

Hand eczema in Copenhagen hair- dressers – prevalence and under-reporting to occupational registers

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Henriette S. Hansen and Heidi Søsted

Research Centre for Hairdressers
and Beauticians, Department of
Dermato-allergology, Gentofte Hospital,
University of Copenhagen, Hellerup,
Denmark

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Hairdressers are intensively exposed to wet work and chemical substances, such as ingredients in hair colours, permanent wave and bleaching products. This confers a considerable risk of allergic and irritant contact dermatitis on the hands (1,2). Data from registers of occupational disease in different European countries show that

Table 1. Sex, age and prevalence of hand eczema in skilled hairdressers and apprentices

	Skilled hairdressers <i>n</i> = 827	Apprentices <i>n</i> = 81	Total <i>n</i> = 908
Sex (female)	733 (88.6%)	75 (92.6%)	808 (82.4%)
Age (years) ^a	38.9 (12.5)	22.2 (4.5)	37.4 (12.9)
Hand eczema (last week)	73 (8.8%)	11 (13.6%)	84 (9.3%)
Hand eczema (past 12 months)	167 (20.2%)	30 (37.0%)	197 (21.7%)
Hand eczema (ever)	364 (44.0%)	40 (49.4 %)	404 (44.5%)
Atopic dermatitis	78 (9.4%)	15 (18.5%)	93 (10.2%)

^aMean and std. deviation.

hairdressers are usually among the professions with the highest incidence of hand eczema (1,3,4). Furthermore, epidemiological studies among hairdressers (2,5) and apprentices (6) have shown a high prevalence of occupational hand eczema. However, no such population-based investigations have been performed among Danish hairdressers, and even though under-reporting to occupational registers is considered a fact, this bias has not been quantified.

Materials and Methods

In the present investigation the prevalence of hand eczema among 1679 hairdressers currently living in Copenhagen and having membership of the Hairdressers Union was evaluated by questionnaire. The questions on hand eczema were taken from The Nordic Occupational Skin Questionnaire (NOSQ-2002) (7) and previously validated (8). In addition, the following two questions were asked to estimate under-reporting to the Occupational Register: (i) 'Do you think your hand eczema was caused by your occupation as a hairdresser?' and if, 'yes' (ii) 'Was your hand eczema reported to the Board of Occupational Disease?'.

Completed questionnaires were returned after one reminder by 1063/1679 (63.3%). No information about non-responders was available.

Only individuals currently working as apprentices or skilled hairdressers in a salon and who were between 18–70 years were included in the case group, leaving 908 hairdressers for analysis. Permission from the Danish Protection Agency was obtained prior to the study.

Results

In total, 404 (44.5%) of hairdressers reported hand eczema at some time

(life-time prevalence) with 197 (21.7%) in the last 12 months and 84 (9.3%) during the last week.

The life-time frequency of hand eczema among hairdressers decreased with age in both sexes (data not shown). The prevalence of hand eczema was similar between skilled hairdressers and apprentices (Table 1). Sick-leave with a median duration of 1–5 weeks due to hand eczema was reported by 27 (6.7%). In total 280/404 (69.3%), 69.0% of hairdressers and 72.5% of apprentices with hand eczema considered their hand eczema to be work-related. Only in 32 of these cases (11.3%) had their hand eczema reported to the Board of Occupational Health (Table 2).

Discussion

Hand eczema was frequently reported by skilled hairdressers as well as apprentices, confirming that hand eczema is also a significant problem in Danish hairdressers. As the cohort was defined by current employment in hairdressing, a healthy worker effect is to be expected and the prevalence of hand eczema in those who have left the trade is likely to be even higher. A main finding in this study

was that only 11.6% of hairdressers and 3.4% of apprentices, who reported occupationally related hand eczema, had actually had their disease filed with The Board of Occupational Disease. In Denmark, all suspected cases of occupational disease have to be reported to the board regardless of the severity and consequences for the individual. Exceptions are self-employed hairdressers, who have no obligation to be covered by insurance. The under-reporting is unlikely to be due to recall-bias as it is a very formal procedure.

In conclusion, hand eczema is frequent among Copenhagen hairdressers and apprentices. The highest frequency of hand eczema was found in the youngest age-group, presumably due to more intense exposures and a healthy worker effect. A significant under-reporting of occupational hand eczema takes place, as only 3–12% of suspected cases have been reported to The Board of Occupational Health. A strategy, as in other countries, for primary prevention and mitigation of the existing problems with hand eczema and allergy in hairdressers is needed.

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References

1. Skoet R, Olsen J, Mathiesen B, Iversen L, Johansen JD, Agner T. A survey of occupational hand eczema in Denmark. *Contact Dermatitis* 2004; 51: 159–166.
2. Lind M L, Albin M, Brisman J et al. Incidence of hand eczema in female

Table 2. Self-reported causative exposures of hand eczema in hairdressers reporting work-related hand eczema (more than one exposure could be reported as causative)

	Skilled hairdressers with hand eczema <i>n</i> = 364	Apprentices with hand eczema <i>n</i> = 40	Total <i>n</i> = 404
Work-related hand eczema	251 (69%)	29 (72.5%)	280 (69.3%)
Self-reported causative exposures			
Use of gloves	27 (10.8%)	3 (10.3%)	30 (10.7%)
Hair dye	43 (17.1%)	5 (17.2%)	48 (17.1%)
Bleach	46 (18.3%)	6 (20.7%)	52 (18.6%)
Styling products	65 (25.9%)	1 (3.4%)	66 (23.6%)
Hair wash/shampoo	228 (90.1%)	29 (100%)	257 (91.8%)
Reported to the authorities as an occupational disease	29 (11.6%)	1 (3.4%)	30 (10.7%)

- Swedish hairdressers. *Occup. Environ. Med* 2007; 64: 191–195.
3. Dickel H, Kuss O, Blesius C R, Schmidt A, Diepgen T L. Occupational skin diseases in Northern Bavaria between 1990 and 1999: a population-based study. *Br.J Dermatol* 2001; 145: 453–462.
 4. Chen Y, Turner S, McNamee R, Ramsay C N, Agius R M. The reported incidence of work-related ill-health in Scotland (2002–2003). *Occup. Med.(Lond)* 2005; 55: 252–261.
 5. Perkins J B, Farrow A. Prevalence of occupational hand dermatitis in U.K. hairdressers. *Int.J.Occup.Environ.Health* 2005; 11: 289–293.
 6. Uter W, Pfahlberg A, Gefeller O, Schwanitz H J. Prevalence and incidence of hand dermatitis in hairdressing apprentices: results of the POSH study. Prevention of occupational skin disease in hairdressers. *Int.Arch.Occup.Environ.Health* 1998; 71: 487–492.
 7. Susitaival P, Flyvholm M A, Meding B, Kanerva L, Lindberg M, Svensson A, Olafsson J H. Nordic Occupational Skin Questionnaire (NOSQ-2002): a new tool for surveying occupational skin diseases and exposure. *Contact Dermatitis* 2003; 49: 70–76.
 8. Svensson A, Lindberg M, Meding B, Sundberg K, Stenberg B. Self-reported hand eczema: symptom-based reports do not increase the validity of diagnosis. *Br.J.Dermatol.* 2002; 147: 281–284.

Address:

Dr Heidi S¸st¸ed
Research Centre for Hairdressers
and Beauticians
Department of Dermato-allergology
Gentofte Hospital
University of Copenhagen
2900 Hellerup
Denmark
Tel: +45 39777300
Fax: +45 39777118
e-mail: hesos@geh.regionh.dk