

Occupational Dermatoses

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Editorial

Occupational dermatoses are often difficult to diagnose since physicians sometimes classify and treat them only as urticaria, dermatitis, and other dermatoses. Because occupational dermatoses affect the working environment, life and society both directly and indirectly, it is important for patients (workers) and their families that they are diagnosed.

Occupational dermatoses are not only a health issue but also an economic issue, and economic losses because of them can be huge. It should be noted that occupational dermatoses are a serious problem, and the number of occupational dermatoses may be underreported worldwide. The rate of occupational dermatoses has been reported to account for 20-30% of all occupational diseases [1,2]. Diepgen found that 50-190 out of 100,000 workers develop occupational contact dermatitis [3], and another study reports that 23,596 of 71,263 occupational diseases were classified as occupational skin diseases [4]. In Greece, 39.9% of employees (4000 workers, 20 types of enterprise, 104 companies) were found to suffer from occupational dermatitis, and there was no statistically significant correlation between gender and prevalence of occupational dermatoses [5]. It is interesting, however, that reports of occupational dermatoses are rare in Brazil because of workers' fear of losing their jobs and salaries [6].

There have been many reports on occupational dermatoses, especially on irritant or allergic contact dermatitis. The rate of irritant contact dermatitis to allergic contact dermatitis is reported to be 4:1 [7]. Keil [8] reported that 90-95% of all occupational dermatoses are contact dermatitis, of which 20-25% are allergic, and 70-75% are irritant.

Fathi [9] reported that 90-95% of work related dermatoses are contact dermatitis, and 91.1% of occupational contact dermatitis are irritant contact dermatitis. Loddé [10] showed that the number of irritant contact dermatitis is higher than that of allergic contact dermatitis among cases of dermatitis due to occupational origin.

Occupational dermatoses are often thought to be of little importance, and some patients do not understand how serious they may be. Many workers suffer serious skin problems for which they seek a doctor for treatment or consultation. Among workers, hand dermatoses are the most frequent. Hands eczema, atopic dermatitis and asteatosis (xeroderma) are well known causative factors of occupational contact dermatitis [11]. Eczema of the hands reduces both the ability to work and quality of life [11]. Skin conditions like eczema or xeroderma, which break the skin barrier, should be treated, and workers must understand the condition of their skin condition. The management of hand eczema by dermatologists is important in the

patient's daily life, work, level of physical and psychological disability, and consequences for social relations [12]. Diagnosis, treatment, and prevention programs are important mainstays of the overall therapeutic approach to hand eczema [11]. Germany is quite advanced in its prevention of occupational dermatology, and different measures are used to achieve very effective results. Workers should be encouraged to follow hand eczema guidelines [13].

It is noteworthy that foot eczema is associated with both occupational and non-occupational factors, and that it is common in patients with hand eczema [14]. Additionally, tobacco smoking is associated with foot eczema [14]. Brans [15] reports that the relation between severity of hand eczema and smoking, and both the number of days of absence from work and the decreasing labor force due to occupational hand eczema are closely related with smoking.

Alfonso [16] reports that indoor dry air, cleaning products, and water are related with skin problems in the general working population of Norway, and that the population risk attributable to these factors was 16%. Employees and administrators should be familiar with diseases associated with the work environment, and it is important for workers to take appropriate measures against developing disease. In our previous study, only a small number of workplaces took preventative measures against occupational dermatoses, largely because such occupational dermatoses are not considered serious.

Not only physicians but also employers need to recognize occupational dermatoses. Occupational dermatoses affect society and the economy; it is recognized that associated costs include those of re-education, in-service training, loss of production, and treatment. In the UK, occupational contact dermatitis costs two hundred million pounds per year in the industrial world [17]. In Germany, re-education costs some 50-100 thousand euros, and indirect costs might be six times medical costs [2]. Diepgen [18] studied the costs of occupational hand eczema, finding that annual societal costs were 8799 euros per patient and that indirect costs represented 70% of total costs. Annual social high costs of patients with hand eczema are similar to those of severe psoriasis and atopic dermatitis [18]. In Europe, more than 5 billion euros per year are spent due to occupational dermatitis, and this economic burden is added to costs due to lack of productivity and indirect costs due to sick leave [19].

Considerable time and cost are involved in re-educating workers with specialized skills such as those who work as bakers, hairdressers, barbers, metalworkers, electrical engineers, or medical staff, because they work with specialized skills. To avoid re-education costs and decreased productivity, it might be useful to try to reduce exposure time or decrease chances of exposure to antigens in the workplace.

Because occupational dermatoses are extremely common, and because they affect not only the patient but also society in general,

greater measures must be taken by both the medical and working worlds.

References

1. Cherry NM, Meyer JD, Holt DL, Chen Y, McDonald JC (2000) Surveillance of work-related diseases by occupational physicians in the UK: OPRA 1996-1999. *Occup Med (Lond)* 50: 496-503.
2. Diepgen TL, Kanerva L (2006) Occupational skin diseases. *Eur J Dermatol* 16: 324-330.
3. Diepgen TL, Coenraads PJ (1999) The epidemiology of occupational contact dermatitis. *Int Arch Occup Environ Health* 72: 496-506.
4. Diepgen TL (2012) Occupational skin diseases. *J Dtsch Dermatol Ges* 10: 297-313.
5. Zorba E, Karpouzis A, Zorbas A, Bazas T, Zorbas S, et al (2013) Occupational dermatoses by type of work in Greece. *Saf Health Work* 4: 142-148.
6. Alchorne Ade O, Alchorne MM, Silva MM (2010) Occupational dermatosis. *An Bras Dermatol* 85: 137-147.
7. Sampaio SAP, Rivitti EA (2007) *Dermatoses ocupacionais*. Sampaio SAP, Rivitti EA, eds. *Dermatologia*. 3 ed. Sao Paulo: Artes Medicas 1367-1375.
8. Keil JE, Shmunis E (1983) The epidemiology of work-related skin disease in South Carolina. *Arch Dermatol* 119: 650-654.
9. Fathi F, Jafarpoor M (2013) Matching evaluation between occupational contact dermatitis and various jobs in Yazd in during 2007-2012. *Acta Med Iran* 51: 793-798.
10. Loddé B, Paul M, Roguedas-Contios AM, Eniafe-Eveillard MO, Misery L, et al (2012) Occupational dermatitis in workers exposed to detergents, disinfectants, and antiseptics. *Skinmed* 10: 144-50.
11. Weisshaar E (2016) Saving the Barrier by Prevention. *Curr Probl Dermatol* 49: 152-158.
12. Halioua B (2014) Hand eczema: disability and impact. *Ann Dermatol Venereol* 141: S111-116.
13. Diepgen TL, Andersen KE, Chosidow O, Coenraads PJ, Elsner P, et al. (2015) Guidelines for diagnosis, prevention and treatment of hand eczema--short version. *J Dtsch Dermatol Ges* 13: 77-85.
14. Brans R, Hübner A, Gediga G, John SM (2015) Prevalence of foot eczema and associated occupational and non-occupational factors in patients with hand eczema. *Contact Dermatit*. 73: 100-107.
15. Brans R, Skudlik C, Weisshaar E, Gediga K, Scheidt R, et al. (2014) Association between tobacco smoking and prognosis of occupational hand eczema: a prospective cohort study. *Br J Dermatol* 171: 1108-1115.
16. Alfonso JH, Thyssen JP, Tynes T, Mehlum IS, Johannessen HA (2015) Self-reported occupational exposure to chemical and physical factors and risk of skin problems: a 3-year follow-up study of the general working population of Norway. *Acta Derm Venereol* 95: 959-962.
17. Kanerva L, Elsner P, Wahlberg JE, Maibach HI (2000) *Handbook of Occupational Dermatology*. Berlin: Springer.
18. Diepgen TL, Scheidt R, Weisshaar E, John SM, Hieke K (2013) Cost of illness from occupational hand eczema in Germany. *Contact Dermatit* 69: 99-106.
19. Sartorelli P, Kezic S, Larese Filon F, John SM (2011) Prevention of occupational dermatitis. *Int J Immunopathol Pharmacol* 24: 89S-93S.