

Hand dermatitis: hand hygiene consequences among healthcare workers

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Hand dermatitis among healthcare workers is prevalent, although its frequency may even be underestimated (1). Hand dermatitis is mainly irritant, but can also be allergic, and can, in any case, have an impact on hand hygiene compliance (2).

Methods

A self-administered questionnaire was developed to evaluate the impact of hand dermatitis among healthcare

workers employed by Nantes University Hospital. The questions addressed the presence of skin lesions during the last 12 months, the types of symptoms, the medical care of hand dermatitis, and changes in hand hygiene measures. Two thousand questionnaires were distributed by use of the Infection Control Network in June 2015, and anonymous responses were collected. Statistical analyses were performed with SPSS 19.0, based on 1159 available questionnaires (58% response rate).

Results

Most of the healthcare workers provided care in conventional wards (51%), intensive care units (17%), or operating theatres (7%). Overall, 787 healthcare workers (68%) mentioned having hand dermatitis. The commonly reported symptoms were dryness (93%),

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redness (57%), fissures (55%), itching (45%), pain (21%) and oozing (3%). Nurses reported having skin lesions more frequently (76%) than other healthcare workers ($p < 0.001$). Among healthcare workers with hand dermatitis, 63% and 93%, respectively, reported having modified their hand hygiene behaviour and having used creams (moisturizers, 90%; and topical corticosteroids, 10%). Specifically, they reported washing their hands more frequently (44%) and having stopped using hydroalcoholic hand rubs (10%) or having decreased their use of hydroalcoholic hand rubs (42%). Among those who had modified their hand hygiene behaviour ($n = 497$), the proportion of participants who had modified their use of hydroalcoholic hand rubs was significantly different between those with pain ($n = 139$) and those without pain ($n = 358$): in the subgroup with pain, 31 of 77 (40%) patients stopped using hydroalcoholic hand rubs, 83 of 332 (25%) decreased their use of hydroalcoholic hand rubs, and 25 of 88 (28%) did not change their use of hydroalcoholic hand rubs ($p = 0.026$). Only 17% of affected healthcare workers had sought medical attention due to hand dermatitis: occupational physicians, 9% of cases; general practitioners, 8% of cases; and dermatologists, 6% of cases.

Discussion

Hand dermatitis is very common, its impact on hygiene regimes is significant, and very few healthcare workers seek medical attention. International guidelines recommend the use of a hydroalcoholic solution, when

possible, to limit cross-transmission and nosocomial infections. However, our survey shows that 52% of healthcare workers with hand dermatitis stopped, or decreased use of hydroalcoholic hand rubs. Even if using a hydroalcoholic solution on damaged skin causes a burning sensation, it is less irritating than repeated hand washing, especially thanks to the addition of an emollient; moreover, the risk of contact allergy is low (3). Conversely, frequent hand washing with soap instead of using hydroalcoholic hand rubs can aggravate hand dermatitis (4). Moreover, hand washing is not sufficiently effective as a disinfectant measure, except in cases of contact with patients with *Clostridium difficile* infection, when hand washing is required prior to disinfection with hydroalcoholic products, to eliminate spores. This survey points to a lack of knowledge concerning prevention advice and a lack of medical care of healthcare workers (5). The season of the year did not influence the answers, as the study covered prevalence over a 1-year period. It is urgently necessary to improve the prevention of hand dermatitis in health institutions, and to diagnose and counsel affected healthcare workers promptly concerning compliance with hand hygiene protocols.

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