Hand and wrist/forearm eczema, pilot prospective procedure to validate the short Spanish version of the Nordic Occupational Skin Questionnaire (NOSQ-2002)

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Results

The sample analyzed includes cleaning workers. They were mainly employees from different companies in Barcelona, with or without hand and wrist/forearm eczema. A total of 60 workers were performed. A fellow in Occupational Medicine conducted a guided oral clinical history and a complete dermatological physical examination. The employees answered independently the Spanish version of the NOSQ-2002 questionnaires. The dermatological physical examination included special care in hands, wrists and forearms taking at least three pictures following a standardized protocol. All images were assessed blindly by an expert dermatologist and a dermatologist (questions affirmatively (eczema of hands and wrists / forearms) and the prevalence observed at the clinical examination was 22.5% for hand eczema and 5% for the wrist / forearm eczema (Fig. 1 and 2).

Using as a "gold standard" the clinical history and the clinical examination done by the occupational physician and the assessment of the pictures done by the dermatologist, the sensitivity of the questionnaire was respectively 100% (95% CI: 89.5-100%), 75% (95% CI: 52.3-91.0%) and specificity of 100% (95% CI: 92.0-100%), 68.8% (95% CI: 56.7-78.8%), 69.8% (95% CI: 57.8-79.8%). The PPV was 100% (95% CI; 89.3-100%), 37.5% (95% CI; 22.9-54.7%) and 40% (95% CI; 25.9-57.7%) and NPV and was 100% (95% CI; 99.9-100%), 97.1% (95% CI: 87.1-99.9%) and 99.6% (95% CI; 97.1-99.9%). The agreement between the occupational physician and the dermatologist was 96.25% (Kappa index 0.85) (Fig. 3).

Following the same criteria for question 0 we found a 100% (95% CI; 82.4-100%), 75% (95% CI; 55.1-100%) and 100% (95% CI; 0.5-100%) specificity respectively. The sensitivity was respectively 100% (95% CI; 0.2-100%), 81.6% (95% CI; 73-84.8%) and 83.2% (95% CI; 73-84.8%). The PPV found was 100% (95% CI; 82.4-100%), 22/2% (95% CI; 94.5-22/) and 22/2% (95% CI; 94.5-22/) and the NPV was 100% (95% CI; 94.2-100%) and 100% (95% CI; 94.2-100%). The diagnostic agreement between the occupational physician and the dermatologist was also about a 100% (Kappa index 1) (Fig. 4).

From the 32 workers who answered YES to the question if they ever had hand eczema the 71.87% linked their cutaneous disorder with certain materials or chemicals involved during their work. The NOSQ-2002 questionnaire not only linked the eczema with the work but also with the skin and a 68.75% referred improvement during weekends or holidays (Fig. 5). The main substances or materials to which workers associated their eczema were gloves (8 workers, of which 2 referred to latex, 4 to rubber and one to vinyl), general cleaning products (6-8), bleaches (4-9), beach (3-4), adhesives (3-4) and detergents (3-4).

From the 18 workers who answered YES to the question if they ever had forearm eczema the 55.57% related their cutaneous disorder with certain materials or chemicals involved during the work. The 83.33% did not relate the disease with substances or materials outside the work. The 66.67% linked their active improvement during weekends or holidays (Fig. 5). The main substances or materials to which workers associated their forearm eczema were gloves (7 workers, of which 4 referred to latex, 1 to rubber and 2 to vinyl), cleaning products (5), lithium and detergents (4) and soap (2).

Conclusions

With the limitations of this first prospective phase for the Spanish short NOSQ-2002 questionnaire validation we can predict that after the retrospective phase done in a biggest sample the screening questions for hand and wrist/forearm eczema would be validated. We highlight the good correlation between the occupational physician and the dermatologist assessment. A validated questionnaire will be useful for future hand eczema studies.

References

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