

# Prevalence and pattern of hand eczema in a tertiary referral hospital of Nepal

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## ABSTRACT

### Background

Hand eczema is a very common condition that has a significant effect on an individual's life in terms of daily functioning including various occupations. Studies show that the point prevalence of hand eczema is around 4% and the lifetime prevalence is 15%.

### Objective

The objective of this study is to determine the prevalence and pattern of hand eczemas in patients attending the Dermatology outpatient department of Bir hospital.

### Materials and methods

This is a retrospective study, where all the cases of hand eczema who presented to the Dermatology Out-Patient Department of Bir Hospital during the period from Baisakh 2075 till Chaitra 2075 B.S were recorded.

### Results

Eczema was diagnosed in 5,100 new cases (15.74%) and among them, hand eczema was seen in 494 cases, which accounts for 9.68% of all eczemas. The mean age was 37.43 years. Out of all the hand eczemas recorded, 334 (67.6%) were unspecified hand eczemas, pompholyx was seen in 92 (18.6%) cases, chronic hand eczema in 27 (5.5%), contact dermatitis in 20 (4%) patients and finger tip eczema was seen in 15 (3%) cases.

### Conclusion

Hand eczema is one of the common dermatological conditions. Our study showed the prevalence of hand eczema to be 9.68%.

Key words: **Hand eczema, Itch, Spongiosis.**

## Introduction

Eczema is an inflammatory condition of skin, characterized by pruritus and range of signs like vesiculation, erythema, scaling and lichenification, and histologically characterized by spongiosis<sup>1</sup>. There are various classifications of eczema, like, endogenous and exogenous eczema, according to the severity: acute, sub-acute and chronic. They

are also classified according to site: hand eczema, ear eczema, eyelid dermatitis, nipple eczema, and so on<sup>2</sup>.

Hand eczema is a very common skin condition that has a significant effect on an individual's life in terms of daily functioning<sup>3</sup> including various occupations<sup>4</sup>. Studies show that the point prevalence of hand eczema is around 4% and the

lifetime prevalence is 15%<sup>5</sup>. It can occur due to endogenous factors (e.g. pompholyx) as well as exogenous factors (e.g. irritant contact dermatitis, allergic contact dermatitis). It is one of the most common occupational dermatitis comprising up to 80% or more of all occupational contact dermatitis<sup>6</sup>.

Very few studies are reported from Nepal on hand eczema, thus, the aim of this study is to find the prevalence of hand eczema at our center as it is one of the largest referral centers of the country.

## Materials and Methods

This is a retrospective study, where all the cases of hand eczema who presented to the Dermatology Out-Patient Department (OPD) of Bir Hospital during the period from 15th April 2018 till 12th April 2019 (Baisakh 2075 till Chaitra 2075 B.S) were recorded from the OPD register.

## Results

Total number of patients who presented to the Dermatology OPD of Bir Hospital during the study period was 49,277. Eczema was diagnosed in 5,100 new cases (15.74%) and among them; hand eczema was seen in 494 cases, which accounts for 9.68% of all eczemas. Frequency of Eczema in males was slightly higher than in females (male:female- 260:234). The age of the patients presenting with hand eczema ranged from 3 years to 90 years (Table 1). The mean age was 37.43 years (standard deviation, 16.48). The mean age of females was 37 years and that of males was 38 years. Maximum numbers of cases were seen in working age group adults between 20-39 years of age.

**Table 1.** Distribution of age

Age in years	No. of patients	Percentage
0-9	13	2.63
10-19	43	8.70
20-29	115	23.28
30-39	126	25.51
40-49	80	16.19
50-59	51	10.32
60-69	38	7.69
70-79	25	5.06
≥80	3	0.61
<b>Total</b>	<b>494</b>	<b>100.00</b>

Out of all the hand eczemas recorded, 334 (67.6%) belonged to unspecified hand eczema category. Pompholyx was seen in 92 (18.6%) cases, chronic hand eczema in 27 (5.5%), contact dermatitis was found in 20 (4%) patients and fingertip eczema was seen in 15 (3%) cases (Table 2).

Four patients were diagnosed as allergic contact dermatitis (ACD) to cement and one patient had ACD to nickel. Other causes of contact dermatitis were not specified. There was not much difference in the gender distribution of various types of eczemas.

**Table 2.** Pattern of hand eczema

Type of hand eczema	Gender		No. of patients	Per-cent
	Female N	Male N		
Unspecified hand eczema	169	165	334	67.6
Pompholyx	35	57	92	18.6
Chronic hand eczema	12	15	27	5.5
Allergic contact dermatitis	9	10	19	3.8
Irritant contact dermatitis	0	1	1	0.2
Fingertip eczema	7	8	15	3
Palmar peeling	1	2	3	0.6
Infected hand eczema	1	1	2	0.4
Subacute hand eczema	0	1	1	0.2
<b>Total</b>	<b>234</b>	<b>260</b>	<b>494</b>	<b>100</b>

Most of the patients with hand eczema presented in the months of August-September, and the frequency of patients was less in November-January (Table 3).

## Discussion

Hand eczema is a frequently encountered condition of skin that is confined to the hands<sup>7</sup>. In this study, we found that the prevalence of hand eczema was 9.68% of all eczemas which is similar to the study done by Thyssen et al., where 1 year prevalence of hand eczema was around 10%<sup>5</sup>.

Various studies have shown that the incidence was more in females than males<sup>8,9</sup>, while others have reported that the incidence is increasing in men<sup>10</sup>.

However, our study did not show much difference between males and females.

**Table 3.** Frequency of patients according to month

Month of 2075 B.S.	Gender		No. of patients	Per-cent
	Female N	Male N		
Baisakh	24	29	53	10.7
Jestha	26	28	54	10.9
Asadh	18	24	42	8.5
Shrawan	15	29	44	8.9
Bhadra	28	28	56	11.3
Asoj	26	24	50	10.1
Kartik	26	23	49	9.9
Mangsir	18	9	27	5.5
Poush	20	14	34	6.9
Magh	9	18	27	5.5
Falgun	10	18	28	5.7
Chaitra	14	16	30	6.1
<b>Total</b>	<b>234</b>	<b>260</b>	<b>494</b>	<b>100</b>

Most of our patients belonged to the age group of 30-39 years, which is similar to the findings by Ibrahim et al.<sup>11</sup>. In this study the mean age was 37.42 years. The mean age of females and males was 37 years and 38 years respectively, which is slightly higher than the study conducted by Chitte et al. where the mean age was 34.07 years, female mean age 31.78 years and male mean age 36.09 years<sup>12</sup>.

Our study showed that most of the patients presented with unspecified type of hand eczema (67.6%) followed by pompholyx (18.6%), which is similar to the study by Handa S et al., where they found unspecified hand eczema to be 62% and pompholyx 14 %<sup>10</sup>.

We found that most of the patients presented with hand eczema during the months of Baisakh, Jestha and Bhadra, Asoj. This could be because, a large proportion of Nepalese population depend on agriculture, and summer and spring seasons are most favorable for farming and they get exposed to various kinds of external agents<sup>13</sup>.

Our study had certain limitations. This was a retrospective study. Details like occupation and causative agents of hand eczema were not included. We have planned a prospective study in a larger population to determine various causes of hand eczema.

## Conclusion

Hand eczema is one of the common dermatological conditions which tend to run a long lasting and chronic relapsing course probably because of the multifactorial origin. Our study showed the prevalence of hand eczema, among all the eczemas, to be 9.68%. As this condition is often associated with itch, social stigma and impairment in employment, more emphasis should be given on prevention of relapses of hand eczemas and thus reducing the burden of disease.

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