

Evaluating the Outcomes of Hand Eczema Complications Through A Cross-Sectional Study of 77 Patients in Iraq

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Abstract: Background: Hand eczema has a deleterious effect on the daily life of the Iraqi patient, resulting in an increased incidence of complications over time, where this ultimately leads to a reduction in the quality of life of the patient in the long term. **Aim:** The objective of our study is to evaluate the outcomes associated with complications in a cohort of 77 Iraqi patients with hand eczema. **Patients and methods:** The current study, conducted between April 2023 and August 2024, collected clinical and demographic data from patients admitted to different hospitals in Iraq. The data set comprised 77 cases, with patients aged between 20 and 60 years, including both males and females. In order to achieve the study objective, the clinical outcomes of the patients were identified and evaluated. Consequently, the study addressed the identification of clinical complications affecting patients with hand eczema. Additionally, the prevalence and severity of hand eczema were determined using the HECSI scale. Furthermore, the quality of life of the patients was evaluated using the General Health Questionnaire. **Results:** This study examined the clinical outcomes of patients aged between 51 and 60 years, who constituted the largest age group (28 cases, 41.56% of the total). Of the patients, 41.56% were male and 58.44% were female. The most common indicators were itching and pain, occurring in 87.01% and 58.44% of patients, respectively. The overall complication rate was 61.04% among the total patient population. The most prevalent symptoms, emotional states, and daily activities that negatively impacted the quality of life were identified as the most significant contributors to this outcome, particularly in patients with severe hand eczema. **Conclusion:** The findings of our study indicate that hand eczema is associated with a high prevalence of complications in patients, including skin infection, scarring, and impaired hand function. These complications have been shown to negatively impact the quality of life of affected individuals.

Keywords: Hand eczema (HE); Complications; Quality life Assessment Scale; Symptoms; and Risk Factors.

INTRODUCTION

HE is a frequent skin disorder which is prevalent among 20% of the general population at some point in their lives (Quaade, A. *et al.*, 2020 - Nørreslet, L. B. *et al.*, 2018). Usually, it has a long-term course with bad effects on the patient's quality of life related-to-health (HRQOL) and competence to work. (Carlsson, A. *et al.*, 2011 - Coenraads, P. J. *et al.*, 2005)

As new medications for HE increasingly become available, it is vital to evaluate the authenticity of HE severity in clinical studies and at the dermatologist's office. The only PA assessment instruments which have been given to patients are few (Weistenhöfer, W. *et al.*, 2010; Rönsch, H. *et al.*, 2019), namely, the five-stage picture guide that enables to determine of levels of severity called patient global assessment (paGA) and hand eczema extent score (HEES). (Yüksel, Y. T. *et al.*, 2021)

It has also been utilized in survey-based texts to understand the impact of HE severity. Nevertheless, they are either based on multiple HE photographs in relatively few severity categories or solely on the area involved in HE, which may not provide specific details regarding signs and their localization. Nowadays, patient-reported outcomes (PROs) are gaining popularity because the disease's effect on its victims is taking center stage. (Oosterhaven, J. A. F. *et al.*, 2020 - Thyssen, J. P. *et al.*, 2022)

The objective assessment tool that is most widely utilized in clinical trials to evaluate hand eczema severity is the Hand Eczema Severity Index (HECSI) (Coenraads, P. J. *et al.*, 2005; Rönsch, H. *et al.*, 2019; Oosterhaven, J. A. F. *et al.*, 2006; Oosterhaven, J. A. F. *et al.*, 2020). While HECSI has undergone rigorous validation in several studies, no research has been conducted on patient-rated HE with HECSI or on any tools validated

against it when given by patients (Mollerup, A. *et al.*, 2014; Van Coevorden, A. M. *et al.*, 2006). The objective of our study was to ascertain the incidence and severity of complications associated with hand eczema in patients with HE and to evaluate the impact of eczema on the quality of life of these patients.

PATIENTS AND METHODS

A cross-sectional study was conducted in the Dermatology Department of different hospitals in Iraq between April 2023 and August 2024. The study included 77 Iraqi patients with hand eczema, aged between 20 and 60 years. In terms of the inclusion and exclusion criteria, this study included patients aged between 20 and 60 years old, as well as patients with other underlying conditions such as hypertension, diabetes, asthma, and obesity. The exclusion criteria included children and adolescents, patients who had undergone previous surgical procedures, patients with serious underlying conditions such as cancer, kidney disease, appendicitis, and heart disease, as well as patients with other dermatological conditions such as psoriasis or generalised eczema. The demographic data and clinical parameters were recorded and distributed to all patients. The parameters included age, gender, symptoms, comorbidities, smoking status, and other pertinent

variables. The severity of hand eczema was evaluated using the Hand Eczema Clinical Severity Index (HECSI) scale, which assesses six morphological signs and categorizes the extent of spread into five areas of the hands (redness, infiltration/papules, vesicles, fissures, and crusting/edema). The severity of eczema was classified into three categories, ranging from mild (0) to severe (3), with representing intermediate levels of severity.

Furthermore, the study also evaluated pain scores using the VAS, which ranged from 0 to 10, with 0 representing low pain and 10 representing severe pain. Furthermore, this study documented the complications associated with patients with hand eczema. Furthermore, this study evaluated the quality of life of patients with hand eczema using the Dermatology Life Quality Index (DLQI), which measures the condition of the skin and determines its impact on the quality of life on a range of 0-30. Higher scores represent a poor quality of life, while lower scores represent a good quality of life. The DLQI covers all of the following aspects: symptoms, emotions, daily activities, treatment, and social interactions.

RESULTS

Table 1: Demographic characteristics of participants

Characteristics	N = 77	Percentage [%]
Age, years		
20 – 30	9	11.69%
31 – 40	16	20.78%
41 – 50	24	31.17%
51 – 60	28	36.36%
Gender		
Male	32	41.56%
Female	45	58.44%
BMI, Kg/m ²		
Underweight	7	9.09%
Normal weight	15	19.48%
Overweight	22	28.57%
Obesity	33	42.86%
ASA class		
I	11	14.29%
II	23	29.87%
III	30	38.96%
IV	13	16.88%
Smoking		
Yes	28	36.36%
No	49	63.64%
Marital status		

Single	13	16.88%
Married	50	64.94%
Divorced	8	10.39%
Widow	6	7.79%
Education level		
Primary	17	22.08%
Secondary	28	36.36%
University/college	12	15.58%
Postgraduate	20	25.97%
Monthly salary of family, \$		
400 – 600	41	53.25%
601 – 800	25	32.47%
> 800	11	14.29%

Table 2: Enrol data of patients' examinations.

Variables	No. of cases, 77	%
Symptoms		
Redness	40	51.95%
Itching	67	87.01%
Pain	45	58.44%
Dryness	15	19.48%
Cracking	12	15.58%
Swelling	5	6.49%
Blistering	4	5.19%
Causes		
Genetic predisposition	27	35.06%
Environmental triggers	50	64.94%
Exposure to irritants	30	38.96%
Exposure to allergens	20	25.97%
Comorbidities		
Yes	43	55.84%
No	34	44.16%
Hypertension	37	48.05%
Diabetes	22	28.57%
Asthma	41	53.25%
Obesity	33	42.86%
Hand eczema severity index		
Mild	16	20.78%
Moderate	22	28.57%
Severe	39	50.65%
Treatments Option used		
Moisturizing creams	32	41.56%
Topical corticosteroids	37	48.05%
Antihistamines	8	10.39%

Table 3: Assessment of degree of pain in correlation with severity of hand eczema into patients

Scores of VAS pain	Mild, 16	Moderate, 22	Severe, 39
0 – 4	3 [3.90%]	5 [6.49%]	2 [2.6%]
5 – 7	6 [7.79%]	8 [10.39%]	4 [5.19%]
> 7	7 [9.09%]	9 [11.69%]	33 [42.86%]

Table 4: Determining complications of patients with hand eczema

Items	No. of cases, 77	Percentage %
Recurrence of symptoms	5	6.49%
Thinning of the skin	3	3.90%
Increased sensitivity	9	11.69%
Skin infection	7	9.09%
Scarring	9	11.69%
poor hand functioning	8	10.39%
Sleep problems	6	7.79%
Total	47	61.04%

Table 5: Assessment of Quality – of life at patients in correlation with hands eczema severity

DLQI Scale, Items	Mild	Moderate	Severe
Symptoms	15.59 ± 7.24	17.57 ± 2.64	21.37 ± 2.06
Emotions	14.36 ± 6.48	17.84 ± 4.81	22.11 ± 3.17
Daily activities	16.94 ± 7.84	19.13 ± 4.88	21.78 ± 2.95
Treatment	15.44 ± 3.68	18.10 ± 5.16	22.70 ± 4.50
Social interactions	17.77 ± 4.86	19.56 ± 2.23	23.53 ± 4.62

DISCUSSION

This was also noted in a study by Carlsson et al. (Finlay, A. Y. et al., 1994). that validated a patient-administered form of HEES. It was particularly observed based on the median that younger patients (age ≤ 40 years) had HECSI scores underestimated in our study. These findings can indicate alteration for patients with chronic HE since some clinical manifestations have been regarded as 'normal'; hence, their severity is underrated (Both, H17). Underestimation, as well as overestimation of HECSI score, has been seen in those who suffer from extreme forms of this disease. Thus, bigger research studying (Both, H. et al., 2007 – Hald, M. et al., 2007) how HE severity will influence the conformity between the last studies of HECSI are needed to know this relation well. Consequently, within the age group (51-60), our research indicated that patients were most numerous standing for about 36.36 percent among all patients. Itching and Pain were the most common symptoms which prevalent in the patients, where include 87.01% and 58.44%.

In terms of gender differences, there was a stronger correlation between patient-HECSI and physician-HECSI for men than for women. Interestingly enough, while female patients had less severe, HE as rated by the physicians, they happened to present severe symptoms themselves, which explains why there exists a disparity in both correlation and agreement between patient-HECSI and doctor-HECSI. In line with this, an investigation conducted about the HRQOL among patients suffering from HE noted that women rated their own HRQOL as being more affected than

men by their own HE (Bruze, M. et al., 2008 – Cvetkovski, R. S. et al., 2006). Therefore, just like what we found 58.44% belong to females while only 41.56% are males.

The total QOLHEQ score was similarly weakly correlated with patient-HECSI score according to an American study; this was consistent with earlier studies (Van Coevorden, A. M. et al., 2006; Finlay, A. Y. et al., 2005; Hongbo, Y. et al., 2005). However, when subdomains were stratified, a moderate correlation was noted to the 'emotions' subdomain. This implies patients' emotional state might have an effect on their patient HECSI assessments. Nevertheless, it was expected that there is a stronger correlation existing between patient HECSI and the subdomain 'symptoms' (itch, sleeplessness, fissures, erythema questions).

A moderate correlation was found in our studies, which is consistent with previous research. One reason for this discrepancy is that the QOLHEQ assesses symptoms of the previous week, whereas the patient-HECSI scale focuses on signs present only on that day; this means they are bound to differ in some aspects (Anderson, R. T; Shikiar, R. et al., 2006; Shikiar, R. et al., 2006). Additionally, among all subdomains, it still had the strongest correlation to the 'symptoms' domain as compared to other subdomains, including patient-HECSI and QOLHEQ.

Hand eczema have measurable impacts on QoL, according to this study. This result reinforces earlier studies that addressed the problem while indicating the significant extent to which hand eczema has negative effects. The DLQI's validity

was evidenced by patients who rated their outward indications and personal life, supposedly having a higher set of DLQI scores for emotions, 22.11 ± 3.17 ; daily activities, 21.78 ± 2.95 ; and symptoms, 21.37 ± 2.06 respectively.

CONCLUSION

The patients are heavily influenced by the hand eczema conditions, leading to further complications like skin infection, scarring, and poor hand functioning, where this condition can negatively affect life quality through discomfort, shame, and inability to carry out normal activities, as well as the sensation of pain and itch that accompany hand eczema is so severe that it brings about physical as well as psychological issues for the victims.

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