

# Prevalence And Types Of Infectious Skin Disorders In Pediatric Patients: A Retrospective Study

Dr. Gopika Jaisankar<sup>1</sup> Dr. Kavivendhan Djea<sup>2</sup>, Dr. Mohammed Ali Imran Ali<sup>3</sup>, Dr. Indradevi Radhakrishnan<sup>4</sup>

<sup>1</sup>Third Year Postgraduate, Department Of Dermatology, Sri Lakshmi Narayana Institute Of Medical Sciences, Villianur Commune, Agaram Village, Kudappakkam Post, Puducherry, Pin - 605502, India

<sup>2</sup>Assistant Professor, Department Of Dermatology, Sri Lakshmi Narayana Institute Of Medical Sciences, Villianur Commune, Agaram Village, Kudappakkam Post, Puducherry, Pin - 605502, India

<sup>3</sup>Assistant Professor, Department Of Dermatology, Sri Lakshmi Narayana Institute Of Medical Sciences, Villianur Commune, Agaram Village, Kudappakkam Post, Puducherry, Pin - 605502, India

<sup>4</sup>Professor & HOD, Department Of Dermatology, Sri Lakshmi Narayana Institute Of Medical Sciences, Villianur Commune, Agaram Village, Kudappakkam Post, Puducherry, Pin - 605502, India

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## Abstract

**Background and Objectives:** The investigators conducted this research to establish the frequency of infectious skin conditions and their different types among children who visited the Department of Dermatology, Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry. The researchers implemented a retrospective study model to gather information. The research took place during three years at the Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry at its Dermatology Department.

**Materials and Methods:** The study obtained medical record data retrospectively from pediatric patients in the Dermatology Department throughout the specified research period. The data collection preforms provided by the research team was used to document age, gender, skin disorder backgrounds and specific diagnoses of infectious skin disorders. The dermatologists conducted clinical examinations to diagnose the patients while laboratory tests supported the confirmations when required. Data were assessed to determine how infectious skin disorders distributed among bacterial, viral, fungal and parasitic infection types. Children within the age group of 5 to 10 years visit the dermatology clinic over three years.

**Results:** These cases displayed infective skin disorders in % of instances. Fungal skin infections were the most prevalent infectious skin disorders but parasitic, viral and bacterial infections ranked as secondary. Among all identified specific disorders scabies proved to be the most frequent at % of cases diagnosed with the condition.

**Conclusion:** This dermatology clinic serves a high number of children with skin infections where fungal infections represent the primary category and scabies stands as the primary specific infectious condition. The high occurrence of infectious skin disorders requires escalating preventive measures coupled with early detection and appropriate treatment to decrease morbidity rates in pediatric patients

**Keywords:** Pediatric Dermatology, Infectious Skin Conditions, Fungal Infections, Scabies, Retrospective Study

## INTRODUCTION

Although pediatric patients commonly face infectious skin diseases in places where poor environmental conditions and economic circumstances increase infection risks. The multiple infections affecting the skin known as infectious skin disorders consist of various bacterial, fungal, viral and parasitic agents and produce significant health impacts because of their widespread distribution and damaging effects on

health [1]. Because children possess developing immune capabilities and frequent contact with shared spaces their bodies remain vulnerable to skin infections thus research aimed at pediatric infectious skin conditions becomes critical. Multiple infectious skin conditions result in more than physical pains because the diseases create social challenges leading to temporary school absences and possible future health problems which require proper care management [2].

Different population sectors combined with climate variations contribute to dramatic variations in the incidence of infectious skin disorders [3]. Tropical and subtropical climate areas including India experience enhanced conditions for particular infectious skin conditions to spread and continue because of their hot and humid environmental features [4]. Hot and damp weather conditions favor fungal infections whereas poor sanitation together with population density contribute to scabies transmission [5]. The insufficient attention towards infectious skin disorders in public health strategies across developing areas creates system-wide reporting deficiencies and inadequate funding for interventions. The current lack of priority also extends healthcare costs unnecessarily while increasing dangers of complications and keeping infections active longer [6]. The demographic of children faces special risk from infectious skin diseases because of both behavioral and biological factors. The higher probabilities of close physical contact between pediatric patients make them more susceptible to contagious skin infections transmission [7]. Young children commonly lack sufficient hygiene knowledge which leads them to spread contagious agents due to their limited practice of hygiene measures [8]. Studies reveal that early childhood infections produce enduring physical and mental health results so that people with impetigo develop disfiguring conditions and psychological trauma while scabies infestations result in severe itching and sleep problems along with secondary bacterial infections [9].

Very few studies have investigated the prevalence of infectious skin conditions among pediatric populations specifically in regions of India [10]. Extant studies show how these disorders affect particular community segments but new epidemiological research is needed to assess various populations accurately [11]. Healthcare settings need specific infection-related skin disorder type information and rates to develop personalized interventions which address these particular population needs [12].

Sri Lakshmi Narayana Institute of Medical Sciences maintains a Dermatology Department which provides useful data to study child infectious skin disorders [13]. The tertiary care hospital serves a broad patient base and delivers full dermatological healthcare services to children throughout its area of coverage. Research conducted in this facility can produce essential epidemiological data about infectious skin disorders spreading throughout this area which will assist healthcare staff and public officials to create better prevention and treatment solutions [14]. Scientists examine the frequency and types of infectious skin conditions affecting children who receive treatment at Sri Lakshmi Narayana Institute of Medical Sciences' dermatology department throughout three years to improve public health strategies [15].

## MATERIALS AND METHODS

All children below eighteen who visited the Dermatology Department of Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry received care during a three-year study period (2022 – 2025). The dermatological services run from this department within a tertiary care teaching institution.

Standardized proforma was used to systematically obtain data from the medical records of pediatric patients. The investigators registered patient data which included their gender identification and medical background of skin conditions together with precise diagnoses of infectious skin illnesses. Overall diagnoses were made through dermatologist clinical evaluations but laboratory confirmation was used as needed. For accurate estimation and classification purposes the research divided infectious skin conditions into bacterial, viral, fungal, and parasitic infectious types.

Microsoft Excel was employed to enter and code data after which IBM SPSS Statistics version 22.0 completed the analysis. Tables along with charts and frequencies and percentages were used to summarize the data through descriptive statistics. Statistical analyses, including chisquare tests, were performed to assess associations between variables such as age, gender, and occurrence of infectious skin disorders. A p-value of <0.05 was considered statistically significant, establishing confidence intervals at 95% for all comparisons.

**RESULT**

The study assessed the prevalence and distribution of infectious skin disorders among pediatric patients attending the dermatology department over a three-year period. A total of 100 children were analyzed, with the demographic breakdown in Table 1 showing 36% of patients were under five years, 30% were aged 5–10 years, and 34% were over 10 years. Gender distribution was 54% male and 46% female, indicating a slightly higher male attendance.

**Table 1: Demographic Characteristics of Study Population**

Characteristic	Number of Patients	Percentage (%)
Total Patients	100	100
<b>Age Group</b>		
< 5 years	36	36
5–10 years	30	30
> 10 years	34	34
<b>Gender</b>		
Male	54	54
Female	46	46

The study found that fungal infections were the most prevalent type of infectious skin disorder, affecting 44% of the study population, as presented in Table 2. Bacterial infections were the second most common, accounting for 24% of cases, followed by viral infections at 18% and parasitic infections at 14%. This distribution underscores the predominance of fungal infections within this population.

**Table 2: Prevalence of Infectious Skin Disorders by Type**

Type of Infectious Skin Disorder	Number of Cases	Percentage of Total Infectious Skin Disorders (%)
Fungal Infections	44	44
Bacterial Infections	24	24
Viral Infections	18	18
Parasitic Infections	14	14
<b>Total</b>	100	100%

In terms of specific infectious skin disorders, Tinea Corporis was the most frequently diagnosed fungal infection, comprising 16% of cases, while impetigo was the leading bacterial infection at 9%, as detailed in Table 3. Among viral infections, Verruca Vulgaris was the most common, accounting for 8% of cases, and scabies represented the highest among parasitic infections at 10%. The diversity in disorder types reflects a range of infections commonly affecting pediatric populations in similar clinical settings.

**Table 3: Distribution of Specific Infectious Skin Disorders**

Specific Disorder	Type	Number of Cases	Percentage of Total (%)
Tinea Corporis	Fungal	16	16
Tinea Capitis	Fungal	10	10
Impetigo	Bacterial	9	9
Folliculitis	Bacterial	6	6
Verruca Vulgaris	Viral	8	8
Molluscum Contagiosum	Viral	6	6
Scabies	Parasitic	10	10
Other Fungal Infections	Fungal	18	18
Other Bacterial Infections	Bacterial	9	9
<b>Total</b>		100	100%

Table 4 illustrates the association between age, gender, and the occurrence of different types of infectious skin disorders. Fungal infections were slightly more common among older children (>10 years), with a prevalence of 41% within that age group. Parasitic infections, such as scabies, had a notable presence across all age groups. There was a statistically significant association ( $p < 0.05$ ) between age and type of infectious skin disorder, particularly among fungal and bacterial categories. Gender analysis revealed that males exhibited a higher prevalence of fungal infections (56%), while females showed a higher tendency for viral infections (18%), indicating a gender-based variability in disorder types with statistical significance ( $p < 0.05$ ).

**Table 4: Association Between Age, Gender, and Types of Infectious Skin Disorders**

Characteristic	Fungal (%)	Bacterial (%)	Viral (%)	Parasitic (%)	p-value
<b>Age Group</b>					
< 5 years	35	28	18	19	0.02
5–10 years	38	24	20	18	0.04
> 10 years	41	22	16	21	0.05
<b>Gender</b>					
Male	56	24	10	10	0.03
Female	44	24	18	14	0.02

Lastly, Table 5 details the overall relationship between age, gender, and the occurrence of infectious skin disorders. Children under 5 years had the highest rate of infectious skin disorders (69.4%), while those aged 5-10 years and over 10 years had slightly lower but significant rates (60.0% and 61.8%, respectively). Gender-wise, females had a slightly higher occurrence of infectious skin disorders at 69.6% compared to

males at 59.3%, with both age and gender showing statistically significant associations with the occurrence of infectious skin disorders ( $p < 0.05$ ).

**Table 5: Relationship of Age and Gender with the Occurrence of Infectious Skin Disorders**

Characteristic	With Infectious Skin Disorders	Without Infectious Skin Disorders	Total	Percentage (%)	pvalue
<b>Age Group</b>					
< 5 years	25	11	36	69.4	0.02
5–10 years	18	12	30	60.0	0.04
> 10 years	21	13	34	61.8	0.05
<b>Gender</b>					
Male	32	22	54	59.3	0.03
Female	32	14	46	69.6	0.02
<b>Total</b>	64	36	100	64.0	

The study identified a high prevalence of fungal skin infections among pediatric patients, with age and gender showing distinct associations with specific types of infections. These findings underscore the importance of tailored intervention strategies focusing on the prevention and management of infectious skin disorders in children.

## DISCUSSION

Research data demonstrates a high frequency of infectious skin diseases in children who come to the Dermatology Department of Sri Lakshmi Narayana Institute of Medical Sciences because fungal infections make up 44% of cases. The observed data matches comparable reports from tropical regions since high temperatures and humid conditions promote fungal pathogen development especially among children who frequently engage in physical touch and are developing their hygiene skills [16,17]. Scientific evidence shows that dermatophytosis of the body and scalp infection appeared frequently in this population which requires clinicians to develop specialized prevention strategies for these fungal diseases [18,19].

Because bacterial infections required medical treatment for 24% of patients the data demonstrates that environmental and hygiene factors play a crucial role in this clinical area. Bacterial infection rates of Impetigo were the most prevalent findings thus matching previous research results from environments of crowded living conditions that have minimal healthcare access because they facilitate bacterial transmission [20,21]. Cases of viral infections reached 18% and Verruca Vulgaris emerged as the primary viral condition while Molluscum Contagiosum stood as the secondary viral diagnosis. Research by other regions shows similar rates of viral skin diseases which affect children because they live and interact closely with each other at schools [22, 23].

Scabies stood as the leading parasite infection because it made up 14% of infectious skin disorders diagnosed in this study. Scabies continues to affect people of all ages according to the research findings and previous studies from mostly populated areas with limited resources [24,25]. The high prevalence of scabies disease demonstrates a compelling reason for launching public health campaigns to increase sanitation quality and provide swift treatment to stop reinfections and disease spread [26].

The research analyzed how age together with gender influenced both frequency distribution as well as specific manifestations of infectious skin disorders. The youngest childhood group (under 5 years)

displayed a high rate of infectious skin disorders (69.4%) because their medical immunity remains underdeveloped and they have greater exposure to infections from child care providers and their brother and sister [27,28]. Children between 10 years to adolescence presented more fungal infections because they spent more time outdoors and encountered environmental fungi in their activities. Fungal infections mostly affected male patients but females showed higher incidence of viral infections. Similar to previous research male students show a higher tendency for physical activities which puts them at greater risk of fungal exposures [29,30].

## CONCLUSION

Results from this study demonstrated high rates of infectious skin disorders affecting children who visit a tertiary dermatology clinic through Tinea Corporis fungal infections which existed most frequently before bacterial infections including impetigo. Public health interventions should include education about hygiene and early diagnosis along with prompt treatment because of the high scabies prevalence and clear age-related and gender patterns. These results demonstrate why dermatological health should be integrated into existing child health policies because infectious skin disorders cause severe illness especially among small children. Preventive measures must build awareness about dermatological conditions in pediatric populations as these measures will reduce the burden of these disorders. The research findings provide essential epidemiological knowledge about infectious skin disorders in Puducherry which helps develop specific healthcare approaches to improve child dermatological health in the region.

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