



## Original Research Article

# Hair and Subcutaneous Tissue Disorder in A Tertiary Care Hospital in Northern India

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**Article Information:** Received on 17-11-2022 Accepted 26-12-2022 Available online 28-12-2022

## Abstract

**Aim of the study:** This study was carried out to find out the prevalence of various hair and subcutaneous tissue disorder in a tertiary care hospital in Northern India.

**Material and Methods:** - An observational community-based study was carried in the department of dermatology, Uttar Pradesh University of Medical Sciences, Saifai, Etawah. Both male and female of different age groups belonging to different socioeconomic status, having symptoms of hair and subcutaneous tissue were taken for study.

**Inclusion criteria:** person having sign of skin disease were included in the study

**Exclusion criteria:** person who did not shown any sign of skin disease were excluded in the study

**Results:** Our study showed that majority, 1349 out of 2562, (about 52%) patients were having lower, 776 middle (30.28%), while 437 (17.05%) patients were belonging to upper economic group. Majority of patients 643 (25.09%) were unemployed followed by laborers 570 (22.24%) while least number of patients were athletes 113 (4.41%). Alopecia Areata (AA) was major cause of hair disorder about 13.15% followed by T. capitis 4.41%, diffuse alopecia 4.25%, psoriatic scalp 3.78% and rest 8.39% was miscellaneous.

**Conclusion:** Socioeconomic status of population also has impact on occurrence of skin and subcutaneous tissue infection as the number of incidences in lower income group was found to be three time higher as compared to upper income group patients. Care and early treatment should be taken to avoid deep tissue involvement during skin infection.

**Keywords:** Skin disease, Eczema, Fungal infection, and Contact Dermatitis (CD)

## 1. Introduction

Important infection of scalp hair caused by dermatophyte fungi. Only few species of dermatophytes can grow and invade shaft of hair. Tinea capitis or scalp ringworm is one of such infection of the scalp hair [1]. Superficial mycosis is also known as cutaneous mycosis. These common diseases are caused by a group of related fungi called dermatophytes fall into three genera and each with many species, i.e., Epidermophyton, Microsporium and Trichophyton [2].

Dermatophytes mainly invade and feed upon keratinized tissue like skin, hair and nails, resulting in an infection [3].

A K Guptas (1999) demonstrated that oral fluconazole 6 mg/kg daily for 2 weeks, was found effective for the treatment of *Tinea capitis* infection [4]. Infection of dermatophyte has become an important public health concern, because of its ability of recurrent, resulted increased incidence and difficult to manage [5]. Worldwide superficial fungal infections with dermatophyte, have a higher incidence in tropical and subtropical countries like India because of climate and humidity. Moreover, higher prevalence has been observed due to increased urbanization, occlusive footwear, and tight clothing [6]. Rising trend in the prevalence of dermatophyte skin infection have been noted as well as change in the spectrum of common species of isolates [7-10]. India general population skin

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ORCID ID: 0000-0002-0000-0000

doi: <https://doi.org/10.54618/IJMAHS.2022244>

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disease prevalence varied from 7.86% to 11.16% in different studies carried out [11,12].

In 2022 world health organization (WHO) started an integrated approach for controlling and management of skin -related neglected tropical disease (skin NTDs), it also includes capacity-building for detection of cases, common learning platform and delivery of treatment [13].

**2. Materials and Methods**

This demographic study was carried out in department of Dermatology in a tertiary care hospital situated in rural area of Uttar Pradesh University of Medical Sciences, Saifai, Etawah.

**Inclusion criteria:** person having sign of skin disease were included in the study

**Exclusion criteria:** person who did not shown any sign of skin disease were excluded in the study

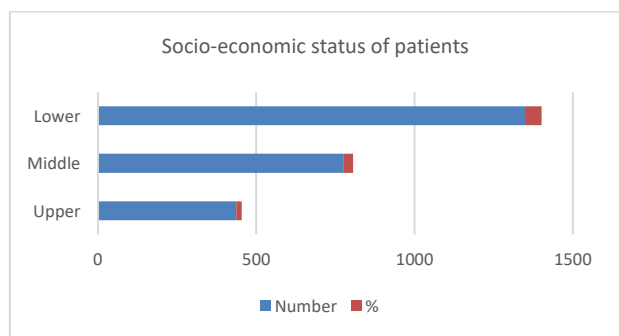
After collection of data from patients it was entered in excel sheet. After analysis different outcomes observed were presented in the form of tabulated data and histogram.

**3. Results**

Total 2562 patients including 1459 male and 1103 female participated in this study. The socioeconomic status of most of the patients were of lower income group i.e. 1349 patients belonging to lower income group (52.65%) while upper income group only 437 patients (17.05%) rest 776 patients (30.28%) was having middle socioeconomic status (table-1 and fig-1).

**Table-1:** Showing economic status of patients

Sl No	Economic status	No	%
1	Upper	437	17.05
2	Middle	776	30.28
3	Lower	1349	52.65



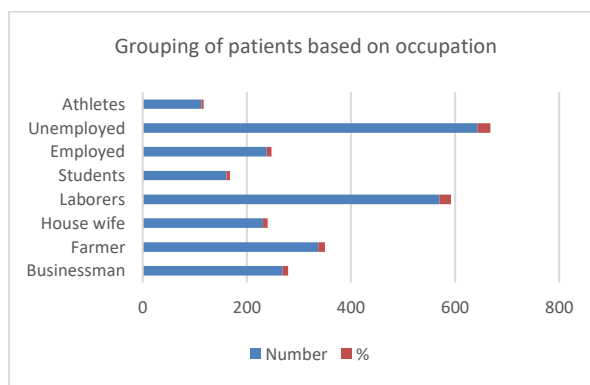
**Figure-1:** Showing economic status of patients

The occupation of patients was also studied and it was found that majority of patients 643 (25.09%) were unemployed followed by laborers 570 (22.24%) while

least number of patients were athletes 113 (4.41%) (table-2 and fig-2)

**Table-2:** Showing occupation of patients

S.No	Occupation	Number	%
1.	Businessman	269	10.49
2.	Farmer	337	13.15
3	House wife	231	9.01
4.	Laborers	570	22.24
5.	Students	161	6.28
6.	Employed	238	9.28
7.	Unemployed	643	25.09
8.	Athletes	113	4.41

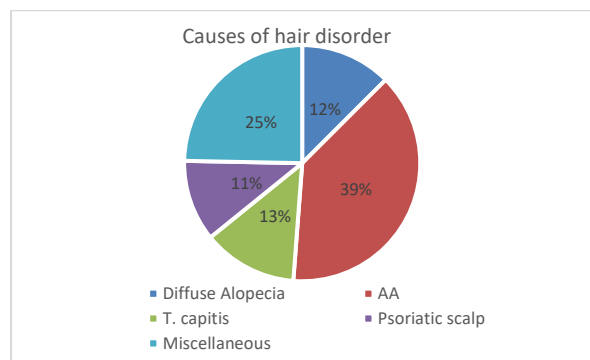


**Figure-2:** Showing occupation of patients

Different groups were found to have various kind of hair and subcutaneous infection (table-3 and fig-3). It was found that Alopecia Areata (AA) (fig-4) was major cause of hair disorder about 13.15% followed by *T. capitis* 4.41% (fig-5), diffuse alopecia 4.25%, psoriatic scalp 3.78% and rest 8.39% was miscellaneous. Nail disorder due to Onychomycosis was found in 8.31% (number 213) patients.

**Table-3:** Showing causes of hair disorder in patients

S.No	Hair Disorder	Number	%
1.	Diffuse Alopecia	109	4.25
2.	Alopecia Areata (AA)	337	13.15
3.	<i>T. capitis</i>	113	4.41
4.	Psoriatic scalp	97	3.78
5.	Miscellaneous	215	8.39



**Fig.-3:** Showing causes of hair disorder in patients

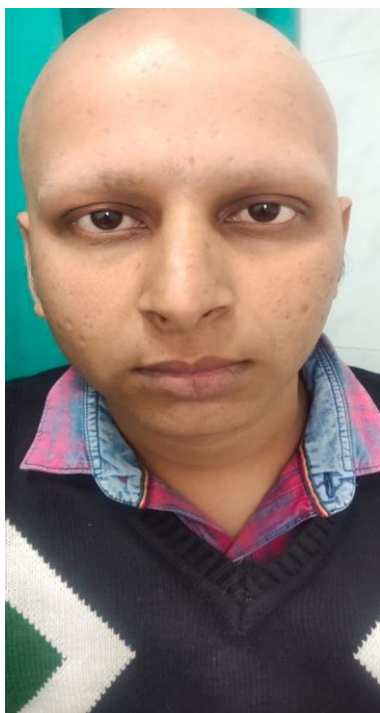


Fig-4: Showing hair disorder of Alopecia Areata in patient



Fig-5: Showing hair disorder of *T. capitis* in patient

While disorder of oral mucosa like Candidiasis, Aphthous ulcer and Lichen Planus was found 6.36%, 5.11% and 3.20% respectively (table-4, fig-6). Other disorders of the skin and subcutaneous tissue including Vitiligo (10.26%), Melasma (7.53%), Post inflammatory hyperpigmentation (PIH) 5.81 %, and *Pityriasis alba* was found in about 2.61% patients (table-5).

Table-4: Showing types of disorder in oral mucosa

SNo	Oral Mucosa	Number	%
1.	Lichen Planus	82	3.20
2.	Aphthous Ulcer	131	5.11
3.	Candidiasis	163	6.36



Fig-7: Showing hair disorder of Lichen Planus in patient

Table-5: Showing other disorders of the skin and subcutaneous tissue

SNo	Other disorders	Number	%
1.	Melasma	193	7.53
2.	Vitiligo	263	10.26
3.	<i>Pityriasis alba</i>	67	2.61
4.	Post inflammatory hyperpigmentation (PIH)	149	5.81

**Conclusion**

Hair and skin disease become one of the important public health concerns. As stated by WHO 10 out of 20 NTDs are responsible for change on skin prior to change in subcutaneous tissue resulting in damage to internal organs. Socioeconomic status of population also has impact on occurrence of skin and subcutaneous tissue infection as the number of incidences in lower income group was found to be three time higher as compared to upper income group patients during this study. The incidence was seen least in case of athletes as it may be associated to good immune system of the body due to regular exercise.

Alopecia Areata (AA) was major cause of hair infection about 13.15% followed by *T. capitis* 4.41%, diffuse alopecia 4.25%, psoriatic scalp 3.78% and rest 8.39% was miscellaneous. Social media and advancement of technology has increased the demand of cosmeceuticals to be used for care and maintenance of skin. The focus of the study was to find out the Prevalence of Various Skin Diseases in A Tertiary Care Hospital in Rural Setting.

**Conflict of interest:** Author declares that there is no conflict of interest.

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