

# Demographics and Clinical Characteristics of Chronic Hand Eczema patients – Results from the CHECK study in the United States



Eric Simpson<sup>1</sup>, Sanjeev Balu<sup>2</sup>, Aseel Bin Sawad<sup>2</sup>, Eydna Didriksen Apol<sup>3</sup>, Shannon Schneider<sup>2</sup>, Douglas Maslin<sup>3</sup>, Lysel Brignoli<sup>4</sup>, Alissar Moussalem<sup>4</sup>, Raj Chovatiya<sup>5,6</sup>.

<sup>1</sup>Dermatology, Oregon Health & Science University, Portland, USA; <sup>2</sup>LEO Pharma, Madison, NJ, USA; <sup>3</sup>LEO Pharma A/S, Ballerup, Denmark; <sup>4</sup>Oracle Life Sciences, Paris, France; <sup>5</sup>Rosalind Franklin University of Medicine and Science Chicago Medical School, North Chicago, USA; <sup>6</sup>Center for Medical Dermatology + Immunology Research, Chicago, USA.

## Conclusions

- A significant proportion of participants with Chronic hand eczema (CHE) reported multiple subtypes, with varying levels of severity, and several anatomical areas (hand/finger/wrist) of involvement.
- Results also suggest that moderate to severe CHE is more frequent among younger adults and males CHE patients, highlighting potential disparities in disease characteristics and severity that warrant further investigation and consideration in clinical practice as well as public health strategies.
- The most frequently reported comorbidities were emotional or mental conditions suggesting the significant impact of CHE on a patient's wellbeing.

## Objectives

- To describe the sociodemographic and clinical characteristics of patients living with CHE in the United States (US).
- To identify sociodemographic variations within the different CHE severity levels.

## Synopsis (Background)

- Hand eczema (HE) is an inflammatory skin disease of the hands and/or wrists.<sup>1</sup>
- CHE is HE that lasts ≥ 3 months and/or returns at least 2 times a year.<sup>2</sup>
- CHE is a persistent, often debilitating disease characterized by inflammation, scaling, fissures, itching, and pain.
- Sociodemographic factors such as age, sex, race, and employment status may influence CHE severity, contributing to disparities in diagnosis, treatment effectiveness, and outcomes.
- Understanding these variations in the different severity levels of CHE is a key to guiding prevention efforts, improving care, and reducing health inequities.
- A similar study was conducted in Canada, France, Germany, Italy, Spain and the United Kingdom (UK).<sup>3</sup>

## Methods

- CHECK-US (Chronic Hand Eczema epidemiology, Care, and Knowledge of real-life burden in the US) was an online survey conducted among 10,636 adult participants representative of the general population in the US, recruited via online panels.
- Quotas and weighting were applied to ensure participants' representativeness of the US general population in terms of age, sex, race, employment status, state of residence, and urban/rural setting.<sup>4</sup>
- A previously published photographic guide was used to assess severity in the past week. The categories "Clear" and "Almost clear" were classified as "Mild". The categories "Moderate", "Severe" and "Very Severe" were classified as "Moderate to severe".<sup>5</sup>
- Participants were provided with a list of CHE subtypes from which they could select (Figure 2).
- The Monk Skin Tone (MST) Scale was used to assess skin color; light tone refers to MST 1-3, medium tone to MST 4-6 and dark tone to MST 7-10.<sup>6</sup>

Abbreviations CHE=Chronic hand eczema; IQR=interquartile range; MST=Monk Skin Tone; SD=standard deviation. Acknowledgements The CHECK-US study was sponsored by LEO Pharma, Madison, NJ, USA. The authors would like to thank Alexanne Monillo and Maria Thome (Oracle Life Sciences) for support with statistical analyses and poster design, respectively. Project management and medical writing were provided by Lysel Brignoli and Bleuenn Rault (Oracle Life Sciences) and funded by LEO Pharma, Madison, NJ, USA.

Presented at the Fall Clinical 25 Annual Congress, September 2025

## Results

### Sociodemographic characteristics of participants with self-reported physician-diagnosed CHE

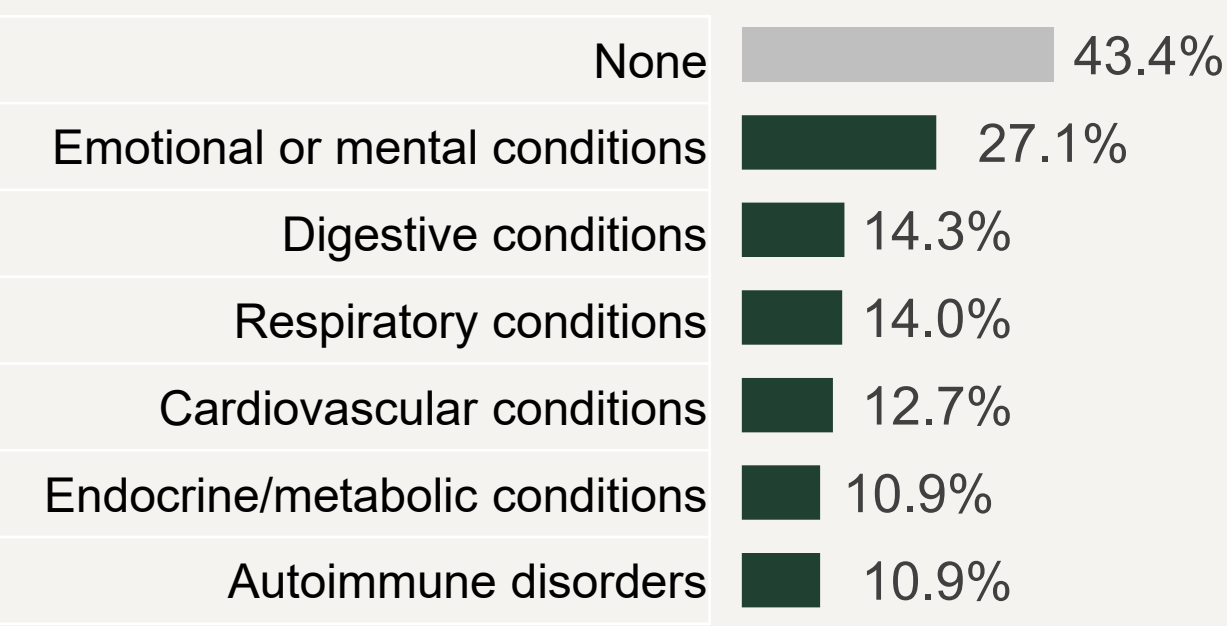
- A total of **982 participants self-reported a physician-diagnosis of CHE** and completed the questionnaire.
- Of these, 54.4% were males (n=534) and the mean (SD) age was 37.1 years old (12.4).
- Most participants were employed (76.4%, n=750) and lived in urban areas (86.6%, n=851).
- Among those identifying as having physician-diagnosed CHE, 72.5% (n=712) identified as White, 15.8% (n=155) as Black or African American, and 3.8% (n=37) as multiple races.
- In terms of skin tone, 59.3% (n=583) reported light tone (MST 1-3), 30.4% (n=298) medium (MST 4-6), and 9.9% (n=97) dark (MST 7-10). Four participants preferred not to answer.

### Clinical characteristics of participants with self-reported physician-diagnosed CHE

- The most frequently reported comorbidities were emotional or mental conditions (27.1%, n=266), digestive conditions (14.3%, n=140), and respiratory conditions (14.0%, n=137) (Figure 1).

**Figure 1** Comorbidities reported by participants with self-reported physician-diagnosed CHE

### Top 6 comorbidities



### Other comorbidities

Women's health conditions	7.4%
Co-morbidity of the eyes, ears, nose, and larynx	7.0%
Musculoskeletal/ integument conditions	5.6%
Urology or renal conditions	5.5%
Viral and fungal infections	5.0%
Hematopoietic conditions	4.8%
Liver conditions	3.5%
Cancer	1.2%
Other conditions	4.8%

### Age at first signs or symptoms of CHE and age at diagnosis

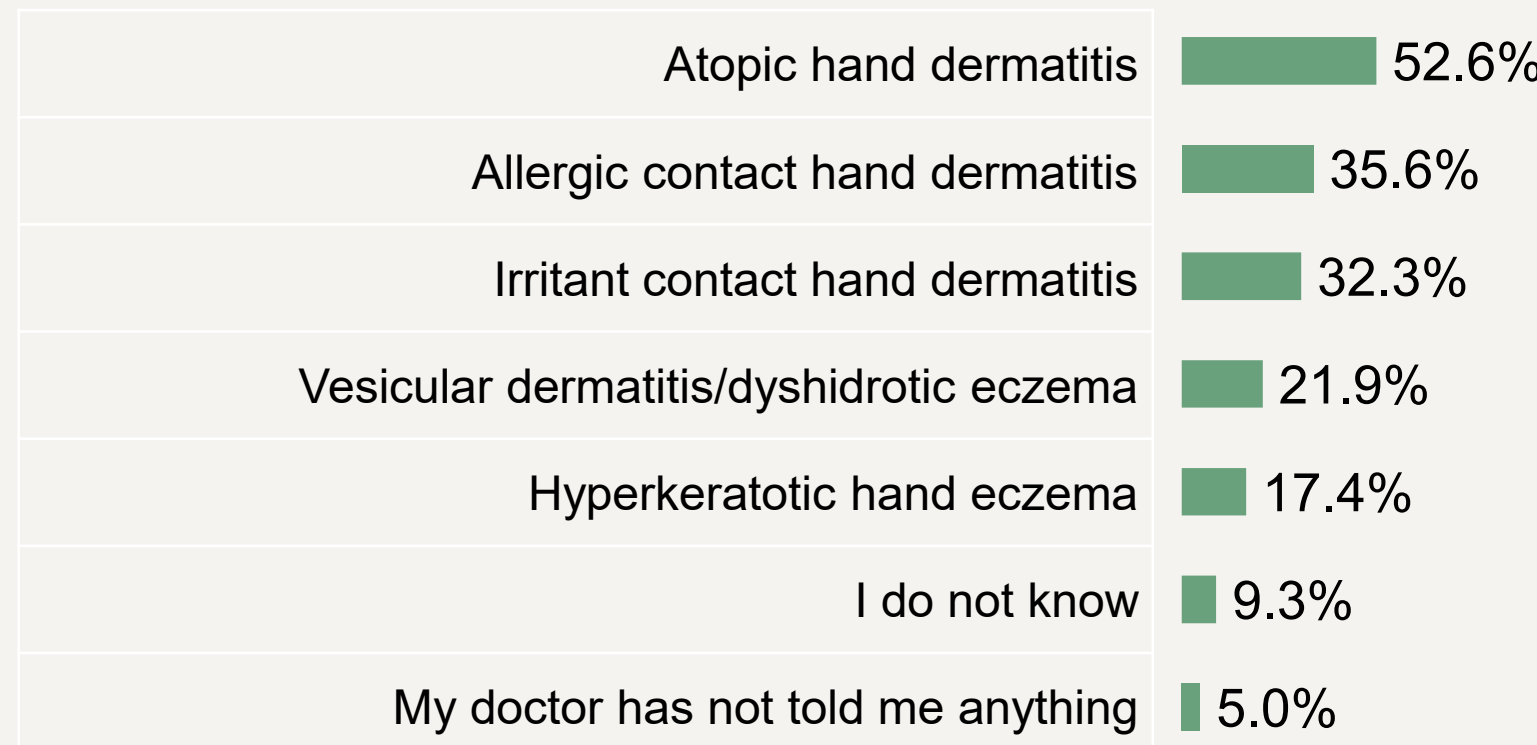
The mean (SD) age at first signs or symptoms of CHE was 22.4 years (13.6) and at diagnosis was 24.7 years (13.8) (Table 1), suggesting an average 2.3-year delay in diagnosis.

Age at first signs or symptoms of CHE, year (N=982)	
Mean (SD)	22.4 (13.6)
Median (IQR)	20.0 (13.0, 30.0)
Range (Min – Max)	0.0 - 68.0
Age at CHE diagnosis, year (N=941)	
Mean (SD)	24.7 (13.8)
Median (IQR)	23.0 (15.0, 34.0)
Range (Min – Max)	1.0 - 68.0
I do not know	41 (4.1%)

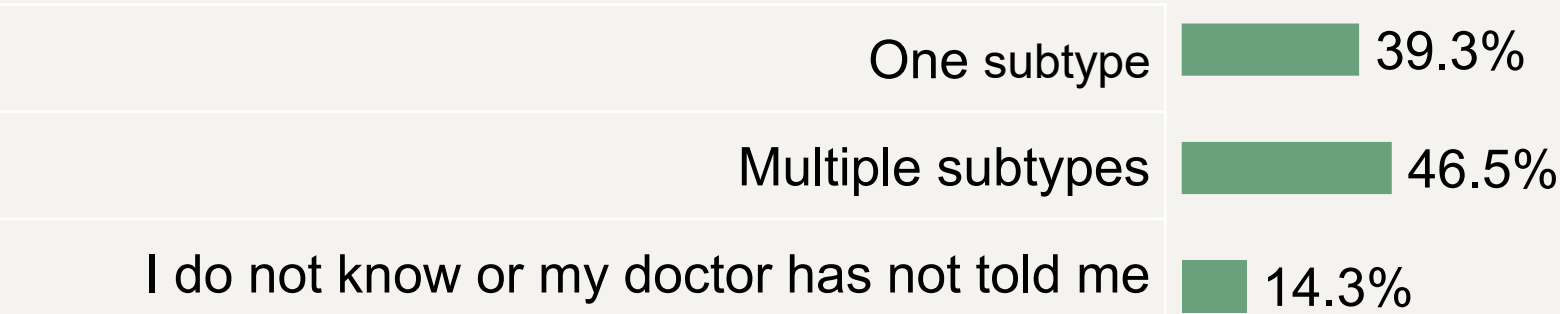
### Subtypes of CHE reported by participants with self-reported physician-diagnosed CHE

The most frequently self-identified subtype of CHE was atopic hand dermatitis (eczema) (52.6%, n=517) and almost half (46.5%, n=456) reported multiple subtypes.

### Subtypes of CHE



### Grouped subtypes of CHE

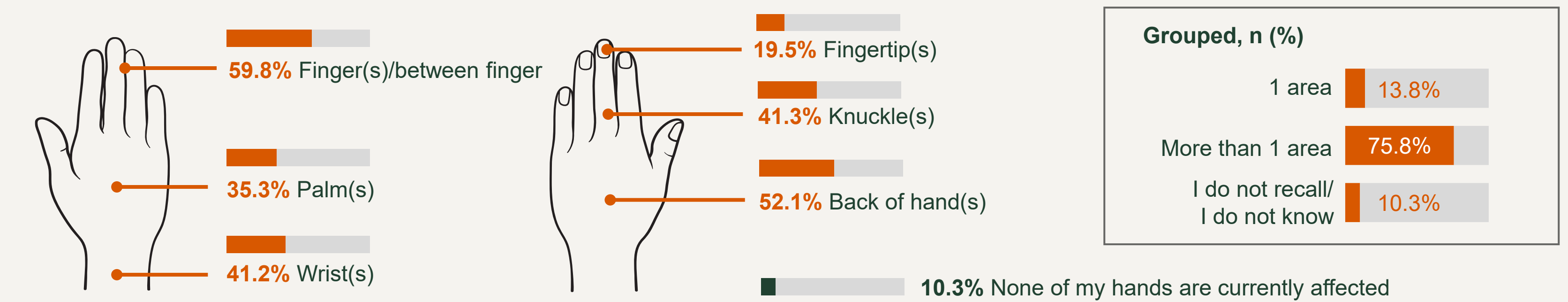


Multiple responses were allowed; as a result, the sum of the percentages may exceed 100%.

References 1. Quade AS, Simonsen AB, Halling AS et al. Prevalence, incidence, and severity of hand eczema in the general population - A systematic review and meta-analysis. *Contact Dermatitis*. 2021;84(6):361-74. 2. Thyssen JP, Schuttelaar ML, Alfonso JH et al. Arents BWM, et al. Guidelines for diagnosis, prevention, and treatment of hand eczema. *Contact Dermatitis*. 2022;86(5):357-78. 3. Apfelbacher C, Bewley A, Molin S, Fargnoli MC, Giménez-Arnau AM, Brignoli L, Rault B, Norlin JM, Skaaby T, Crépey MN. Prevalence of chronic hand eczema in adults: a cross-sectional survey of over 60,000 respondents from the general population of Canada, France, Germany, Italy, Spain and the UK. *Br J Dermatol*. 2025;192(6):1047-1054. 4. Deville, Jean C. 1991. "A Theory of Quota Surveys." *Survey Methodology* 17:163-181. 5. Coenraads PJ, Van Der Walle H, Thøstrup-Pedersen K, Ruzicka T, Dreier B, De La Loge C, et al. Construction and validation of a photographic guide for assessing severity of chronic hand dermatitis. *Br J Dermatol*. 2005 Feb;152(2):298-301. 6. Skin Tone Research @ Google AI | Start using the Monk Skin Tone Scale [Internet]. [cited 2025 Jun 31]. Available from: <https://skintone.google/get-started>

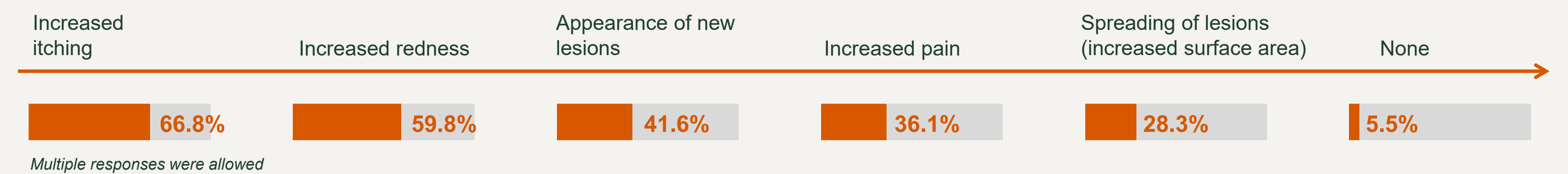
### Areas affected by eczema in the past 7 days (Figure 3)

Fingers/between fingers and back of hand were the most frequently reported anatomical involvements in the past week (59.8% [n=588] and 52.1% [n=511], respectively), followed by knuckle(s) and wrist(s) (41.3% [n=406] and 41.2% [n=405], respectively). More than three out of four participants (75.8%, n=745) reported having more than one affected area.



### Description of the flares experienced over the past 12 months (Figure 4)

When describing flares, 66.8% (n=655) of participants indicated increased itching, 59.8% (n=586) reported increased redness, and 36.1% (n=354) reported increased pain.

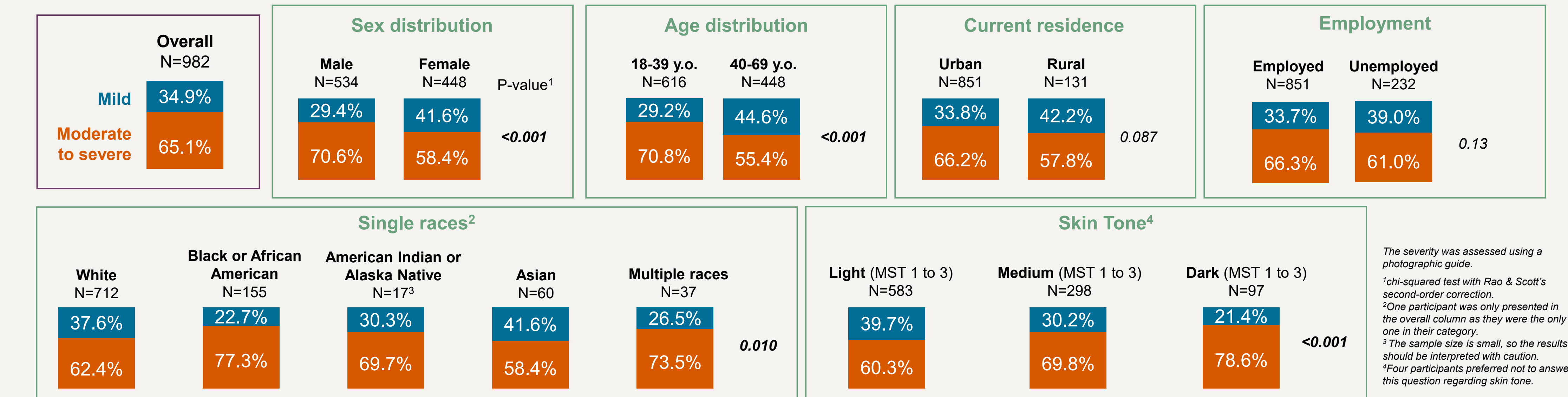


Multiple responses were allowed

### Sociodemographic characteristics among mild vs. moderate to severe participants with self-reported physician-diagnosed CHE

Almost two-thirds of participants (65.1%, n=639) self-assessed as having moderate to severe CHE in the past week, while 34.9% (n=343) had mild CHE.

- The proportion of moderate to severe CHE was higher among males (70.6% vs 58.4%; p<0.001) and among individuals aged 18-39 (70.8% vs 55.4% for the 40-69; p<0.001) (Figure 5).
- The highest proportions of moderate to severe cases were observed among participants identifying as Black or African American (77.3%, n=120/155) and those reporting multiple races (73.5%, n=27/37).
- Looking at skin tone, 60.3% of individuals with light skin reported moderate to severe symptoms (n=351/583), compared to 69.8% (n=208/298) with medium and 78.6% (77/97) with dark skin tones.



The severity was assessed using a photographic guide.  
<sup>1</sup>chi-squared test with Rao & Scott's second-order correction.  
<sup>2</sup>One participant was only presented in the overall column as they were the only one in their category.  
<sup>3</sup>The sample size is small, so the results should be interpreted with caution.  
<sup>4</sup>Four participants preferred not to answer this question regarding skin tone.

One limitation of this study is that CHE prevalence estimates are based on patient-reported data.

Disclosures R.C. has served as an advisor, consultant, speaker, and/or investigator for AbbVie, Acelyrin, Alumis, Amgen, AnaptysBio, Apogee Therapeutics, Arcutis Biotherapeutics Inc., Argenx, Astria Therapeutics Inc., Avaleere Health, Beiersdorf, Boehringer Ingelheim, Bristol Myers Squibb, Cara Therapeutics, Castle Biosciences, Cellidex Therapeutics Inc., CLN Skin Care, Dermavant, Eli Lilly and Company, EMD Serono, Formation Bio, Forte Biosciences, Galderma, Genentech, GSK, Incyte, Immagene Bio Inc., Johnson & Johnson, Kenvue, LEO Pharma, L'Oréal, Nektar Therapeutics, Nia Health, Novartis, Opasido, Organon, Pfizer Inc., RAPT, Regeneron, Sanofi, Silyx, Takeda, TPOX Bio, UCB, Zai Lab, S.B. is employed by and shareholder in LEO Pharma Madison, NJ, USA. A.B.S. and S.S. are employed by LEO Pharma Madison, NJ, USA. E.D.A. and D.M. are employed by and shareholder in LEO Pharma A/S, Ballerup, Denmark. L.B. is employed by and shareholder in Oracle Life Sciences, Paris, France. A.M. is employed by Oracle Life Sciences, Paris, France. E.S. reports personal fees from AbbVie, Actavis Therapeutics, Amgen, Arcutis, Astria Therapeutics, Atavia Therapeutics, Inc., Bambusa Therapeutics Inc., Castle, CorEvitas, Dermira, Eli Lilly, Evonunne, FIDE, Impetus Healthcare, Incyte, Innovaderm Reche/Indero, Immagene Biopharmaceuticals, Janssen, LectureLinx (LLX), Leo, NUMAB Therapeutics AG, Pfizer, Redclix Pharma, Regeneron, Roche Products Ltd, Sanofi-Genzyme, SIRTXY Therapeutics and reports grants (or serves as Principal investigator role) for AbbVie, Acrotech, Amgen, Arcutis, ASLAN, Castle, Dermavant, CorEvitas, Dermira, Eli Lilly, Incyte, Pfizer, Regeneron, Sanofi-Genzyme, Target, VeriSkin.