estimating correlation between the HECSI and DLQI scores. The study had approval from the institutional research and ethics committee. The individual patients gave written informed consent.

Of the 109 subjects, 60 were females. The mean age of patients was 41.3 ( $\pm$ 8.93) years, and the mean duration of disease was 3.2 ( $\pm$ 1.10) years. 69 (63.3%) patients had a chronic disease. Common triggering factors for eczema were the use of soaps, hand cleansers, and detergents ( $n = 47$ ; 43.1%). Common sites affected were fingers ( $n = 105$ ; 96.3%) and palms ( $n = 56$ ; 51.3%). Lesions involving forearm and feet were seen in 16 (14.6%) and 29 (26.6%) patients, respectively. Commonest ( $n = 42$ ; 38.5%) nail change was discoloration of nail plates. Unskilled workers and manual laborers ( $n = 38$ ; 34.9%) constituted the majority followed by home-makers ( $n = 25$ ; 22%). About 82 patients (75.3%) reported self-identified triggering factors related to disease exacerbation. The commonest

trigger for eczema was the use of handwashing regiments like soaps, hand cleansers, and detergents ( $n = 47$ ; 43.1%). Occupation-related triggers reported included ( $n = 53$ ; 48.6%) rubber gloves, painting materials, cement, pesticides, and fertilizers. Remission of disease with a change in job patterns was reported by 35 (32.1%) patients. Symptoms worsened with sweating in 17 (15.5%) patients. The mean HECSI score was 48.81 ( $\pm$ 27.92), and the median was 44.0. Males had a significantly higher HECSI score ( $P = 0.03$ ). The mean DLQI score was 9.14 ( $\pm$ 5.20), and the median was 8 [Table 1]. There was no association between the quality of life scores with age, the gender of subjects, or chronicity of eczema [Table 2]. There was a significant correlation between HECSI and DLQI scores ( $r = 0.318$ ,  $P = 0.001$ ) [Table 3].

Hand eczema is a common and severely distressing dermatosis that adversely influences the psyche, sex

**Table 1: Dermatology Life Quality Index scores in patients with hand eczema**

DLQI score [range]	Number of patients (%)
0-3	12 (12.12)
4-6	24 (24.24)
7-9	22 (22.22)
10-12	12 (12.12)
13-15	17 (17.17)
16-19	8 (8.08)
>20	4 (4.04)

**Table 2: Relationship of dermatology life quality index scores with gender and chronicity of hand eczema**

Variable	DLQI score	P
Gender Male	8.72 $\pm$ 5.08	
Female	9.47 ( $\pm$ 5.32)	0.37
Chronicity of disease		
Acute	(9.26 $\pm$ 5.16)	0.471
Chronic	(8.62 $\pm$ 5.19)	

**Table 3: Correlation between dermatology life quality index and hand eczema severity scores**

	DLQI	HECSI
DLQI		
Pearson correlation	1	0.318*
Significance (2-tailed)		0.001
Number of patients	99	99
HECSI		
Pearson Correlation	0.318	1
Significance (2-tailed)	0.001	
Number of patients	99	109

\*Correlation is significant at the 0.01 level (2- tailed)

life, and occupational options of patients as revealed in many prior studies.<sup>[6-9]</sup> The diseases can have a prolonged course ( $3.2 \pm 1.10$  years). Females outnumbered males in our study, but the severity of disease was comparatively more in males. Quality of life impairment measured by DLQI was equal in both gender irrespective of severity and chronicity of eczema. We also found a decreased prevalence of hand eczema at the extremes of age (earlier than 20 years and later than 70 years) similar to many studies.<sup>[6,10]</sup> This may be due to the lesser exposure to the external trigger factors like occupational chemicals, irritants, extremes of climate, organic solvents, frequent hand washings, and partly because of decreased access to medical care in the older age group.

Manual laborers and homemakers constituted the majority of our subjects similar to many other Indian studies.<sup>[6,11]</sup> Job-related frequent contact with hypotonic water and the dissolution of the lipids by various solvents and irritants may also be a reason for the more frequent occurrence of eczema in these groups. Occupational triggers identified by patients highlighted the innumerable possible allergens they come across daily in their work stations.

Sweating as a trigger for symptoms reported by the patients ( $n = 17$ ; 15.5%) may be due to the concentrated flux of inflammatory cytokines flowing on to an already inflamed skin via sweat highlighting its role as an endogenous factor.<sup>[12]</sup>

There are some limitations to the study. As the study was conducted in a tertiary care center with more number of referred patients, we might have missed patients with milder forms of eczema. Also, the correlation of variables to various subtypes of eczema could not be performed.

As we observed a significant and moderate correlation between the physician rating of severity by HECSI and the patient assessment of the quality of life by DLQI, we highlight the relevance of these tools and recommend them for routine eczema assessment before deciding treatment plans and for motivating patients to comply better with treatment.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

**Radhika Varma, Keerankulangara Devi,  
Neelakandhan Asokan<sup>1</sup>**

Government Medical College, Alappuzha, <sup>1</sup>Government Medical College,  
Thrissur, Kerala, India

#### Address for correspondence:

Dr. Keerankulangara Devi,  
Government Medical College, Thrissur - 680 596,  
Kerala, India.  
E-mail: drdevi64@gmail.com

## References

1. Bryld LE. A genetic-epidemiological study of hand eczema in young adult twins. PhD (dissertation). Denmark: University of Copenhagen; 2000. Available from: Semantic scholar.
2. Jones JB. Eczema, lichenification, prurigo and erythroderma. In: Burns T, Breathnach S, Cox N, Griffiths C, editors. Rooks Textbook of Dermatology. 8<sup>th</sup> ed. West Sussex: Wiley-Blackwell; 2010. p. 23.1-50.
3. León FJ, Berbegal L, Silvestre JF. Therapeutic approach in chronic hand eczema. *Actas Dermo-Sifiliográficas* 2015;106:533-44.
4. Held E, Skoet R, Johansen JD, Agner T. The Hand eczema severity index (HECSI): A scoring system for clinical assessment of Hand eczema. A study of inter- and intraobserver reliability. *Br J Dermatol* 2005;152:302-7.
5. Mortz CG, Bindslev-Jensen C, Andersen KE. Hand eczema in The odense adolescence cohort study on atopic diseases and dermatitis (TOACS): Prevalence, incidence and risk factors from adolescence to adulthood. *Br J Dermatol* 2014;171:313-23.
6. Charan UP, Peter CVD, Pulimood SA. Impact of hand eczema severity on quality of life. *Indian Dermatol Online J* 2013;4:102-5.
7. Handa S, Jindal R, Kaur I, Gupta T. Hand eczema: Correlation of morphologic patterns, atopy, contact sensitization and disease severity. *Indian J Dermatol Venereol Leprol* 2012;78:153-8.
8. Hald M, Berg ND, Elberling J, Johansen JD. Medical consultations in relation to severity of hand eczema in the general population. *Br J Dermatol* 2008;158:773-7.
9. Diepgen TL, Andersen KE, Brandao FM, Bruze M, Bruynzeel DP, Frosch P, *et al.* Hand eczema classification: A cross-sectional, multicentre study of the aetiology and morphology of hand eczema. *Br J Dermatol* 2009;160:353-8.
10. Laxmisha C, Kumar S, Nath AK, Thappa DM. Patch testing in hand eczema at a tertiary care center. *Indian J Dermatol Venereol Leprol* 2008;74:498-9.
11. Lantinga H, Nater JP, Coenraads PJ. Prevalence, incidence and course of eczema on the hands and forearms in a sample of the general population. *Contact Dermatitis* 1984;10:135-9.
12. Kishore NB, Belliappa AD, Shetty NJ, Sukumar D, Ravi S. Hand eczema-clinical patterns and role of patch testing. *Indian J Dermatol Venereol Leprol* 2005;71:207.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
<b>Website:</b> www.idoj.in	<b>Quick Response Code</b>  
<b>DOI:</b> 10.4103/2229-5178.330844	

**How to cite this article:** Varma R, Devi K, Asokan N. A cross-sectional analysis on hand eczema: Severity and quality of life. *Indian Dermatol Online J* 2021;12:952-3.

**Received:** 09-Apr-2019. **Revised:** 23-May-2019.

**Accepted:** 21-Jun-2020. **Published:** 22-Nov-2021.

© 2021 Indian Dermatology Online Journal | Published by Wolters Kluwer - Medknow