

Occupational Irritant Hand Dermatitis among Nurses in Al-batool Teaching Hospital

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Abstract

Background: Occupational irritant hand dermatitis (IHD) is frequent in hospital workers, especially in nurses. A comprehensive understanding regarding hand dermatitis is essential for establishing proper prevention and treatment strategies.

Aims: The purpose of this study is to identify the prevalence of occupational irritant contact hand dermatitis in hospital nursing staffs and to identify the risk factors for hand dermatitis among nurses in Al-batool teaching hospital.

Patient and Methods: A Cross sectional study was conducted in Al-batool teaching hospital in Baquba city from 1st October 2013 to 30th March 2014. Completed questionnaires were obtained from 120 nurses (male and female) by face to face interview. In questionnaires we ask about the occurrence of the occupational hand dermatitis as diagnosed by dermatologist and the relation between hand dermatitis and the use of latex gloves and cleansing agent and the risk factor associated with this dermatitis.

Results: Irritant hand dermatitis was diagnosed in 57 nurses. The prevalence of occupational irritant hand dermatitis was 48% (57 of the 120 nurses). We found hand dermatitis prevalence is of 54% (31 of 57) in Gynecological department nurses whereas the prevalence in pediatric department nurses was 46% (26 of 57). 60% (34 of the 57) of the cases presented with a hand dermatitis, the cause was latex gloves and in 25% (14 of 57) of nurses the cause was cleansing products, and the remaining 15% (9 of the 57) the cause was combined of both. 23% of nurses report a history of asthma (13 of the 57) and 33 % (19 of 57) of nurses have allergic rhinitis. Also there was a family history of atopy in 44 % of nurses (25 of 57). There is increase in the occupational irritant contact hand dermatitis with increase period of work, 30% in nurse work more than 10 years.

Conclusions: Our study indicates that it is necessary to provide nurse with specific skin care advice as part of their training. This might help to identify trainees at increased risk of developing occupational irritant contact hand dermatitis, encouraging the initiation of appropriate skin protection measures.

Key word: Occupational irritant hand dermatitis, nurse, Albatool, prevalence.

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Introduction

Occupational hand dermatitis is common condition that does affect up to 10 percent of the general population, not just nurses. There are both genetic, occupational and environmental factors that can lead to a person developing hand eczema. Some people are simply more prone than others to developing this uncomfortable condition. However, other people such as nurses are more likely to develop a case because their hands are frequently exposed to irritating chemicals and cleansers. The sign and symptoms of hand eczema include, itching or pain, redness and dryness to the point that the skin actually begins peeling and flaking. There may also be painful cracks or blisters on the hands. Hand dermatitis represents one of the most common occupational skin diseases affecting the nurses and it is caused usually by irritant contact dermatitis or allergic contact dermatitis [1].

Hand dermatitis can be serious temporary affliction or an ongoing condition, and may frequently relapse [2].

Although hand dermatitis occur community - wide, nurse usually suffer from this disease at rate higher than general population [3]. Departments of employment are common occupational risk factors. Nurses suffering from hand dermatitis at rate three times higher than general population [4]. Medical and nursing staffs have highest hand dermatitis prevalence of all occupations [5].

Hospital nurse are particularly prone to hand dermatitis but their rate vary depending on the department they work in. Investigated hand dermatitis among Japanese hospital nurses found that the prevalence range from 6% in psychiatry and 48% in surgery [6]. Risk factor of hand dermatitis vary from study to study but wet work, hand washing frequency, latex gloves usage, previous history of allergic disease, and department of

employment are common predictive variable. [7]

There are several reasons for this. In their line of work, nurses need to wash their hands frequently. This means that they have a great deal of contact with various disinfectants and cleansers, and must wear protective gloves for long periods of time. Eventually, the overexposure of the hands to those conditions can lead to hand eczema. Although this is not a contagious condition, it can be very annoying to those suffering from it [8].

This study design to identify the prevalence of occupational irritant contact hand dermatitis in hospital nursing staffs. And to identify the risk factors for irritant contact hand dermatitis among nurses in Albatool teaching hospital.

Patients and methods

A Cross sectional study was conducted in Albatool teaching hospital in Baquba city from 1st October 2013 to 30 April 2014. Completed questionnaires were obtained from 120 nurses (male and female) by face to face interview. In questionnaires we ask about the occurrence of the occupational irritant contact hand dermatitis as diagnosed by dermatologist and the relation between hand dermatitis and the use of latex gloves and cleansing agent and the risk factor associated with these dermatitis. Also we asked about the departments of work and the period of work in the hospital. Statistical methods; All results were analysed with the statistical program SPSS.

Results

Completed questionnaires were obtained from 120 of the nurses in Al-btool teaching hospital. Irritant contact hand dermatitis was diagnosed in 57 nurses. The overall prevalence of occupational irritant contact hand dermatitis was 48% (57 of the 120 nurses). We found irritant contact hand

dermatitis prevalence of 54% (31 of 57) in Gynecological department. Whereas the prevalence in pediatric department was 46% (26 of 57). In 60% (34 of the 57) of the cases presented with irritant contact hand dermatitis, the cause was the gloves and in 25% (14 of 57) the cause was cleansing product and dettol, and the remaining 15% (9 of the 57) the cause is combined of both latex gloves and cleansing agent. 23% of nurses report a history of asthma (13 of the 57) and

33% (19 of 57) of nurses have allergic rhinitis. Also there is family history of atopy in 44 % of nurses (25 of 57). There is increase in the occupational irritant contact hand dermatitis with increase period of work, 30% in nurse work more than 10 years.

Table 1 shows increase in the prevalence of occupational irritant contact hand dermatitis in the nurses of gynecological department more than nurses of pediatric department.

Table (1): Distribution of IHD according to departments.

Department	No	%
Gynecology	31	54%
Pediatric	26	46%
Total	57	100%

Table 2 shows increase occupational irritant contact hand dermatitis among those

who have risk factors such as family history of atopy, asthma and allergic rhinitis.

Table (2): Distribution of IHD according to risk factor.

Risk factor of irritant hand dermatitis	No.	%
Family history of Atopy	25	44%
Allergic Rhinitis	19	33%
Asthma	13	23%
Total	57	100%

Table 3 shows difference in the percentage of irritant contact hand dermatitis according to the cause, so dermatitis mainly

caused by gloves followed by cleansing agent.

Table (3): Distribution of IHD according to the cause.

Cause of irritant hand dermatitis	No.	%
Latex Gloves	34	60%
Cleansing agent	14	25%
Combined of both	9	15%
Total	57	100%

Table 4 shows difference in the prevalence of occupational irritant contact hand dermatitis according to the period of work.

So there is increase in the occupational irritant contact hand dermatitis with increase period of work, 30% in nurse work more than 10 years.

Table (4): Distribution of IHD according to the period of work.

Period of work	No.	%
≥ 1 year	15	26%
1 - 5 years	11	19%
6 - 10 years	14	25%
> 10 years	17	30%
Total	57	100%

Discussion

The overall prevalence of IHD (48%) indicate that the nurse in our study suffered from irritant contact hand dermatitis more than previously documented in Japanese teaching hospital (35%) [6]. the irritant contact hand dermatitis prevalence was also higher than other studies in the United States (25.9%) [9], and the Netherlands between (29% and 32%) [4], but it is lower than that reported in Poland 69% [1]. Several studies showed that usage of rubber gloves, detergents, disinfectants or wet work conditions may predispose to irritant contact hand dermatitis [3]. A personal or family history of atopy increases the risk of developing irritant contact hand dermatitis in nurses. Irritant contact hand eczema was reported more frequently in hospital employees with allergic rhinitis and people with allergic conjunctivitis. Skin lesions were also significantly more often present in patients with family history of these diseases and in patients with positive family history of atopic dermatitis. This is agreement with other reports, in a previous survey, documented that female nurse suffering from hand dermatitis at rate three times higher than general population. Similarly in another community survey, showed medical and nursing staff to have highest hand dermatitis prevalence of all occupations [4, 5].

Differences in IHD prevalence rates between our study and that of previous studies suggests that cultural differences are also important to consider as ethnographic factors.

Further research would be needed for more medical examinations and investigations of the more comprehensive nursing groups, which is expensive task.

Hot environments usually cause excessive sweating [6], which may, in turn, increase the presence and severity of IHD

Identifying the skin rashes as risk factors for IHD, which may enhance skin susceptibility to irritation and prolong the dermal recovery period [10].

Some authors have suggested that the frequency of hand washing performed per work shift directly influences the risk of developing IHD [3].

In conclusion, our study indicates that IHD is relatively common among nurses working in Al-batool teaching hospital, and that its differences in the prevalence of irritant contact hand dermatitis between departments, so the prevalence is higher in the gynecological department than pediatric department. Regular hand washing at work were identified as risk factors, It seems to be of great importance to introduce educational programs to clarify the predisposing factors and to introduce prophylactic procedures (wearing of gloves, reducing of washing the hands with detergents and soaps, usage of hand creams). Despite the limitations of our research methodology, we have documented that the prevalence of IHD among hospital nurses in Al-batool teaching hospital for what appears to be the first time.

Recommendations, further research is required to establish the nature and distribution of IHD among nurses in other

geographical locations within Diyala province hospitals. Larger sample needed to study the occupational irritant IHD among nurses.

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