Assessing United States Patient and Dermatologist Experiences with Severe Chronic Hand Eczema

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ABSTRACT

Objective: Patients with severe chronic hand eczema often have persistent symptoms that interfere with daily activities, social functioning, and employment. Many patients are refractory to topical corticosteroids. This survey-based study was performed to characterize treatment experiences, impact on productivity, and quality of life of patients with severe chronic hand eczema; understand dermatologists' severe chronic hand eczema treatment patterns. **Design:** A web-based survey in the United States queried pre-identified patients with severe chronic hand eczema regarding symptoms, treatment history, quality of life, work productivity, treatment satisfaction, and healthcare utilization. In a separate survey, dermatologists were asked about treatment patterns and satisfaction with currently available therapies. **Results:** The most commonly reported symptoms currently experienced by patients (n=163) were dryness/flaking (81%), itchiness (75%), and cracking/tearing of the skin (71%). Over the last three months, 84 percent of patients with severe chronic hand eczema self-reported using topical steroids, and 30 percent used systemic corticosteroids or retinoids. Approximately 30 percent reported impairment while working and productivity loss. Patient quality of life was negatively impacted. Dermatologists (n=125) reported most often treating severe chronic hand eczema with topical corticosteroids (99%), followed by topical immunomodulators (71%) and systemic treatments (70%). Only two percent were very satisfied with currently available products. **Conclusion:** Patients with severe chronic hand eczema experience symptoms that negatively impact work productivity and quality of life. Few dermatologists are very satisfied with currently available severe chronic hand eczema treatment options.

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Chronic hand eczema (CHE) is commonly characterized by dryness, redness, itching, scaling, vesicles, and hyperkeratosis, most often affecting the back of the hands and fingers[1,2] and is defined as the presence of symptoms lasting more than three months or the recurrence of symptoms two or more times within a year despite treatment.[2] There are few studies of the incidence and prevalence of hand eczema, CHE, and severe CHE (sCHE) in the United States. Two US population–based analyses of self-reported eczema survey data published in 2007 and 2013 reported an overall one-year prevalence of 10.7 and 10.2 percent, respectively; 58 percent had eczema on the arms or hands and 25 percent of patients with eczema reported the presence of eczema on the hands.[3,4] Another study reported the prevalence of CHE specifically in a US managed care member population to be more than 16 percent.[5] A higher prevalence (>20%) of hand eczema (HE) has been reported in some occupations, such as healthcare workers.[6]

The burden of disease on patients with CHE is substantial. CHE is a cause of significant morbidity and lost earnings and has severe negative impacts on social and psychosocial aspects of patients' lives.[1] Decreases in patient-reported quality of life (QoL) and loss of productivity recently have been reported to be the most important consequences of disease for patients with sCHE

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in Italy.[7] Improved patient health and productivity through appropriate treatments may contribute to reducing societal costs. Substantial annual direct and indirect costs of illness due to CHE have been reported, with costs significantly increasing for more severe stages of disease.[8,9] In addition to the clinical and economic impacts of disease, CHE has been reported to have measurable negative impact on QoL, including effects on pain/discomfort, anxiety/depression, mobility, usual activities, and self-care.[10–12]

Topical treatments include emollients, corticosteroids (first line), calcineurin inhibitors (second line), and keratolytics. Phototherapy may also be useful as a treatment option for mild-to-moderate disease.[1,2,13] Systemic treatment for more severe or refractory cases may include corticosteroids, immunomodulators, immunosuppressive drugs, and biologic therapies.[14] Although some oral systemic agents are approved for sCHE and are available in Europe, there are no currently approved treatments in the United States for those patients with disease that is refractory to treatment with potent topical corticosteroids, thus signifying a substantial unmet treatment need.[1,15] The objectives of this study were to characterize the treatment experiences of US patients with sCHE and the impact of disease on their QoL, healthcare utilization (treatment patterns), cost of CHE treatment, work productivity, and out-of-pocket (OOP) costs, as well as to understand dermatologists' treatment approaches to and satisfaction with therapies for sCHE.

METHODS

Study design and population. Two cross-sectional, web-based survey instruments were administered in the United States: One to patients and one to physicians, specifically dermatologists. Patients who self-reported a physician diagnosis of CHE with symptoms severe enough to limit normal daily activities and with CHE symptoms that were not completely cleared by topical agents were eligible to participate. All survey participants had Internet access and are part of an online eczema patient panel maintained by Harris Interactive (HI), a Nielsen company. The convenience sample for this study was drawn from respondents who had previously participated in a prior web-based survey to assess preferences for CHE treatments.[16,17] An invitation to participate in the current study was sent to 400 individuals who participated in the previous survey. Eligibility criteria for both the previous and current study were identical (i.e., patients were not rescreened) and were as follows: age ≥18 years, self-reported physician diagnosis of CHE, CHE symptoms severe enough to limit normal daily activities, and the patient reported that topical agents did not work to completely clear up the patient's HE. Although the patient eligibility criteria questions were asked about a diagnosis of CHE, all patients were considered to have sCHE due to the acknowledgement that their symptoms were severe enough to limit normal daily activities and that topical agents did not work to completely clear the CHE.

Dermatologists from a random sample of an HI dermatology panel were invited to participate in the physician survey. HI uses specialty patient and physician panels in the United States. HI maintains access to multiple opt-in online panels of individuals who have been prescreened for certain characteristics, including specific medical conditions like eczema. Recruitment of individuals into these multiple panels follows the general method employed by all opt-in panels: banner ads, emails, and links maintained on relevant websites. The number of panelists engaged in any study is dependent upon how many individual panels are used. HI's patient panel contains more than four million participants, and their eczema patient panel contains more than 50,000 members. HI's physician panel contains nearly 60,000 physicians across disciplines, including dermatology and primary care. HI provides panelists with a nominal cash incentive for completing surveys. To participate in this study, physician respondents must have identified themselves as dermatologists, indicated that their practice was located in the United States, and indicated that they are currently treating three or more patients with CHE annually.

The web-based, self-administered patient and physician survey instruments were developed by RTI Health Solutions, in collaboration with the study sponsor. The patient survey was administered from December 2, 2013, through January 7, 2014, and the physician survey from October 23, 2013, through November 4, 2014. The study was approved by RTI International's institutional review board.

Patient survey instrument. Some demographic information reported in the previous study[16,17] was linked to and reported in the current study (i.e., marital status, ethnicity, highest level of education completed). In the current study, QoL and health status were measured by the Dermatology Life Quality Index (DLQI), a validated 10-item questionnaire that assesses to what degree skin problems affected the respondent's life over the last week.[18] DLQI questions are scored on a scale from 0 to 3 (0=not at all/not relevant/not answered, 1=a little, 2=a lot, 3=very much). The scores for each of the 10 items are summed for possible total scores between 0 (no effect at all on patients' lives) to 30 (extremely large effect on patients' lives). The DLQI contains the following six domains: symptoms and feelings, daily activities, leisure, work and school, personal relationships, and treatment, with a maximum score of 3 for work and school and treatment and a maximum score of 6 on each of the remaining items.[18]

In previous studies, the number of episodes of eczema[19] and disease severity[20] have been positively and significantly correlated with impairments in health-related QoL, as measured by the DLQI. In addition, itching with severe and very severe CHE was positively associated with small or moderate impairments in QoL.[21]

Health status was assessed using the 3-level EuroQol-5 Dimensions Health Status Questionnaire (EQ-5D-3L).[22] The five dimensions assessed by this patient-reported instrument are mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. Patients indicate if they have no problems, have some problems, or are unable to perform the activity. Self-rated health was measured via the visual analog scale (VAS) component of the EQ-5D, anchored from worst imaginable state (score = 0) to best imaginable state (score = 100) on a vertical number line. EQ-5D utility scores (values ≤1.0) were based on US tariffs.[23] It should be noted that EQ-5D values <0 are possible and are reported to indicate health states worse than death.[24]

TABLE 1. Patient demographics

CHARACTERISTIC	STATISTIC OR CATEGORY	OVERALL (N = 163)
Age, years	Mean (SD)	47.1 (14.8)
	Median (range)	49 (19-83)
Gender, n (%)	Male	43 (26)
	Female	120 (74)
Marital status, n (%)	Married or living with partner	102 (63)
	Widowed	4 (2)
	Divorced or separated	16 (10)
	Single	41 (25)
Ethnicity,[a] n (%)	Caucasian/white	129 (81)
	Asian/Asian America	16 (10)
	African American	6 (4)
	Hispanic	3 (2)
	American Indian or Alaskan native	2 (1)
	Other	4 (3)
	No answer	3 (2)
Highest level of education completed,[b] n (%)	Less than high school	1 (1)
	Some high school	1 (1)
	High school or equivalent (e.g., GED)	17 (10)
	Some college but no degree	42 (26)
	Technical school	6 (4)
	Associate degree (2-year college degree)	13 (8)
	4-year college degree (e.g., BA, BS)	44 (27)
	Some graduate school but no degree	13 (8)
	Graduate or professional degree (e.g., MBA, MS, PhD, MD)	25 (15)
	No answer	1 (1)

[a] n = 160 for ethnicity
[b] n = 162 for highest level of education completed
GED = general education development

The 6-item Work Productivity and Activity Impairment Questionnaire—Specific Health Problem (WPAI-SHP) V2.0[25] was modified for use in this study of patients with sCHE. The WPAI-SHP contains questions regarding impact of the specific problem on work and regular activities, including absenteeism, presenteeism, work productivity loss, and activity impairment. WPAI-SHP questions are scored from 0 (no effect on work/daily activities) to 10 (prevented me from doing work/daily activities). Algorithms are used to calculate the percentage of absenteeism, presenteeism, work productivity loss, and activity impairment due to the specific health problem. Higher numbers indicate greater impairment or less productivity.[25]

Additional study-specific questions were developed to assess a patient's profession, short-term disability payments, and/or workers' compensation benefits for sCHE. The patient's insurance status (i.e., private, employer sponsored, public, or none) and sCHE-specific physician office visits, prescriptions, and costs to the patient (i.e., OOP costs) were also collected. Finally, the patient's willingness to pay (WTP) per month for a treatment to relieve the most bothersome symptoms of sCHE was also included in the patient survey instrument.

Physician survey instrument. The physician questionnaire included items assessing physician demographics and practice characteristics, diagnosis, treatment, and referral patterns of patients with sCHE, specific diagnostic codes (i.e., ICD-9) for billing third-party payers for treating patients with sCHE, and satisfaction rating of currently available treatments for sCHE.

Data analysis. Descriptive statistics, such as means, standard deviations (SDs), medians, and ranges, were reported for continuous variables and frequencies and percentages for categorical variables. No inferential statistics were planned nor conducted for this study. No imputations were made for missing data and thus, missing data were excluded from the analysis. All analyses were conducted in SAS for Windows version 9.3.

RESULTS

Patient survey. Four hundred invitations to participate in the web survey were sent to patients with sCHE. A total of 182 patients with sCHE (46%) responded to the survey, and of those, 163 (90%) completed the survey instrument. The patient participants' demographic information is reported in Table 1. A majority of respondents were female, married or living with a partner, Caucasian, and had an associate-level degree or higher level of education. The mean age was 47.1 years (SD, 14.8).

Current symptoms. Patients were asked to identify the most common CHE symptoms they were currently experiencing (Figure 1). More than half of respondents reported dryness and/or flaking, itchiness, cracking or tearing of the skin, irritation, redness, or crusty skin as symptoms. A majority (77%) of patients reported symptoms in both hands, with the location of symptoms most commonly reported to be between the fingers (51%),

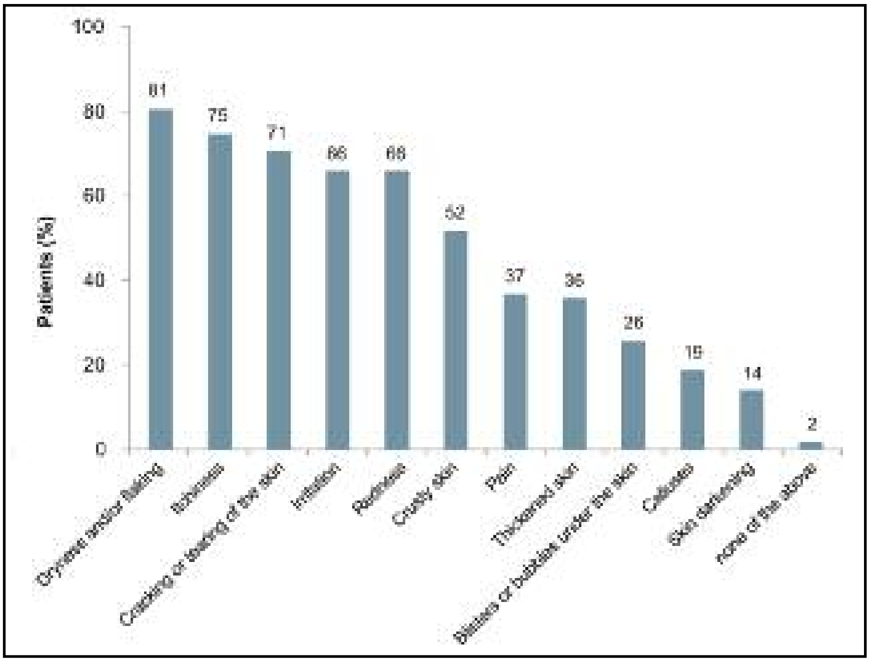


Figure 1. Current chronic hand eczema symptoms.

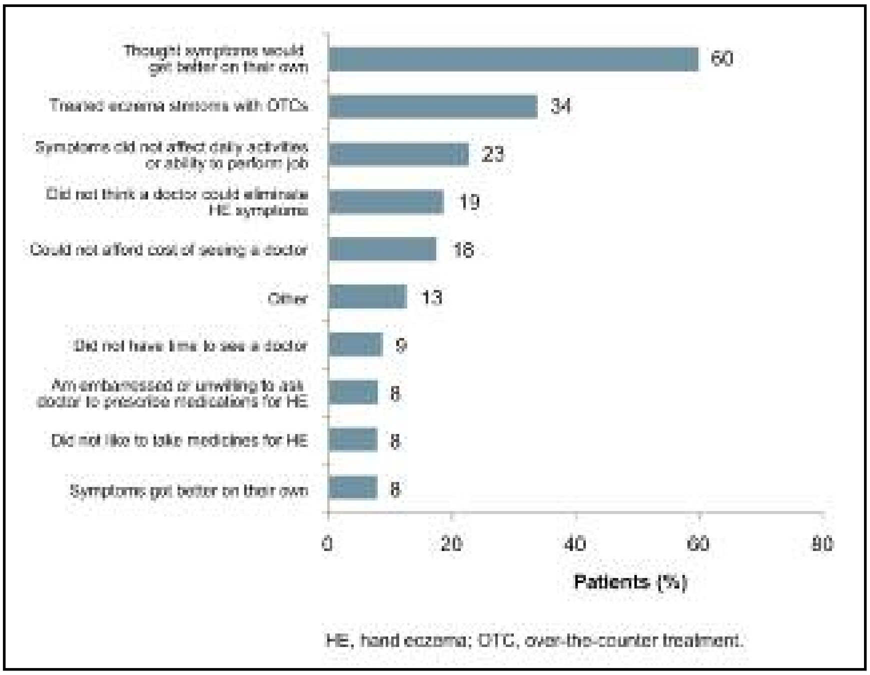


Figure 2. Reasons for not seeking immediate treatment of hand eczema symptoms. HE=hand eczema; OTC=over-the-counter

on the backs of the hands (48%), and on the fingers on the backs of hands (48%). Twenty-three percent of patients reported the surface area covered by eczema was ≥50 percent. Patients were also asked to indicate the most bothersome symptoms they experienced within the last three months. The symptoms most frequently reported as the most bothersome were itching and cracking or tearing of the skin, reported by 71 and 62 percent of patients, respectively.

Patients were asked about disease onset, history, and reasons for not seeking immediate treatment. Most patients (89%) reported noticing signs or symptoms of CHE more than two years ago. The first symptoms patients reported noticing were itchiness (60%), cracking or tearing of the skin (39%), dryness and/or flaking (38%), irritation (36%), and redness (34%). After noticing initial symptoms, only 26 percent sought immediate attention (within 6 months), and 34 percent sought medical attention after six months to one year. A variety of reasons were provided by patients for not seeking immediate treatment for their sCHE symptoms. The most frequently reported reason for delaying treatment was thinking symptoms would improve on their own (60%); however, only eight percent reported that symptoms did improve without treatment from a doctor (Figure 2). Fifty-four percent saw a primary care physician (PCP) for sCHE symptoms on initial presentation, and 39 percent saw a dermatologist. The first diagnoses that patients most commonly received included CHE (61%) and dermatitis (32%; encompassing atopic, contact, and irritant dermatitis). Dermatologists most frequently made the initial diagnosis of CHE (56%), followed by a PCP (36%). Most respondents reported a long delay between initial symptoms and diagnoses, with a time to CHE diagnosis of ≥1 year for 61 percent of respondents.

Treatment history. Forty-nine percent of patients reported receiving treatment within one year of first noticing symptoms. Seventy-two percent of all patients reported use of prescription medications during the last year, and 21 percent reported no treatment for their CHE within the last year. Within the last three months, 84 percent of patients who reported using a prescription medication had used topical steroids for a mean treatment time of 6.8 (±4.0) weeks (Table 2). Of those respondents who received therapy, 72 percent received prescription medication, 10 percent reported receiving steroid injections, 7 percent reported phototherapy or UV light therapy, and 11 percent reported other treatments.

Satisfaction with treatment, QoL, and health status. When asked about their satisfaction with treatments over the past year for CHE, only 15 percent of patients reported being very satisfied, and 26 percent reported being somewhat or very dissatisfied. The total DLQI score across all respondents was 8.3 (±6.5), indicating a moderate effect of the disease on the patients' lives.[26] Scores for DLQI subscales with a maximum score of 6 ranged from a mean of 0.9 (±1.4) for personal relationships to 2.8 (±1.4) for symptoms and feelings. Mean work and school and treatment subscales, with a maximum score of 3 each, were 1.0 (±1.1) and 0.8 (±0.8), respectively. The mean utility score derived from the EQ-5D-3L was 0.80 (±0.17; range, 0.17–1.0), which is similar to utility scores of the general adult US population.[23] The mean score on the VAS in this study was 74.2 (range, 11–100). Varying levels of health status associated with CHE, reported as utilities derived from the EQ-5D, have been reported.[7,11] Moberg et al[11] reported a utility of 0.782 for patients with CHE versus 0.848 for those without CHE ($P<0.001$), which they reported to be similar to that of asthma and psoriasis.

TABLE 2. Prescription medication used to treat chronic hand eczema

PRESCRIPTION TREATMENT	PATIENTS REPORTING USE IN LAST 3 MONTHS[a] n (%) (n = 117)	MEAN LENGTH OF TREATMENT IN THE LAST 3 MONTHS, WEEKS (SD)
Topical steroids	98 (84%)	6.8 (4.0)
Immunosuppressants	9 (8%)	5.2 (4.4)
Systemic corticosteroids or retinoids	35 (30%)	4.2 (3.4)
Antihistamines	29 (25%)	7.1 (4.5)
Methotrexate	7 (6%)	6.1 (4.1)
Other	5 (4%)	6.8 (4.3)

[a] Three patients did not remember what prescription medications were taken.

Impact on work productivity. Ten percent of respondents indicated that they were employed in an "other executive/professional" profession, and 20 percent indicated "some other profession." The remaining respondents were either not in the workforce or were employed across a variety of other fields (e.g., administration, nurse, other healthcare professional). Over the last three months, most individuals did not report having to restrict activity at work or school (76%) or missing work or school (84%) due to sCHE. Also during the past three months, those who did miss work or school missed a mean number of 4.4 (±3.3) days. Most patients (87%) reported never having to change jobs or quit working (96%) because of sCHE. Six percent reported receiving short-term disability due to CHE, and three percent applied for or received workers' compensation. The WPAI-SHP questionnaire results indicated that 62 percent of the individuals were currently employed. Of those respondents, absenteeism, reported as the percentage of work time missed due to sCHE, was 4.9 percent (±13.7%). Presenteeism, defined as percentage of impairment due to sCHE while working, was 28.8 percent (±26.5%), and work productivity loss, defined as percentage of overall work impairment, was 30.3 percent (±28.0%) over the last seven days. For all survey respondents, regardless of employment, activity impairment was 36.6 percent (±27.7%).

Insurance status, health resource utilization, and patient OOP costs. Seventy percent of respondents indicated that they had private self-pay and/or employer-sponsored health insurance, 23 percent carried a form of public insurance (i.e., Medicare, Medicaid, Veterans Affairs), and 10 percent reported not having health insurance. Respondents were asked about sCHE-specific physician office visits, prescriptions, and OOP costs related to CHE over the last three months. Respondents had, on average, 1.1 (±1.4) physician office visits for sCHE and used an average of 1.2 (±1.4) unique prescription products over the last three months.

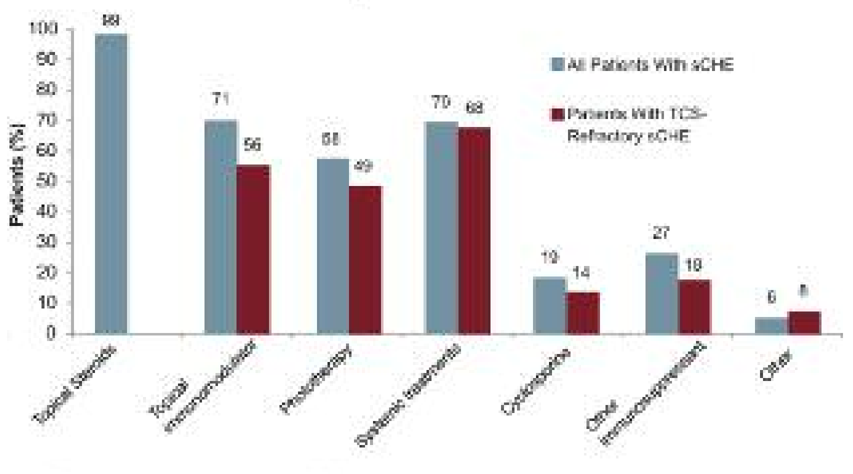
The average OOP expenses that patients incurred for copays or coinsurance for physician visits regarding CHE were $37.60 (±$75.90). OOP expenses over three months for prescriptions for sCHE were on average $34.20 (±$63.50). Most individuals (94%) with insurance indicated that some or all of their prescription expenses were covered. Patients were asked how much they would be willing to pay per month for a treatment, if available, that would relieve their most bothersome symptoms. On average, respondents indicated that they would be willing to pay $38.30 (±$58.60) in OOP costs to receive the treatment (e.g., copays for prescription or physician office visits).

Physician survey. Invitations were sent to 1,019 physician members of HI's dermatologist panel. Overall, 14.6 percent responded, 13.8 percent were deemed eligible, and 12.3 percent (n=125) completed the survey. The dermatologists were predominantly male and white (non-Hispanic). On average, physicians were 52.7 (±9.2) years of age and had been in clinical practice postresidency for 19.9 (±8.0) years (Table 3). Sixty-six percent of dermatologists reported that more than 75 percent of patients treated at their practice are adults. Approximately 95 percent reported seeing more than 11 patients with CHE annually. The clinicians reported that approximately 33 percent (±21.0%) of the patients they see for CHE have sCHE and that 36 percent (±28.5%) of their patients experience pain from sCHE.

Diagnosis and treatment decision-making. Most

TABLE 3. Physician demographics and practice characteristics

CHARACTERISTIC	STATISTIC OR CATEGORY	OVERALL (n = 125)
Time in clinical practice postresidency, years	Mean (SD) Median (range)	19.9 (8.0) 19 (7–42)
Age, years	Mean (SD) Median (range)	52.7 (9.2) 53 (33–84)
Sex, n (%)	Male Female	90 (72) 35 (28)
Hispanic, Latino, or Spanish origin or descent, n (%)	Yes No	7 (6) 118 (94)
Racial group, n (%)	White Black/African American Asian American Indian or Alaskan native Native Hawaiian or other Pacific Islander Other	104 (83) 2 (2) 12 (10) 0 0 7 (6)
In an average month, dermatology patients who are ≥18 years of age, %	21–50% 51–75% >75%	1 33 66
Patients with sCHE treated in clinical practice	Median percentage (range)	25 (2–90)



sCHE, severe chronic hand eczema; TCS, topical corticosteroid.

Figure 3. Treatments used for patients with severe chronic hand eczema (sCHE; total population) and patients with topical corticosteroids (TCS)–refractory sCHE

dermatologists (97%) reported using history and physical examination to diagnose sCHE, followed by removal of known irritants and allergens (78%) and history of failed courses of potent prescription topical medication (78%). Similarly, 98 percent of dermatologists reported using clinical judgment to make decisions regarding treatment for sCHE, followed by published research (66%), clinical guidelines (55%), and patient requests (55%). For patients not responding to therapy, 94 percent of clinicians reported using clinical judgment regarding which therapies to add or switch. Dermatologists reported referring an average of 8.2 percent (± 12.7%) of patients to another specialist, most often another dermatologist (62%).

sCHE treatments. Almost all dermatologists (99%) reported using topical steroids to treat sCHE, 71 percent reported using immunomodulators, 70 percent used systemic treatments (such as oral prednisone or acitretin), and 58 percent reported using phototherapy. Thirty-four percent noted that the initial duration of treatment is ≤4 weeks, whereas 33 percent reported that duration to be 5 to 8 weeks (Figure 3). Sixty-eight percent of physicians indicated that they would use a systemic treatment for patients with disease that was not responsive to topical treatment alone.

Satisfaction with currently available sCHE products. Fewer than half of dermatologists (42%) were very satisfied or somewhat satisfied overall with how well currently available products treat symptoms (Figure 4). Specifically, only 23 percent of dermatologists felt very or somewhat satisfied with how well the currently available products treat pain related to sCHE, and 41 percent of respondents were very or somewhat satisfied with how well currently available products treat sCHE-associated itching. When billing for patient visits, 66 percent of dermatologists commonly use the ICD-9-CM code 692.9 (contact dermatitis and other eczema due to unspecified causes) and 48 percent use ICD-9 code 692 (contact dermatitis and other eczema).

DISCUSSION

The results of this study provide important information about the symptoms and treatment of US patients with sCHE and the impact of sCHE on work productivity, health resource utilization (i.e., physician visits and prescription drugs), OOP costs, and QoL. In this survey, sCHE had a moderate impact on QoL in these respondents, as measured by the DLQI, but did not impact on self-perceived health

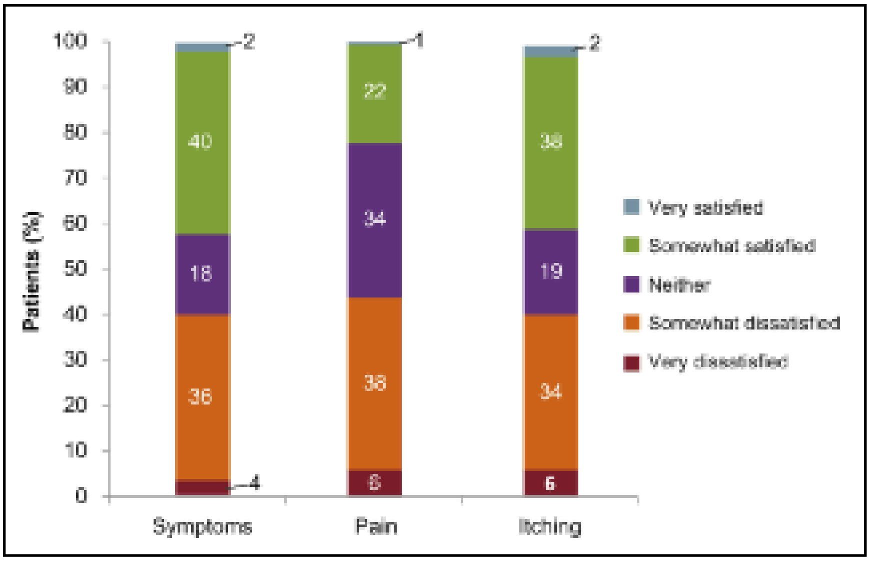


Figure 4. Satisfaction with how well currently available products treat symptoms of severe chronic hand eczema.

status as measured by the EQ-5D-3L. Thirteen percent of patients had to change their jobs and four percent had to quit working due to sCHE. Because a patient's employment environment can cause/exacerbate symptoms of CHE, three percent of respondents reported applying for workers' compensation. Presenteeism, work impairment, and activity impairment impacted almost one-third of respondents. When asked how much patients would be willing to pay OOP per month for a new treatment that relieved their most bothersome symptoms, they reported an average WTP of $38. To date, there have not been any studies reporting WTP of patients for treatment of the most bothersome symptoms of eczema. A Swedish study reported that, on average, patients were willing to pay between $116.36 and $131.27 per month for a hypothetical cure for atopic eczema,[27] which is substantially higher than the WTP reported by patients with CHE in this study for relief of the most bothersome symptoms.

Physicians were surveyed to gain insight into factors that influence their diagnostic and treatment decisions and were queried on which agents they currently use to treat patients with sCHE and their satisfaction with currently available products. Dermatologists reported using history and physical examination most often to diagnose patients and used clinical judgment for treatment decisions, including switching treatments for patients with refractory disease. Fewer than half of physician respondents said that they were very or somewhat satisfied with how well currently available products treat CHE-related symptoms, pain, and itching. Physicians also reported that approximately 33 percent of their patients with HE had sCHE, which is higher than expected based on epidemiologic data. It is possible that physicians may be overdiagnosing sCHE due to the general terminology used in ICD-9 billing codes and that the current codes do not allow for adequate representation of this patient population.

Experiences of patients with CHE have also been characterized in several recent studies. Erythema (redness) and scaling were the symptoms most frequently reported by patients with CHE in a population-based twin study,[28] whereas dryness/flaking were reported most often in the current study. The most bothersome symptom and the second-most common symptom indicated by the current study population was itching, which was similar to another recent study reporting itching as a symptom in 78.1 percent of their population.[21] Thus, from both the patients' and physicians' perspectives, therapy for sCHE-related itching is an unmet medical need in this therapeutic area.

In the current study, 72 percent of respondents indicated using a prescription medication for sCHE in the last year, with 84 percent using topical steroids. Other studies have reported lower usage of prescription medications (33.9%) and prescription topical steroids (29.5%); however, those patient populations were not exclusively patients with sCHE, as they were in the current study.[12] The current study reported moderate impacts on QoL, as measured by the DLQI. Numerous other studies have reported similar results, with DLQI scores ranging in the literature from 6 to 11.3.[7,10,19,20] Additionally, this study reported similar utility and VAS scores as a previous study of patients with sCHE (0.80 vs. 0.782 and 74.2 vs. 75.7, respectively).[11]

Previous QoL studies in patients with CHE have shown a greater impact on mental health dimensions versus physical health dimensions, with the exception of general health.[12] Compared with patients without HE, statistically significantly lower QoL has been reported across all eight dimensions of the Short Form-36 instrument for patients with CHE. The strongest relationships for patients with HE who had severe problems and negative impacts on QoL were in the following five domains: general health, mental health, vitality, role limitation because of emotional health problems, and social functioning (all $P<0.001$).[12]

Several studies have reported that 12.4 to 27.7 percent of patients with CHE have taken sick leave or reported loss of work days due to CHE[19,28,29]; a lower estimate of absenteeism (4.9%) was reported in the current study. However, presenteeism and work impairment for employed individuals that were measured as part of this study were substantial. The percentage of individuals needing to change jobs due to CHE (most often due to occupationally related CHE) has been reported to be 8.5 to 10 percent,[28,29] slightly lower than the 13 percent of patients in the current study.

Six percent of patients in this study had received short-term disability, and three percent received workers' compensation due to CHE. McCall et al[30] reported that 5.73 per 100,000 individuals over an eight-year time frame submitted a claim for occupational dermatitis. Of those patients specifically reporting contact dermatitis and eczema, the average length of disability was 25.6 days, and the average cost per claim was $5156.69 over the eight-year period of analysis.[30] Cortesi et al[7] reported that the loss in productivity due to severe and refractory CHE contributed almost half of the mean monthly economic cost of this disease.

The current study highlights the significant unmet need for effective therapies for treatment of sCHE. Currently, there are no systemic therapies approved by the US Food and Drug Administration for treatment of sCHE, although systemic therapies have been approved in Europe.[31] Because sCHE has been associated with negative impacts on QoL in numerous studies, treatment options that lead to improvements in QoL are essential to achieve positive patient-reported outcomes.[32] A majority of physicians in this study were either neutral or dissatisfied with how well currently available products treat symptoms of sCHE (including pain and itching), and patients reported persistence of common symptoms of sCHE, indicating an unmet need for therapies that better address these issues.

There are several limitations of the current study, including use of a small convenience sample and use of a cross-sectional study design. However, because the prevalence of sCHE is quite low, the challenges associated with studying this group include few patients available to participate and a relative dearth of physicians with experience diagnosing and treating sCHE. Additionally, both samples were relatively racially/ethnically homogeneous (predominantly white and non-Hispanic), potentially limiting the generalizability of these results to populations with different demographics. Finally, the response rate to the physician survey was very low (12.3%), and physicians with more experience with CHE may have preferentially responded to the survey (physicians reported that an average of 33% of their patients with HE had sCHE), thus limiting the applicability of these findings to the majority of dermatologists.

CONCLUSION

In this US patient population with sCHE, a majority of patients experienced multiple symptoms in both hands, which had negative impacts on QoL and work productivity. Additionally, fewer than half of dermatologists treating patients with sCHE indicated being very or somewhat satisfied with the currently available products used to treat symptoms of sCHE, including pain and itching. Based on the results of this and other studies, therapies that could improve sCHE symptoms, with additional treatment goals including improving patient-reported outcomes and minimizing work impairment, would fulfill a critical, unmet need for the sCHE patient population and the clinicians treating these patients. Additionally, these data may assist in development of an algorithm for ICD-9 codes for sCHE that may more accurately represent the sCHE patient population.

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