

**EPIDEMIOLOGY OF INFECTIOUS SKIN DISORDERS AMONG OUTPATIENTS IN
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ABSTRACT

Objective: The epidemiology of skin morbidity in an area depends on climate, geography, socio-economic status, nutrition, genetics, and habits of the community. The objective of the present study was to describe the morbidity profile of infectious diseases of the skin and subcutaneous tissue among patients attending the dermatology outpatient department in the Garhwal hills, North India. **Methodology:** This is a record-based study conducted using the morbidity registers maintained for outpatients at the dermatology department. **Results:** A total of 600 new episodes of illnesses were treated in the skin outpatient department during 2020–2021. Among them, 169 (28.1%) patients presented with infections of the skin and subcutaneous tissue. The number of male and female patients was nearly equal. Overall, fungal infections of the skin and subcutaneous tissue were the most common (40%), followed by scabies (16%). Viral diseases of the skin, bacterial diseases of the skin, and tinea versicolor were also frequently encountered. **Conclusion:** This information will help in planning customized health services for patient care.

KEYWORD:- Skin, Morbidity, Infectious disease, Subcutaneous tissue, Fungal, Tinea versicolor, Dermatology.**INTRODUCTION**

The occurrence of infectious diseases of the skin and subcutaneous tissue in a region is influenced by various factors such as climate, geographical location, socio-economic conditions, nutrition, genetic makeup, and the lifestyle habits of the community.^[1] The prevalence of dermatological disorders in the general population ranges between 6.3% and 11.2%.^[2] Furthermore, poor hygiene, lack of essential facilities, and overcrowding significantly contribute to the spread of infectious diseases of the skin and subcutaneous tissue. Additionally, the pattern of these infections among patients is affected by the distance they need to travel to access healthcare services, especially in hilly regions.^[3]

A thorough understanding of the distribution and severity of infectious diseases of the skin and subcutaneous tissue is essential for delivering tailored healthcare services to the community.^[4] However, there are limited studies from the Garhwal region of Uttarakhand assessing the epidemiology of infectious diseases of the skin and subcutaneous tissue. The objective of the present study

was to analyze the morbidity profile of infectious diseases of the skin and subcutaneous tissue among patients attending the dermatology outpatient department in the Garhwal hills, North India."

MATERIALS AND METHODS

The present study is a record-based analysis conducted using morbidity registers maintained for outpatients at the dermatology department in the Garhwal region, Uttarakhand, North India. Data such as age, gender, place of residence, case type (new or old), and the diagnosis of infectious diseases of the skin and subcutaneous tissue were extracted from the registers using a structured data extraction sheet. New registered outpatients between December 2020 and December 2021 were included in the study. Descriptive analysis was performed using SPSS version 17.0 (Chicago, IL, USA), and proportions were reported where applicable. All necessary approvals were obtained from the appropriate authority.

RESULTS

The dermatology outpatient department accounted for 3.5% of all cases treated at the hospital during the study period. A total of 600 new episodes of illnesses were treated in the skin outpatient department from 2020 to 2021. Out of these, 240 (40%) patients presented with infections of the skin and subcutaneous tissue.

Adults (>18 years) constituted about 68%% of the cases. In the paediatric age group, boys (78.6%) and girls (21.3%) were almost equally represented. Among adults, 53.9% were males.

Overall, fungal infections of the skin and subcutaneous tissue were the most common (40%), followed by scabies (16%), viral skin diseases (9.8%), and tinea versicolor (15.8%). Tinea infections constituted 39.5% of all fungal infections.

In adults (18–60 years), the most common infectious diseases of the skin and subcutaneous tissue were fungal infections (44.5% in males and 40.8% in females). The second most common condition among males was scabies (16.4%), while among females it was viral skin diseases (11.2%). There was no significant difference in

the morbidity pattern of infectious skin and subcutaneous tissue diseases between adult males and females.

Among paediatric and adolescent cases, the most common infectious diseases were fungal infections (37.1% in boys and 31.5% in girls), followed by scabies in boys (19.1%) and bacterial skin disorders in girls (17.8%). No significant difference in the morbidity pattern of infectious skin and subcutaneous tissue diseases between boys and girls was observed.

Among elderly males (>60 years), the most common infectious disease of the skin and subcutaneous tissue was fungal infection (41.1%), followed by viral skin infections (8.9%). Among elderly females, fungal infections were the most common (38.7%), followed by bacterial skin diseases (8.1%). No significant difference in the morbidity pattern between elderly males and females was observed.

Patients from different districts most commonly presented with fungal infections of the skin and subcutaneous tissue (40%), followed by scabies, viral, and bacterial diseases. No significant difference in the morbidity pattern of infectious skin and subcutaneous tissue diseases among different regions was observed.

Table 1: Morbidity Profile of Dermatology Outpatients by Age and Gender in the Garhwal Region, North India (2020–2021).

Morbidity	Female n=291(%)			Male n=309 (%)			Total N=600 (%)
	<18 yrs		18-60 yrs	<18 yrs	18-60 yrs	>60 yrs	
Infections of the skin and subcutaneous tissue	16 (21.9%)	52 (30.7%)	11(22.4%)	26(29.2%)	51(31.09%)	13(23.2%)	169(28.1%)
Fungal skin infections	23(31.5%)	69 (40.8%)	19(38.7)	33 (37.1%)	73(44.5%)	23(41.1%)	240(40%)
Scabies	13(17.8%)	21(12.4%)	09(18.3)	17(19.1%)	27(16.4%)	09(16.1%)	96(16%)
Viral skin diseases	11(15.06%)	19(11.2%)	06(12.2%)	09(10.1%)	09(5.4%)	05(8.9%)	59(9.8%)
Bacterial skin diseases	10(13.6%)	08(4.7%)	04(8.1%)	04(4.4%)	04(2.4%)	06(10.7%)	36(6%)
Total	73	169	49	89	164	56	600

Table 2: Morbidity Profile of Dermatology Outpatients by Residence District in the Garhwal Region, North India (2020–2021).

Morbidity	Rudraprayag	Pauri Garhwal	Chamoli	Tehri Garhwal	Others	Total
Infections of the skin and subcutaneous tissue	07(24.1%)	71(26.4%)	29(33.7%)	39(28.8%)	23(28.04%)	169(28.1%)
Fungal skin infections	13(44.8%)	97(36.1%)	33(38.3%)	58(42.9%)	39(47.5%)	240(40%)
Scabies	05(17.2%)	48(17.9%)	15(17.4%)	19(14.07%)	09(10.9%)	96(16%)
Viral skin diseases	01(3.4%)	34(12.6%)	07(8.13%)	10(7.4%)	07(8.5%)	59(9.8%)
Bacterial skin diseases	03(10.3%)	18(6.7%)	02(2.32%)	09(6.7%)	04(4.8%)	36(6%)
Total	29	268	86	135	82	600

DISCUSSION

This study outlines the pattern of infectious diseases affecting the skin and subcutaneous tissue among patients visiting the dermatology outpatient department between 2020 and 2021. The results indicate that fungal infections were the most frequently diagnosed infectious diseases of the skin and subcutaneous tissue, followed by scabies. This observation aligns with findings from a study conducted in Kolkata, where 36.4% of diagnoses were attributed to infectious diseases.^[5] In contrast, a study from the Kumau region of Uttarakhand reported that only 27.1% of patients had infectious skin diseases. Similarly, a study from northeast India found that non-infectious skin diseases were slightly more common than infectious diseases.^[6]

The occurrence of fungal infections in this study is consistent with the findings of a study conducted in Pune.^[10] In both studies, tinea dermatophytosis emerged as the most common fungal infection, followed by tinea versicolor. A similar pattern was also noted in a hospital-based study from Guwahati.^[7]

Among children, fungal skin and subcutaneous infections were the most frequently reported conditions. Similar studies from India and Pakistan revealed that infectious diseases of the skin and subcutaneous tissue accounted for 83.3% and 60% of skin diseases, respectively.^[8,9]

The prevalence of scabies was relatively low in the present study, affecting 18.8% of patients. This is consistent with findings from Imphal (8.9%) and Karnataka (9.4%).^[10] The prevalence of leprosy in the present study is addressed in a separate article.

The high incidence of infectious skin diseases observed in this study may be attributed to environmental and socio-economic factors such as a warm and humid climate, wind, dust, poor access to clean water, and low socio-economic status of the patients. These conditions create a favorable environment for the growth and transmission of infectious agents, particularly fungal infections and scabies.

The present study is a hospital-based study; therefore, the findings cannot be generalized to the entire population of India. The morbidity profile of infectious diseases of the skin and subcutaneous tissue was analyzed based on age, gender, and residence. However, it was not possible to classify the data based on socioeconomic status and seasonal variation.

CONCLUSION

This study outlines the morbidity profile of infectious diseases of the skin and subcutaneous tissue among patients who attended the hospital over a period of one year. The findings provide valuable insights for planning and improving health services to better meet patients' needs.

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