

PCR214

Sex-differences in Chronic Hand Eczema (CHE) triggering factors: Comorbidities, Lifestyle and Exposures. Findings from A Multinational Study in Six Countries

M.N. Crépy<sup>1,2</sup>, A. Bewley<sup>3</sup>, S. Molin<sup>4,5</sup>, A. M. Giménez-Arnau<sup>6</sup>, L. Brignoli<sup>7</sup>, B. Rault<sup>7</sup>, E. Borg<sup>8</sup>, J. M. Norlin<sup>8</sup>, M. C. Fargnoli<sup>9</sup>, C. Apfelbacher<sup>10</sup>

<sup>1</sup>Department of Occupational and Environmental Diseases, University Hospital of Centre of Paris, Hotel-Dieu Hospital; <sup>2</sup>Department of Dermatology, University Hospital of Centre of Paris, Cochin Hospital, AP-HP, Paris, France; <sup>3</sup>Barts Health NHS Trust & QMUL, London, United Kingdom; <sup>4</sup>Charité - Universitätsmedizin Berlin, Berlin, Germany; <sup>5</sup>Division of Dermatology, Queen's University, Kingston, Canada; <sup>6</sup>Department of Dermatology, Hospital de Mar Research Institute, Universitat Pompeu Fabra, Barcelona, Spain; <sup>7</sup>Oracle Life Sciences, Paris, France; <sup>8</sup>LEO pharma A/S, Ballerup; <sup>9</sup>San Gallicano Dermatological Institute, IRCCS, Rome, Italy; <sup>10</sup>Institute of Social Medicine and Health Systems Research, Otto-von-Guericke University Magdeburg, Magdeburg, Germany.

Conclusions

- Except for urology or renal conditions, comorbidities occurred more frequently in females, particularly emotional or mental conditions.
- Exposures that could trigger Chronic hand eczema (CHE) were more common in females: wet occupations, exposure to irritants, contact allergens, and proteins.
- In addition, CHE was more often reported to be associated with household/leisure activities for females than males and a larger proportion of females changed their household/leisure activities due to CHE.
- Different factors that could trigger CHE should be further investigated to better understand the impact on women’s experience with CHE.

Objectives

- Our objective is to describe sex-differences in terms of comorbidities, lifestyle and exposures that could be associated with CHE.

Background

- CHE is a burdensome dermatological disease, with different subtypes and various underlying etiologies.<sup>1</sup>
- Exposure to irritants and allergens encountered in daily activities can cause or exacerbate CHE.<sup>1-3</sup>
- Today, CHE is one of the most prevalent occupational skin diseases.<sup>2</sup>
- Females are more likely to experience CHE<sup>4</sup>, nevertheless sex-differences are not well understood.

Results

Patients’ characteristics by sex

- In total, 1,948 participants who self-reported a physician diagnosis of CHE were included in analyses.
- Amongst these 1,948 individuals, 64.5% (n=1,256) were females.
- Mean current age and age at diagnosis were similar.
- Males were more likely to be employed compared to females (p<0.01) (**Table 1**)

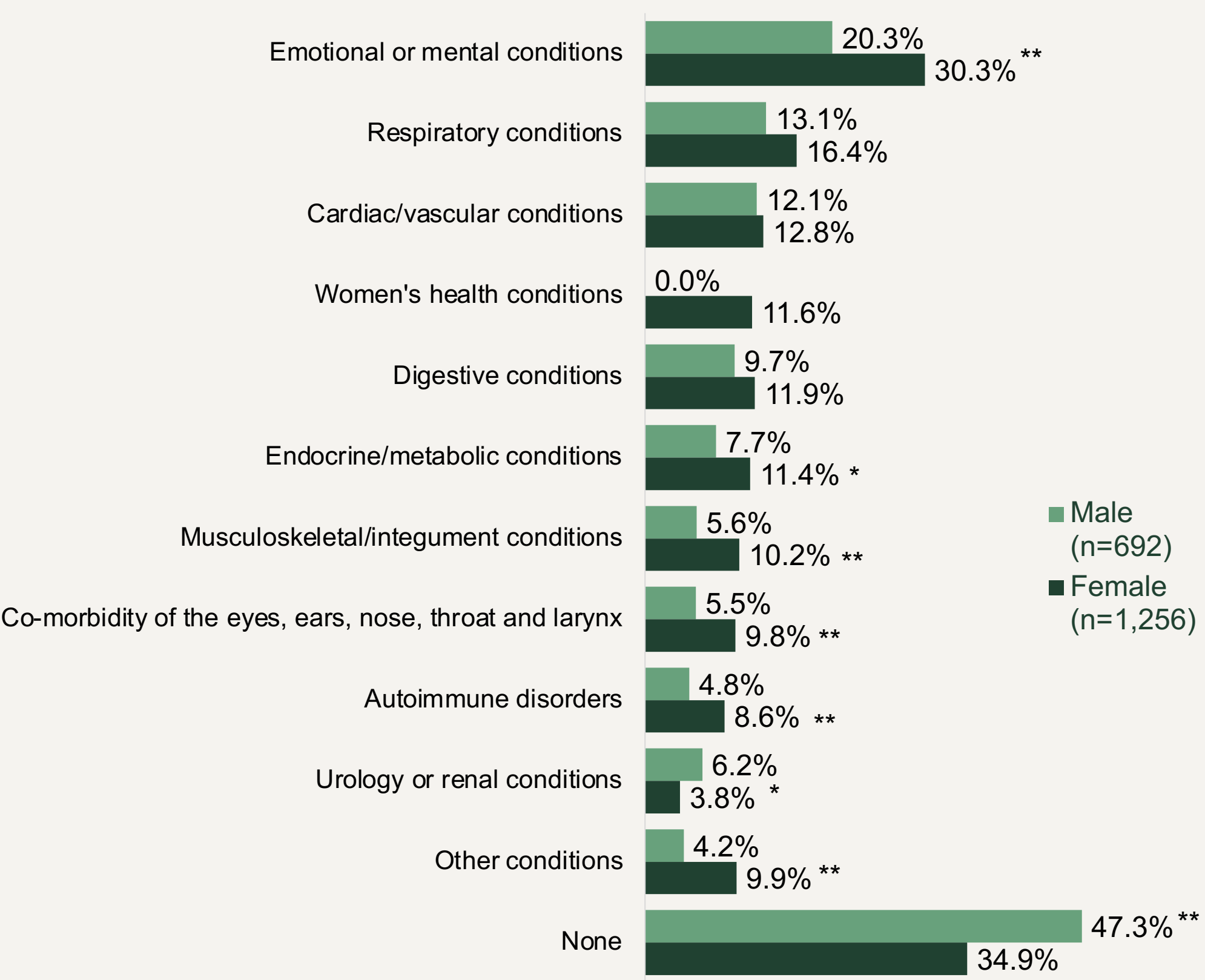
**Table 1** Characteristics of Participants who self-reported a physician-diagnosed CHE by sex

	Male (n=692)	Female (n=1,256)
<b>Current age (years)</b>		
Mean (SD)	43.9 (12.6)	42.9 (12.6)
<b>Current employment situation</b>		
Employed	602 (87.0%) **	883 (70.4%)
Unemployed	90 (13.0%)	372 (29.6%)
<b>Age at first diagnosis</b>		
Mean (SD)	27.0 (15.4)	25.7 (15.2)

Comorbidities

- Comorbidities currently experienced are presented in **Figure 1**. Females experienced more comorbidities than males: out of 14 comorbidities listed, 6 were more frequent for females (including haematopoietic conditions, p<0.01).
- Almost one third of females experienced emotional or mental conditions (30.3% vs. 20.3% for males, p<0.01).
- In contrast, the only conditions more prevalent amongst men were urology or renal conditions (6.2% vs. 3.8%, respectively; p=0.02).
- For the remaining conditions listed such as respiratory, cardiac/vascular, and digestive conditions, the differences between sex were not significant.

**Figure 1** Comorbidities currently experienced by sex<sup>1, 2</sup>



<sup>1</sup> Multiple responses were allowed.  
<sup>2</sup> Comorbidities cited at less than 5% have not been shown in the graph (Haematopoietic conditions/ Cancer / Liver conditions / Viral and fungal infections).

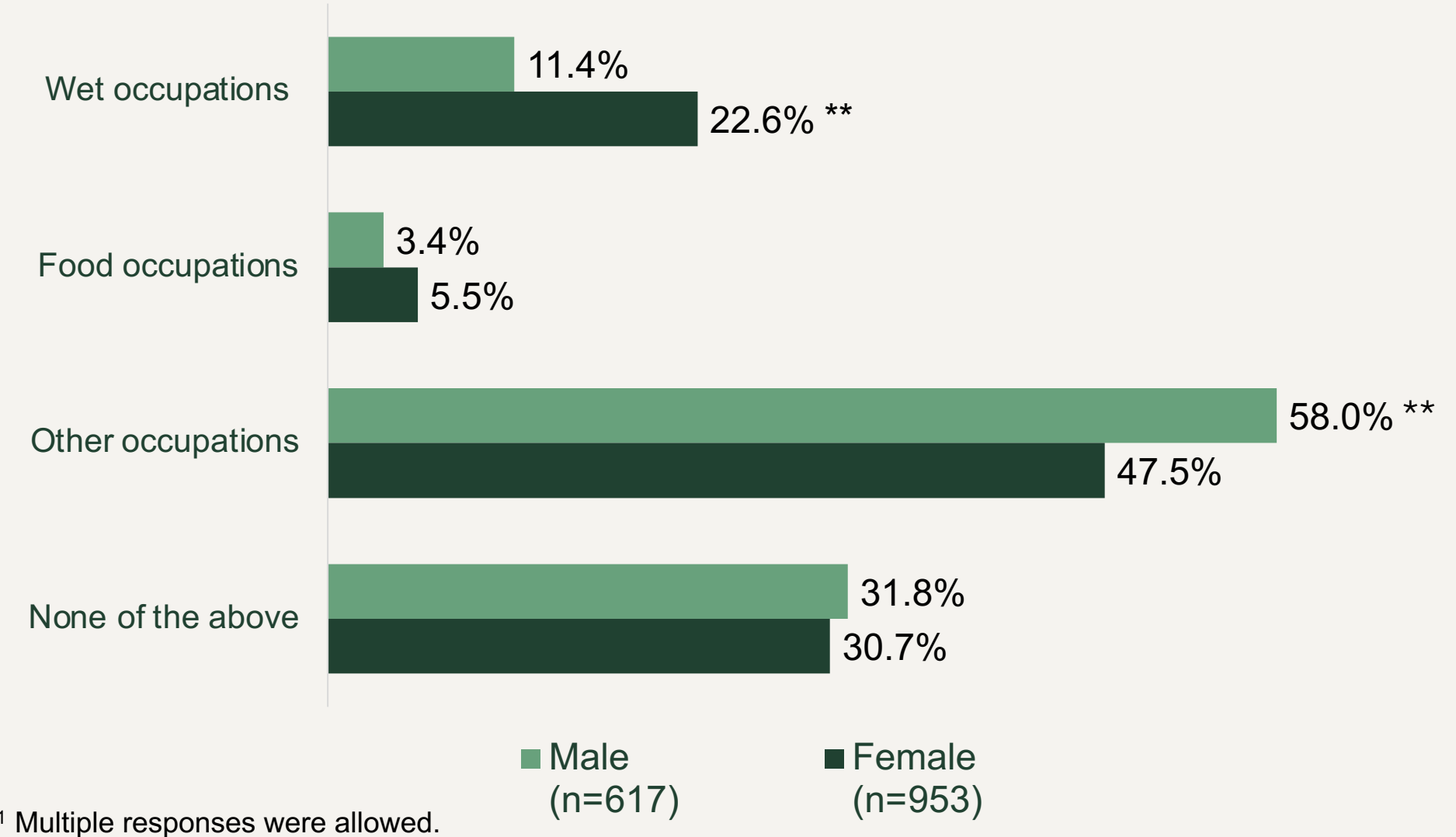
Methods

- The CHECK (Chronic Hand Eczema epidemiology, Care, and Knowledge of real-life burden) online study was conducted in Canada, France, Germany, Italy, Spain, and the UK.
- Adults, aged 18 to 69 years old, representative of the general population, were recruited via online panels in this study.
- To ensure the representativeness of the sample, quotas<sup>5</sup> and a weighting were applied in terms of sex, age, region, employment status, and urban/rural setting (as well as ethnicity in the UK). An additional weighting was also applied to account for size of the 18- to 69-year-olds population in each country.
- CHE was defined as eczema on the hand(s) and/or wrist(s) persisting for ≥3 months or with ≥2 flares in the past 12 months.<sup>1,6</sup> A confirmation of a physician diagnosis was self-reported by the participants.
- Data were analysed descriptively as mean with standard deviation (SD) for continuous variables, and frequencies (n) and percentages for categorical variables.
- Differences between sexes were assessed using the Wilcoxon rank-sum test adapted to complex survey samples for continuous variables and chi-squared test with Rao & Scott correction for categorical variables.
- Statistical significance was defined as p<0.05 (\*) and p<0.01 (\*\*).

Triggers – Occupations, Leisure activities and Exposures

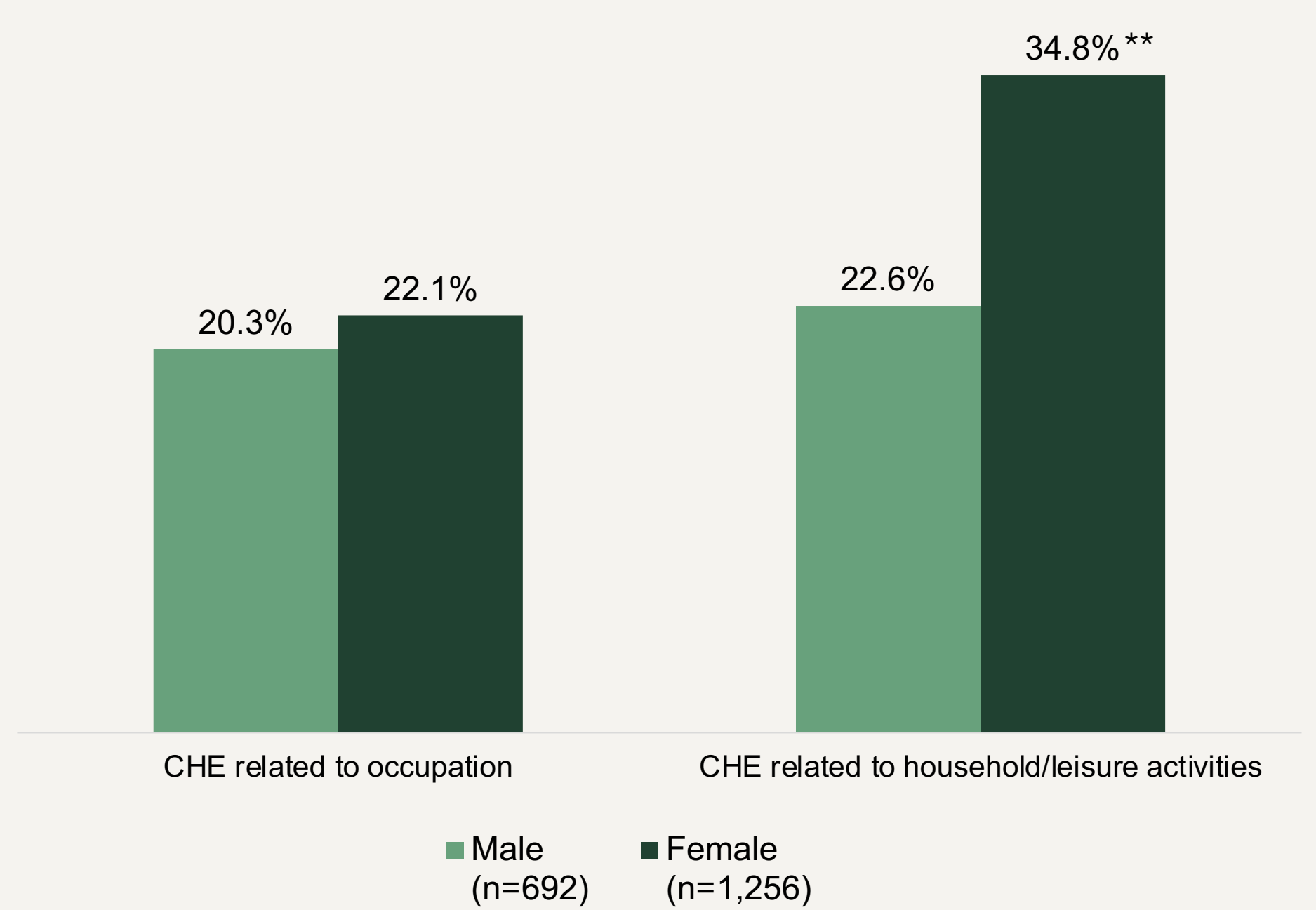
- Among individuals who have been working in the past 6 months, females were more often working in wet occupations (i.e., that involves frequent or prolonged exposure of hands/wrists to water) than males (22.6% vs. 11.4%, respectively; p<0.01) (**Figure 2**).
- Of these, 22.1% of females attributed their CHE to their occupation, this proportion was comparable by sex.
- In contrast, a higher proportion of females attributed their CHE to household/leisure activities compared to males (34.8% vs. 22.6%; p<0.01) (**Figure 3**).
- In addition, looking at the impact, a larger proportion of females changed their household/leisure activities due to their CHE compared to males (40.6% vs. 29.4%; p<0.01).
- In contrast, a larger proportion of males had to reduce their working hours (8.0% vs. 4.5%; p=0.04) (**Figure 4**).
- In addition, over the past 6 months, females were more likely to be exposed to irritants (41.9% vs. 31.8%, respectively; p<0.01), contact allergens (30.8% vs. 22.2%; p<0.01), or proteins (37.2% vs. 32.1%; p=0.03) (**Figure 5**).

**Figure 2** Patients' occupations over the past 6 months among those working in the past 6 months by sex<sup>1</sup>

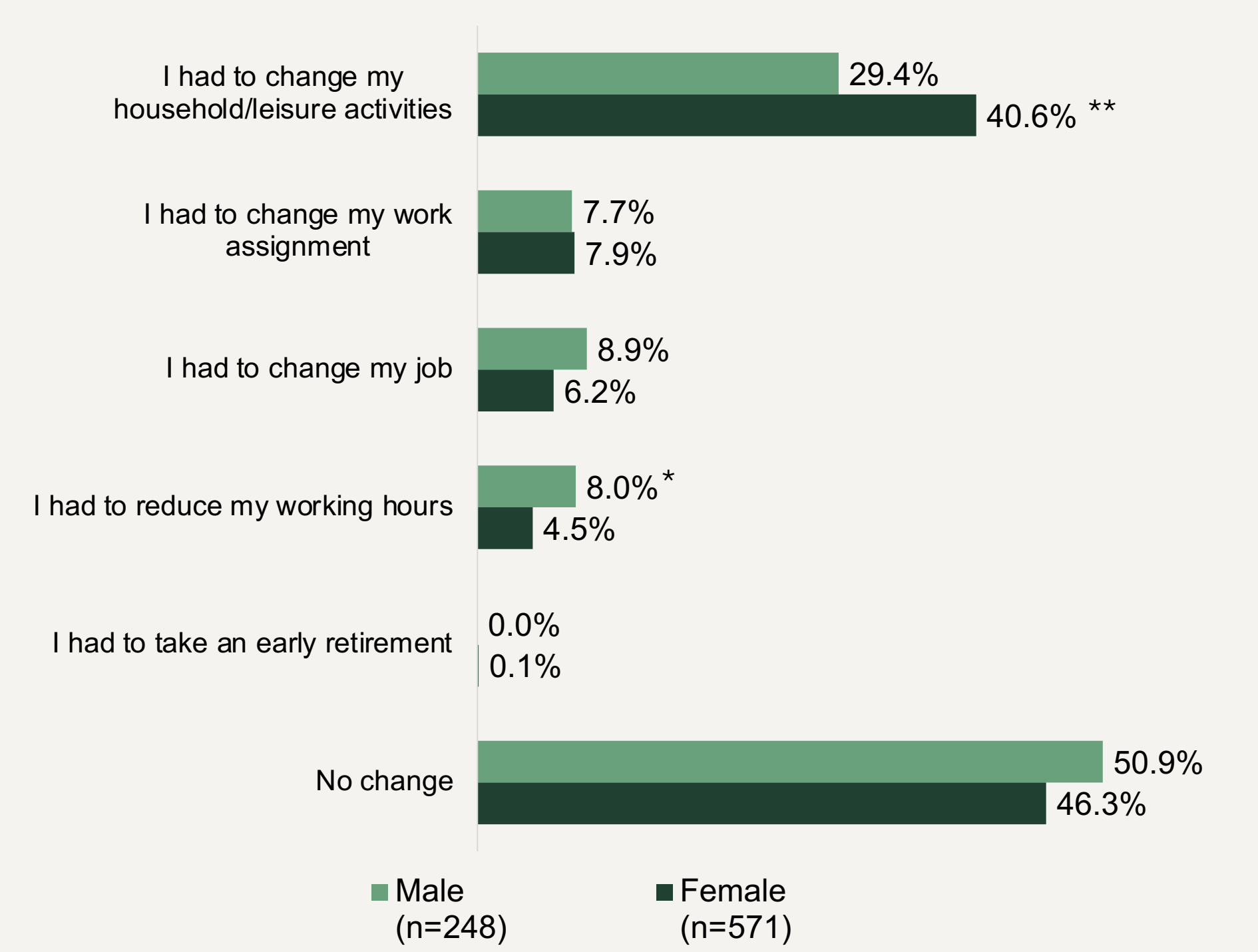


<sup>1</sup> Multiple responses were allowed.

**Figure 3** CHE related to the patient occupation and household/leisure activities by sex

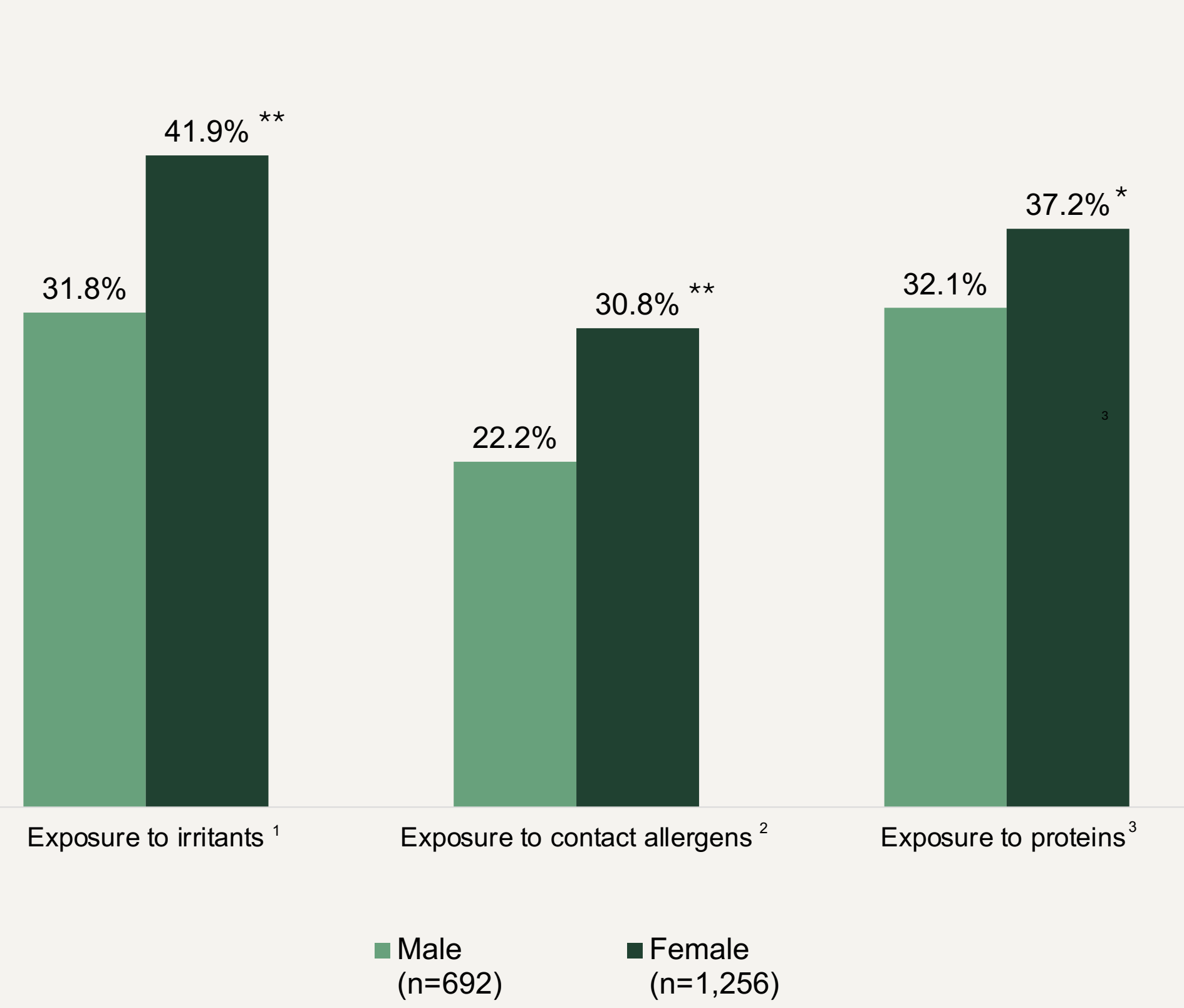


**Figure 4** Changes at work or in household/leisure activities because of CHE by sex<sup>1,2</sup>



<sup>1</sup> Multiple responses were allowed.  
<sup>2</sup> Results are presented among individuals for whom CHE is related to occupation or household/leisure activities.

**Figure 5** Exposure to irritants, contact allergens or proteins over the last 6 months by sex



<sup>1</sup> Irritants: exposure to liquid longer than 2h daily, the use of protective gloves for longer than 2h daily, frequent handwashing more than 20 times daily, repeated skin injury, drying, high cold and heat temperatures, contact to chemical substances or toxins, long or repeated exposure to disinfectants, solvents, detergents, and corrosive substances.  
<sup>2</sup> Contact allergens: nickel, cobalt, chromium, or formaldehyde or allergens present in gloves, leather, fragrances, cosmetics, plants, glues, paints, etc.  
<sup>3</sup> Proteins exposure: Food, animals/insect/plants (excluding pet animals) or gloves in natural rubber latex.

**Abbreviations** CHE=Chronic hand eczema; SD=standard deviation.

**References** **1.** Thyssen JP et al. Contact Dermatitis. 2022;86(5):357-78. **2.** Meding B et al. J Invest Dermatol. 2004 Apr;122(4):673-7. **3.** Apfelbacher C et al. Acta Derm Venereol. 2014 Mar;94(2):163-7. **4.** Apfelbacher C et al. Br J Dermatol. 2025 May 19;192(6):1047-1054. **5.** Deville J-C. Surv Methodol 1991; 17:163–81 **6.** Lynde C et al. J Cutan Med Surg. 2010 Nov-Dec;14(6):267-84.

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