Influences on use of hand moisturisers in nurses

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Abstract

Background: Nurses are at high risk of hand dermatitis. Regular hand moisturising can prevent dermatitis, but nurses' use of hand moisturisers is suboptimal.

Aims: To establish a) what beliefs about hand dermatitis and hand moisturiser use are associated with hand moisturiser use by nurses at home and at work and b) if hand moisturiser use behaviours in nurses are associated with the prevalence of hand dermatitis.

Methods: We used a questionnaire to investigate nurses' knowledge, beliefs and behaviours regarding hand dermatitis and use of hand moisturisers.

Results: The response rate was 55/65 (85%). Forty two (76%) participants agreed that applying hand moisturisers reduced the risk of dermatitis, and 53 (96%) agreed that dermatitis increased the risk of skin carrying pathogenic organisms. Frequent moisturiser application was associated with beliefs that it was part of the nurse's role to apply hand creams, a belief that they had had training in the use of moisturisers and believing that patients approved of them moisturising their hands.

Conclusions: Hand moisturiser use by nurses can be improved by enhancing their beliefs that it is part of their professional role to apply hand cream regularly.

Key words: nurses, hand moisturisers, hand dermatitis, beliefs, behaviour

Introduction

Nurses are at high risk of developing occupational hand dermatitis (1), which can be uncomfortable, may be an infection control risk and can lead to increased sickness absence, negative psychosocial consequences and unemployment (2,3). UK national guidelines recommend regular hand moisturising to prevent and treat occupational dermatitis (4). However, a recent study suggests that nurses usually apply hand moisturisers after hand washing only when they develop symptoms of dermatitis (5). The influence of beliefs on nurses' use of hand moisturisers, particularly at work, is not known, but this information is needed to inform interventions to increase the use of hand moisturisers in this occupational group.

The aims of this study were to establish a) what beliefs about hand dermatitis and hand moisturiser use are associated with hand moisturiser use by nurses at home and at work and b) if hand moisturiser use behaviours in nurses are associated with the prevalence of hand dermatitis.

Methods

We created a self-administered questionnaire based on elements of the Theoretical Domains Framework (6) and the Long Nordic Occupational Skin Questionnaire (NOSQ-2002)(7), assessing beliefs and training regarding hand dermatitis and use of hand moisturisers. The questionnaire is available from the authors on request. We limited the number of questionnaire items to facilitate completion by busy nurses and improve response rate. We distributed questionnaires in person to all qualified nurses (all nursing staff who were degree level or equivalent) on medical and surgical wards at a London hospital between 08/04/2015 and 20/05/2015. We analysed data using SPSS software version 24. For association analysis, we calculated non-parametric correlations (Spearman's rho) between frequency of moisturising hands on a daily basis/after hand washing at work/home. Ethical approval was not required as the NHS staff were recruited by virtue of their professional role. (8)

Results

The response rate was 85% (55/65) and the mean age of respondents was 35 (standard deviation 9.3) years. Respondents were predominantly female 51 (93%); 22 (40%) had worked as a nurse for <5 years, 10 (18%) for 5-10 years, and 21 (38%) for ≥10years (two nurses did not answer). Eight (15%) nurses reported having dermatitis frequently ('always' or 'often') in the past 12 months and 8 (15%) nurses reported frequently ('always' or 'often') applying moisturiser after hand washing at work or home (in response to 'how often do you moisturise your hands after hand washing at work/home?' recorded on a five point Likert scale: 'never', 'rarely', 'sometimes', 'always', 'often'.

Forty two (76%) participants agreed that applying hand moisturisers reduced the risk of dermatitis, and 53 (96%) agreed that dermatitis increased the risk of skin carrying pathogenic organisms.

Nurses who more strongly believed that "At work it's my responsibility to apply moisturisers after washing my hands" were more likely to report using moisturiser daily at work (rho=0.296, $p<0.05$) and after hand washing at work (rho=0.289, $p<0.05$). Use of moisturisers after hand washing at work was also significantly positively associated with the belief, "I consider it part of my job to apply moisturiser after I wash my hands" (rho=0.355, $p<0.01$), with perceived skills, "At work I've been trained in the correct application of moisturiser after hand washing" (rho=0.304, $p<0.05$) and with stronger agreement that "Patients approve of me using hand moisturisers" (subjective norms) (rho=0.294, $p<0.05$). We did not test whether any other beliefs were associated with hand moisturiser use at work.

There was no association between hand moisturiser behaviour at home or at work, and 12-month hand dermatitis prevalence (based on 50 participants, as five participants answered 'not sure').

Discussion

The 12-month prevalence of hand dermatitis in our participants was 15%. One strength of the study was the high response rate (85%). However, because we used a cross-sectional design we were unable to elicit causal relationships between beliefs and behaviours.

The 12 month prevalence of hand dermatitis in nurses in our study was lower than the point prevalence reported in previous studies of nurses (20%), but higher than the reported general UK population (2-10%) (1). National UK guidelines and The Centre for Disease Control and Prevention recommend that healthcare workers should moisturise between hand hygiene procedures in order to prevent and treat dermatitis (3,4). We found the reported frequency of application of moisturisers after hand washing was low at approximately 15%, in keeping with previous studies (9). Others have suggested that the low use of moisturising cream by nurses could be due to lack of knowledge (9). However, our participants had a high level of knowledge about moisturisers' role in preventing dermatitis and the potential for hand dermatitis to harbour pathogenic organisms. Lack of knowledge did not explain poor adherence.

Although the associations found in our study were generally weak (rho < 0.36) we found that nurses' application of moisturisers was associated with their seeing it as part of their professional role and responsibilities, and believing they had been correctly trained in its application. This supports the importance of giving clear training to nurses regarding use of hand moisturisers and promoting a sense of professional responsibility and pride in appropriate hand moisturiser use at work. Interestingly, greater hand moisturising after hand washing was associated with believing that patients approved of nurses doing so, perhaps due to the patient-centred approach of the study participants. We found no association between hand dermatitis prevalence and application of hand cream (whether at home or at work), which may be due to the cross-sectional study design or inaccurate self-reports of dermatitis prevalence. These issues warrant further investigation.

As hand moisturising is recommended best practice, nurses that did not follow practice, or had 'embarrassing' dermatitis, may have provided socially desirable responses, which could explain the low prevalence of dermatitis. Further research would enable a broader range of psychological

factors to be assessed, and to establish if changes in beliefs change hand moisturiser behaviour and prevent hand dermatitis (10).

Key points:

- In this study nurses had good knowledge of the benefits of hand moisturisers, but low rates of use.
- Appropriate use of hand moisturisers could be promoted as a key aspect of nurses' professional roles.
- Providing training to nurses on correct use of moisturisers after hand washing may be valuable.

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