# Occupational Hand Eczema Among Housewives Attending Baquba Teaching Hospital

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## Abstract

**Background:** Housewife's hand eczema is a common disease which is due to the excessive and prolonged exposure of the hands to soap and water. Patients with hand eczema frequently have a history of atopic dermatitis or atopy.

**Aims:** To determine the, clinical features, and patterns of occupational housewife's hand eczema in housewives and its prevalence in patients with atopic eczema or atopy attending Baquba teaching hospital.

**Patients and Methods:** A cross-sectional study carried out in 1st June 2012 till 31st May 2013 among random sample of (280) housewives, aged (18-48) years, to determine the prevalence of occupational housewife's hand eczema among housewives attending Baquba Teaching Hospital /outpatient. Self-administered questionnaire which included occupational and sociodemographic variables was used and clinical examination has been done by dermatologist.

**Result:** The prevalence of occupational housewife's hand eczema in patients with atopy was (62.3%). The most common age group was (18- 37) years (75%), the younger age group. The duration of work was < (7) years. Roughness, fissures and erythema form more than (79%) of the cases. The most common sites of the lesions appeared mostly on palms and ventral surface of the fingers (63.5%). More than 90% of the cases did not used protective measures during work.

**Conclusion:** The occupational housewife's hand eczema are frequently involved in patients with active atopic dermatitis. This study concluded that housewife's hand eczema is typically a lifestyle-related skin disease. Irrespective of any predisposition, its development and exacerbation depend on a patient's awareness of causative and preventative factors.

**Keywords:** hand eczema; housewife; prevalence.

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## Introduction

Hand Eczema (HE) is a disorder of the skin also referred to as hand dermatitis. Although it can occur at any age to anyone, it is often referred to as "housewife's eczema". Hand eczema is a variety of skin rashes and irritations that develop on the hands from different causes and irritants. Individuals that have hand eczema often have eczema or dermatitis somewhere else on their body and often have relatives with dermatitis. Patients with hand eczema frequently have a history of atopic dermatitis or atopy. No specific morphologic pattern of hand eczema helps distinguish atopic hand eczema from other etiologies. Hand eczema is a very common skin condition and often results from sensitive skin as well as an allergic reaction

or irritation from something that was touched by the hands [1].

Hand eczema is the most common form of occupational skin disease (OSD). OSDs comprises approximately 40% of occupational disease with variations in different countries related to the degree of industrialization [1,2]. The hands have been the affected site in 80% of the OSDs. [3]. the increased prevalence in women as compared to men is seen in the younger age group [4]. Atopy (endogenous factor), wet work, irritants, friction, and contact allergy (chromate, nickel, fragrance, biocides, and rubber chemicals) are the major risk factors [5,6].

Patients with hand eczema may have itchy and scaly patches of skin, which flake almost constantly. They may also become cracked, red and very painful. Occasionally, the rash may have blisters that begin to ooze. Although hand eczema can occur to anyone at any time, they are more likely to occur to someone that has other skin problems such as allergies, asthma, and hay fever or has been affected by these allergies as a child. Other factors that may induce hand eczema is a job that exposes your hands to hazardous or irritating chemicals. The cracks, lesions and fissures usually start on the tips of the fingers, but sometimes the palms get affected as well. There may be scaling, redness and crusting on the hands. Occasionally the edge of the nails become involved, in which case, the nails will become very rough and irregular. Although hand eczema is not contagious, it is often embarrassing for individuals, especially women who usually take extra care to have beautiful soft hands. The causes of hand eczema are usually roughness on our hands. Our hands are born with a protective coating of oil. This is what keeps our hands moist and prevents dry skin. When we subject our hands to repeated soaps, chemicals, detergents, etc., our hands become cracked and dry.

If this continues, they may also become red and inflamed. Some people are more prone to develop hand eczema than others. If you are one of these unfortunate individuals, you need to take more precautions against drying out your hands. Sometimes hand eczema can occur from a combination of allergic reactions and irritating substances. They can be affected by one of these or both [7].

Your doctor or dermatologist will recommend a course of treatment for your hand eczema depending on different factors. In the meantime, there are many treatment methods and precautions you can take at home to help your hands as well as prevent future flare-ups. Protection of your skin is the most important part. Protect your hands from direct contact with harsh soaps, detergents and chemicals. Were waterproof gloves if your hands are in contact with acidic foods such as grapefruit, oranges, lemons, tomatoes and potatoes. Use unscented lotions for dry skin each day to prevent loss of any more natural oils, which are needed by your skin.[8]

## Aims

To determine the prevalence, clinical features and patterns of occupational housewife's hand eczema in housewives with or without atopic eczema or atopy attending Baquba Teaching Hospital.

## Patients and Methods

A cross-sectional study carried out in 1st June 2012 till 31st May 2013 among a random sample of (280) housewives, aged (18-48) years to determine the prevalence of occupational housewife's hand eczema among housewives attending Baquba teaching hospital /outpatient. Self-administered questionnaire regarding skin symptoms over the last 12 months.

Additionally, data on self-reported atopic status, glove use and daily hand washing frequencies were obtained. Occupational and sociodemographic variables were used and clinical examination has been done by dermatological specialist. The clinical manifestations in the patients in our study were those of hand eczema.

Statistical methods; All results were analysed with the statistical program SPSS.

## Result

Table (1) shows the distribution of the cases according to the age, the most common age group was (18-37) year's age group form 75% of the cases, the younger age group.

Table (2) shows the distribution of the cases according to the duration of work, that the duration was more than (7) years in 70 % of cases.

Table (3) shows that the clinical features consisted of erythematous macules, papules and vesicles, roughness, fissures, hyperkeratosis, scaly patches and plaques. The roughness, fissures was the most common 30.9% and 26.3% respectively, erythematous macules, papules and vesicles 22.3%, scaly patches and plaques developed later in 25 cases (14.3%). The lesions appeared mostly on the palms and the ventral surface of the fingers (63.5% of all cases), the dorsum of hand (17.7%), the web spaces (6.8%), and the lateral site of the hand (12%). Table (4).

Sixteen housewives (9.1%) used short arm latex rubber gloves while one hundred seventy five housewives (90.9%) did not. Table (5).

In our study, 109 patients (62.3%) had a history of atopy (such as asthma, allergic rhinitis, hypersensitivity reaction, and a family history of atopy). Table (6).

**Table (1):** Distribution of cases according to their age.

| Age (year) | No. | % |
|---|---|---|
| **18-27** | 68 | 38.8 |
| **28-37** | 61 | 35 |
| **38-47** | 34 | 19.2 |
| **>48** | 12 | 7 |
| **Total** | 175 | 100 |

**Table (2):** Distribution of cases according to their working Period (years).

| Working period (years) | No. | % |
|---|---|---|
| **< 1** | 54 | 31 |
| **1-3** | 71 | 40.5 |
| **4-7** | 30 | 17.1 |
| **> 7** | 20 | 11.4 |
| **Total** | 175 | 100 |

**Table (3):** Clinical features.

| Clinical features | No. | % |
|---|---|---|
| **Erythematous macules, papules and vesicles** | 39 | 22.3 |
| **Roughness** | 54 | 30.9 |
| **Fissures** | 46 | 26.3 |
| **Hyperkeratosis** | 11 | 6.2 |
| **Scaly patches and plaques** | 25 | 14.3 |
| **Total** | 175 | 100 |

**Table (4):** Site of lesions.

| Site of lesions | No. | % |
|---|---|---|
| **Palms** | 67 | 38.3 |
| **Dorsum of hand** | 31 | 17.7 |
| **Fingers** | 44 | 25.2 |
| **Web site** | 12 | 6.8 |
| **Lateral site of hand** | 21 | 12 |
| **Total** | 175 | 100 |

**Table (5):** History of using gloves.

| Uses of gloves | No. | % |
|---|---|---|
| **No use** | 16 | 9.1 |
| **Total** | 159<br>175 | 90.9<br>100 |

**Table (6):** History of Atopy.

| Past history | No. | % |
|---|---|---|
| **Yes** | 109 | 62.3 |
| **No** | 66 | 37.7 |
| **Total** | 175 | 100 |

## Discussion

A topic dermatitis increased the odds of developing hand eczema by 3 times in wet as well as in dry work. Patients with atopic dermatitis developed a more severe hand eczema than subjects with atopic mucosal symptoms and non-atopics. Wet hospital work increased the odds by a factor of 2 compared to dry office work. [2]. The available parameters of domestic work, namely "nursing of children, younger than 4 years" and "absence of dish-washing machine" were found to significantly increase the risk of developing hand eczema. Wet work in combination with unfavorable domestic factors increased the odds by a factor of 4. The caretakers/craftsmen group, which was dominated by men, showed the lowest figure for hand eczema. [2,9-10].

Occupational contact dermatitis is a dermatologic problem which affects patients'

quality of life. Occupational irritant contact dermatitis is the most common diagnosis in patients who work with their hands in water. The POSH study showed that unprotected work in water of more than two hours per day and low ambient absolute humidity were the main risk factors [6]. Our study shows that there is a higher relation between the duration of working with hands in water, soap and the onset of the lesions. Previous studies show that analysis of patients with exposure time less than 6 months and 12 months showed a higher correlation between exposure and onset of lesion [8, 11-12]. A history of atopic dermatitis conferred an increased risk for development of hand eczema. The prevalence of hand eczema in patients with a history of atopic dermatitis had been report to be 2-10 fold higher than that found in non-atopic patients [6, 11-12]. In our study, 175 patients had an atopic history (such as asthma, allergic rhinitis, hypersensitivity reaction, and a family history of atopy) [13-16].

According to previous studies, the clinical picture starts with an initial irritant contact dermatitis, then later develops into allergic contact dermatitis. Irritant dermatitis which developed over the metacarpophalangeal joints has been reported in junior hairdressers [9]. The clinical manifestations in the patients in our study were those of hand eczema, erythematous papules, patches, plaques and vesicles. Some patients had various forms of lesions. Scaly patches and plaques, roughness and fissures were the most common in all cases [17-18].

## Conclusion

The hands are frequently involved in patients with active atopic dermatitis and present unique physical, social, and therapeutic challenges for patients.

Allergic contact dermatitis is more common than irritant contact dermatitis among hand dermatitis cases in housewives in our study.

This study concluded that housewife's hand eczema is typically a lifestyle-related skin disease. Irrespective of any predisposition, its development and exacerbation depend on a patient's awareness of causative and preventative factors. Clinicians should continue to pay attention to changes in society and the environment.

## Recommendations

1- Better education and prevention for patients who are in excessive and prolonged exposure of the hands to soap and water.

2- A recommendation that housewives should use impermeable gloves of appropriate length during wet work may be benefit to them.

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