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CLINICAL REPORT

Chronic Hand Eczema: Perception and Knowledge in Non-affected Individuals from General and Dermatological Practice

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Misunderstanding and stigmatisation are common problems encountered by patients with hand eczema. Various misconceptions about the disease circulate in the general population. Although hand eczema has gained more attention in dermatology during the past years, information on public perception of the disease is still lacking. The aim of our study was to investigate perception of and level of knowledge on the subject hand eczema. There were 624 patients included from 2 general medicine practices and 2 dermatological practices. A self-administered questionnaire was filled out by the participants, covering issues on history of hand eczema, level of knowledge and attitude towards a clinical photograph of hand eczema. We found that a larger proportion of individuals from dermatological practice were more familiar with hand eczema as a disease than those from general medical practice. Women knew significantly more about and had a more positive perception of the disease than men. Our results imply that the level of knowledge on hand eczema in the general public is rather low and influenced by prejudice. ***Key words: hand eczema; public awareness; level of knowledge; perception; stigmatisation; prejudice.***

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Chronic hand eczema (CHE) is a common skin disease with an estimated one-year prevalence of up to 10% (1, 2). As a clinically heterogeneous disease it presents with many different aetiologies and morphologies (3, 4). Therefore, classification of hand eczema is challenging, as is the management of this chronic and relapsing disease (5).

The hands play a fundamental part in our everyday activities and social interactions (6). Therefore it is easy to understand why patients with chronic hand eczema are strongly impaired by their disease and suffer a lot from stigmatisation. Pain and itch further aggravate the burden of disease and add to the huge negative impact on the quality of life.

In the last few years, interest in CHE began to grow when scientific research and knowledge about its pathogenesis and epidemiology increased. With new therapeutic options (5) and several new national guidelines on the management of hand eczema (4, 7–10) the disease became more and more a centre of interest in dermatology. In addition, CHE is the most common occupational disease and therefore of high socioeconomic impact (11, 12). Health-related costs and quality of life in CHE have also been investigated in several studies during the past years (13–16). It has become clear that prevention of this costly and disabling disease is an issue of great importance.

There are several studies looking at the awareness and level of knowledge in CHE patients or in occupations with high risk for developing hand eczema (17–20). A common approach of these studies is the use of questionnaires to investigate the level of perception of the disease as well as the knowledge of prevention in cohorts especially at risk, such as hairdressers (17) and health care workers (18, 19). These studies were aimed predominately at the targeted prevention in exposed individuals.

Research data on the knowledge of CHE in the general population beyond risk cohorts is, however, lacking. To date, there are no studies investigating the perception of CHE in non-affected individuals. Many patients report a lack of understanding and tolerance in the environment they have to face every day, and how they often feel rejected by their peers. In order to raise public awareness, improve acceptance and reduce stigmatisation for CHE patients, specific educational work is necessary. The aim of this study was to investigate the perception of CHE in the general public by a short self-administered questionnaire.

METHODS

The study was designed as a cross-sectional study. Patients visiting a general medical practice irrespective of the reason why they came, were chosen as cohort representative of the general population. Their results were compared to those from patients from dermatological practice. The ratio of patients of both medical specialities was intended to be 1:1, with a number of approximately 300 participants for each group. A short one-page self-administered questionnaire was sent to 4 private practices in Germany, 2 of them being general medical or in-

ternal medicine practices and 2 of them being dermatological practices. All men and women over the age of 18 were eligible to participate randomly, regardless of the reason for consulting their physician. While sitting in the waiting room, patients were filling out the anonymous questionnaire for self-administration. The questionnaires were sent back to the study centre, where they were analysed. Sources of potential bias in this cross-sectional questionnaire study were manifold and had been taken into account. Questionnaires with a huge amount of missing data led to the exclusion of the subject from the study.

The questionnaire consisted of 10 questions, which are shown in Table I. The possible answers were: yes, no, prior, 1–5, 5–10 and > 10. At first, subjects gave short general information about their gender and age. They were then asked about their history of hand eczema and atopic disorders. In a third part they provided information about their perception of CHE in general and their attitude towards a clinical photograph of severe hand dermatitis in particular (Fig. 1). Finally, they estimated the prevalence of CHE in the general population.

The study was approved by the local ethics committee and carried out in accordance with the principles of the Declaration of Helsinki.

Statistics

Statistical analysis was performed by bilateral analysis using χ^2-test. $p < 0.05$ was considered to be statistically significant. Due to the explorative character of our study, p-values are cited without correction for multiple testing. The significant results of this investigation have primarily an explorative quality.

RESULTS

Characterisation of the collective

In total, 624 subjects participated in the study, 52.9% ($n = 330$) were women and 44.9% ($n = 280$) were men; 2.2% ($n = 14$) provided no information about their gender. The range of age was 18–88 years (mean age 52 years).

Forty-seven percent ($n = 293$; $n_1 = 67$, $n_2 = 226$) were patients from 4 general medical/internal medicine practice, and 53% ($n = 331$; $n_3 = 225$, $n_4 = 106$) from 2 dermatological practices. A total of 13.3% ($n = 83$) had a history of hand eczema with 6.6% ($n = 41$) having hand eczema at time of questioning and 6.7% ($n = 42$) having had hand eczema previously (i.e. before questioning). Of the subjects, 22.6% ($n = 141$) had active atopic disorders at time of questioning, 3.5% ($n = 22$) before that time and 72.9% ($n = 455$) had no history of atopic disorders at all. Hand cream was used routinely by 58% ($n = 362$) of the participants. Looking at the clinical photograph of the CHE patient, 45.4% ($n = 283$) of all subjects felt disgusted, 53.2% ($n = 332$) did not, and 1.4% ($n = 9$) subjects refused to answer the question. Only 33.8% ($n = 211$) of the participants would shake hands with the patient from the photograph, whilst 63.3% ($n = 395$) would refuse to do so; 2.9% ($n = 18$) did not answer this question. Of the participants, 34.9% ($n = 218$) suspected the skin lesions to be infectious whereas 62.5% ($n = 390$) did not think so and 2.6% ($n = 16$) did not give any information. The prevalence of hand eczema was estimated by the subjects as follows: 1–5% prevalence: 29.2% ($n = 182$) , 5–10% prevalence: 38.8% ($n = 242$), and > 10% prevalence: 29.9% ($n = 187$). The question was not answered by 2.1% ($n = 13$). Table II gives an overview on the data from the following paragraphs.

Table I. *The questionnaire consisted of 10 questions on general information, history of hand eczema and atopic disorders and perception of hand eczema. Questions 7–9 refer to a clinical picture of a patient with hand eczema*

Question	Answer
Gender	Male/female
Do you know what hand eczema is?	Yes/no
Do you yourself suffer from hand eczema?	Yes/no/prior
Do you have hay fever, flexural eczema or allergic asthma?	Yes/no/prior
Do you use hand cream regularly?	Yes/no
If you use hand cream regularly, how often per day?	1–5 times/5–10 times/day
Would you shake hands with this person?	Yes/no
Do you think that this skin disease is contagious?	Yes/no
Do you feel disgusted by these hands?	Yes/no
What is your estimation about the prevalence of this disease?	1–5%/5–10%/>10%

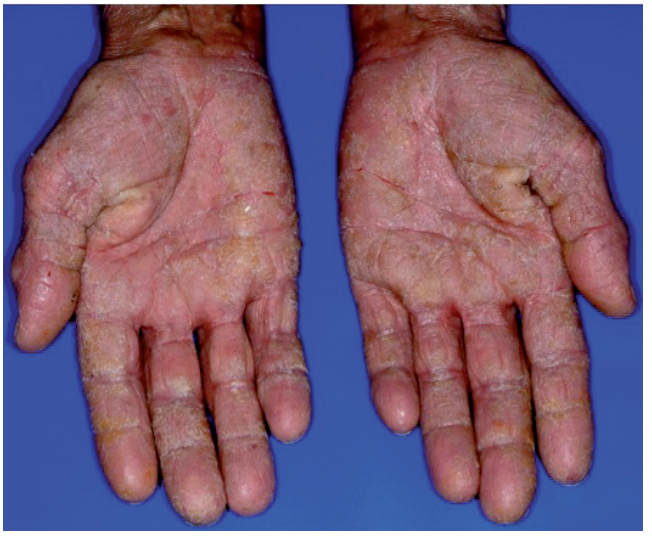

Fig. 1. Clinical picture of a patient with severe hand eczema shown to the participants.

Results from general medical/internal medicine practice compared to dermatological practice

Only 57.7% (169/293) of the individuals from general medical practices knew about the disease entity CHE compared to 66.2% (219/331) of the subjects from dermatological practices ($p < 0.05$; 95% CI 1.02–2.01).

None of the other features of the questionnaire reached statistical significance when comparing the 2 cohorts.

Differences between female and male participants

Of all 388 participants knowing about hand eczema, 57.7% ($n = 224$) were female and 40.2% ($n = 156$) male

Table II. *Results of questionnaire in the patient collective*

Indicators	Participants				Significance of differences	
	From dermatological practice % (*n*)	From general medical practice % (*n*)	With history of HE % (*n*)	Without history of HE % (*n*)	Dermatological vs. general practice	With vs. without HE history
Females	56.3 (183)	51.6 (147)	70.4 (57)	51.8 (269)	Not significant	$p<0.05$
Males	43.7 (142)	48.4 (138)	29.6 (24)	48.2 (250)		
Knowledge of HE	66.2 (219)	57.7 (169)	92.8 (77)	58.8 (311)	$p<0.05$	$p<0.05$
History of HE	15.1 (50)	11.3 (33)	100 (83)	0 (0)	–	Not significant
Subjects using hand cream	54.7 (181)	61.8 (181)	69.9 (58)	56.1 (297)	Not significant	$p<0.05$
History of atopic disorders	26.3 (87)	25.9 (76)	43.4 (36)	21.0 (111)	Not significant	$p<0.05$
Subjects feeling disgust	42.6 (141)	48.5 (142)	47 (39)	44.8 (237)	Not significant	Not significant
Subjects agreeing in hand shaking	35 (116)	32.4 (95)	50 (40)	32.1 (170)	Not significant	$p<0.05$
Subjects suspecting the disease to be infectious	32.6 (108)	37.5 (110)	20.5 (17)	37.6 (199)	Not significant	$p<0.05$
1–5% prevalence	27.8 (90)	32.1 (92)	16 (13)	32 (167)	Not significant	$p<0.05$
5–10% prevalence	42.9 (139)	35.8 (103)	38.3 (31)	39.7 (207)		Not significant
>10% prevalence	29.3 (95)	32.1 (92)	45.7 (37)	28.3 (148)		$p<0.05$
Total	$n=331$[a]	$n=293$[a]	$n=83$[a]	$n=529$[a]	–	–

[a]Total numbers for different indicators vary, because not all participants gave answer to all questions. HE; hand eczema.

($p<0.05$; 95% CI 1.19–2.37). Women were more frequently using hand cream than men [76.4% (252/330) compared to 36.8% (103/280); $p<0.05$; 95% CI 3.85–8.02]. Female participants knowing about hand eczema were using cream more frequently than their male counterparts [female: 76.3% (171/224) male: 35.9% (56/156); $p<0.05$; 95% CI 3.59–9.27]. Men suspected the disease more often to be infectious [43.2% (121/280) compared to 28.5% (94/330) for women; $p<0.05$; 95% CI 1.35–2.71]. Women would agree to hand shaking more often than men [40.3% (133/330) compared to 31.8% (89/280); $p<0.05$; 95% CI 1.02–2.05].

Participants with or without history of hand eczema

Compared to participants without history of hand eczema, women were significantly more frequent in the group of participants with history of hand eczema [70.3% (57/81) vs 51.8% (269/519); $p<0.05$; 95% CI 1.29–3.78], as were individuals with a history of atopic disorders [43.4% (36/83) compared to 21% (111/329); $p<0.05$; 95% CI 1.69–4.72].

Participants with history of hand eczema were using hand cream significantly more frequently than those without CHE history [69.9% (58/83) compared to 56.1% (297/529); $p<0.05$; 95% CI 1.07–3.08]. They also knew more about their disease than non-affected participants [92.8% (77/83) vs. 58.8% (311/329); $p<0.05$; 95% CI 3.66–23.13].

Participants who had previously suffered from hand eczema themselves were significantly less convinced that the skin lesions on the clinical photograph might be infectious (20.5%; 17/83) than those without history of hand eczema [37.6% (199/529); $p<0.05$; 95% CI 1.30–4.31]. In addition, they were also more likely to shake hands with the patient from the picture [50% (40/80) compared to 32.1% (170/529); $p<0.05$; 95% CI 1.18–3.18]. When asked about their estimation of CHE prevalence, individuals with history of hand eczema rated more correctly than those without; they significantly knew more often that CHE is very frequent and less often considered CHE a rare disease (see Table II). No differences were found comparing feeling of disgust towards hand eczema.

DISCUSSION

The aim of this study was to investigate the level of knowledge on CHE in the general population. As far as we know, this is the first study addressing this topic.

Subjects from dermatological practice knew significantly more about CHE compared to subjects from general medical/internal medicine practice. Moreover, female participants knew more frequently what CHE is than male participants. They also would agree more likely to hand shaking with an affected individual and did not suspect the disease to be infectious as often as did men.

Approximately 1/5 (20.5%) of subjects with history of hand eczema considered the disease to be contagious. Although this was significantly less frequent than participants without CHE history, it shows that some patients are not properly informed about their disease. The fact that 7.2% of participants with CHE history negated knowledge on hand eczema supports this impression.

Compared to the participants that had never themselves suffered from HE before, those individuals with experience in hand eczema more often agreed in hand shaking with the patient from clinical picture, but, interestingly, showed the same disgust towards the disease as the prior group.

These results suggest that individuals who have some kind of pre-knowledge on CHE might be less prejudiced towards the disease, but still educational work needs to be done.

Our study design has several limitations: though the cohorts can be seen as a cross-section from the general

population regarding gender and age distribution, the sample size is relatively small. In addition, the answers of the participants have a subjective character.

Patients with different chronic skin diseases, like psoriasis and atopic dermatitis, experience social rejection by their peers or have to face misunderstanding and prejudice. There are several studies that investigate the awareness of those patients (21–24) but information on disease perception of non-affected individuals is lacking. Studies on this issue would be required in order to detect knowledge gaps and perform targeted educational work for improving tolerance. Such data have become available for a number of non-dermatological conditions, e.g. HIV infection (25–27).

Our results implicate that the level of knowledge on hand eczema in the general public is low and affected by prejudice. In addition, the general perception of the disease shows a gender-specific difference, and depends on the amount of previous knowledge on the subject. This leads to the conclusion that a better knowledge on hand eczema might help to reduce intolerance and in consequence improve health-related quality of life in patients with CHE.

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