



Clinical Profile, Etiological Spectrum, Hygiene Practices and Diagnostic Correlation of Pediatric Dermatoses Among Children Aged 1–15 Years in a Tertiary Care Hospital: A Cross-Sectional Study.

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Abstract

Background: Infectious, inflammatory, eczematous, allergy, and fungal illnesses are among the paediatric dermatoses that frequently result in outpatient morbidity. Age, hygiene habits, socioeconomic level, exposure to the environment, and access to healthcare all affect their clinical pattern. **Objectives:** To evaluate hygiene-related parameters, test results, and diagnostic agreement between clinical and final diagnosis, as well as to define the clinical and etiological spectrum of dermatological diseases among children aged 1 to 15. **Methods:** Over the course of 18 months, 55 children between the ages of 1 and 15 who visited the paediatrics and dermatology departments of a tertiary care hospital participated in a cross-sectional study conducted in the hospital. Critically ill children with systemic lesions were omitted, whereas children with dermatological problems were included. Clinical information was documented, along with the location of lesions, symptoms, hygiene habits, laboratory tests, clinical diagnosis, and final diagnosis. Frequencies, percentages, confidence intervals, the chi-square test when appropriate, and Cohen's kappa for diagnostic agreement were used to analyse the data. The uploaded thesis served as the source for the study methodology, sample size computation, inclusion criteria, and statistical strategy. **Results:** The age group of 11–15 years old accounted for the majority (41.82%). 52.73% of the population was male. 56.36% had a lower socioeconomic position. Hands were the most commonly affected site (29.09%), and itching was the most prevalent symptom (27.27%). In 56.36% of cases, multiple sites were involved. 21.82% of respondents reported sharing towels and clothes, 12.73% reported sharing shoes, and 10.91% reported sharing toilet soap. Impetigo and atopic dermatitis accounted for 21.82% of all diagnoses. 56.36% of dermatoses were non-infectious, whereas 43.64% were infected. Wood's lamp examination was positive in every examined case, skin culture was positive in 48.48% of cases, and KOH was positive in 66.67% of cases. With a diagnostic accuracy of 89.3% and a Cohen's kappa of 0.84, the clinical diagnosis demonstrated outstanding agreement with the final diagnosis. **Conclusion:** The burden of viral and inflammatory diseases was mixed in paediatric dermatoses. The most common diagnoses were impetigo and atopic dermatitis. A significant percentage of youngsters were found to engage in hygiene-related behaviours, such as sharing towels, clothes, shoes, and soap. The usefulness of thorough clinical evaluation in paediatric dermatology was demonstrated by the excellent concordance between the clinical diagnosis and the final diagnosis.

Keywords: children; atopic dermatitis; impetigo; scabies; hygiene habits; accurate diagnosis; paediatric dermatoses.



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INTRODUCTION

Among the most prevalent morbidities in children, dermatological problems have a substantial impact on outpatient visits, discomfort, absenteeism from school, psychological anguish, and carer load. Atopic dermatitis, eczema, impetigo, scabies, candidiasis, tinea infections, urticaria, and diaper dermatitis are only a few of the many clinical manifestations of paediatric skin disorders. Due to immature barrier function, frequent exposure to the environment, developing immunity, school-based contact, crowding, and inconsistent hygiene practices, children are especially susceptible to skin problems. Due to heat, humidity, fomite sharing, inadequate sanitation, and delayed treatment, infectious and infestation-related dermatoses are still prevalent in tropical nations. On the other hand, inflammatory dermatoses like eczema and atopic dermatitis are becoming more widely acknowledged globally and have a significant impact on quality of life and disease burden.

The significant prevalence of atopic dermatitis in children and adolescents is still highlighted in recent international literature. Fungal infections, scabies, and impetigo continue to be significant paediatric public health issues. Warm weather, poor hygiene, crowding, skin damage, scabies, and atopic dermatitis are all closely linked to impetigo. Children frequently get bacterial skin and soft tissue infections, particularly in underdeveloped countries where risk factors related to hygiene and the environment are prominent. Relatively few research integrate clinical profile, etiological spectrum, hygiene habits, laboratory confirmation, and diagnostic association in the same cohort, despite the fact that numerous studies have documented the frequency of paediatric dermatoses. Thus, the purpose of this study was to assess paediatric dermatoses in children attending a tertiary care facility between the ages of 1 and 15.

Objectives

Primary Objective

To ascertain the clinical and etiological characteristics of dermatological disorders in children between the ages of one and fifteen.

Secondary Objectives

- To evaluate aspects linked to cleanliness in kids with dermatoses.
- To explain the results of a laboratory investigation.
- To contrast the final diagnosis with the clinical diagnosis.
- To use Cohen's kappa to evaluate diagnostic agreement and accuracy.

MATERIALS AND METHODS

Study Design

Cross-sectional descriptive study conducted in a hospital.

Study Setting

Paediatrics and Dermatology Departments, Sree Mookambika Institute of Medical Sciences, Kulasekaram, Tamil Nadu, India.

Study Duration

18 months.

Study Population

Children having dermatological disorders between the ages of one and fifteen.

Sample Size

A total of 55 cases.

Criteria for Inclusion

Children with dermatological disorders between the ages of one and fifteen.
parental or guardian consent.

Exclusion Standards

Children with systemic lesions who are critically unwell.

Sampling Technique

Purposive sampling without probability.

Study Procedure

A thorough history, clinical examination, evaluation of hygiene behaviours, recording of presenting symptoms, lesion morphology, anatomical distribution, clinical diagnosis, and, if necessary, laboratory testing were all performed on children who met the inclusion criteria. Skin culture, Wood's lamp examination, diascopy, and KOH testing were among the laboratory tests. Following a clinical evaluation and any necessary investigations, a final diagnosis was made.

Statistical Analysis

According to the thesis, data were imported into Microsoft Excel and analysed using SPSS version 26.0. Frequency and percentage were used to express categorical variables. In order to present descriptive statistics in journals, disease classifications and 95% confidence intervals for important proportions were computed. The agreement between the final diagnosis and the clinical diagnosis was evaluated using Cohen's kappa. Statistical significance was defined as a p-value of less than 0.05.

Excellent agreement between the final diagnosis and the clinical diagnosis is indicated by the kappa value of 0.84.

RESULTS

Baseline Characteristics

A total of 55 children with dermatological disorders were included in the study.

Table 1. Baseline Demographic Profile (n = 55)

Variable	Category	Number (n)	Percentage (%)
Age group	1–5 years	15	27.27
	6–10 years	17	30.91
	11–15 years	23	41.82
Gender	Male	29	52.73
	Female	26	47.27
Socioeconomic status	Lower class	31	56.36
	Middle class	17	30.91
	Upper class	7	12.73

Table 2. Presenting Symptoms and Lesion Distribution (n = 55)

Clinical Variable	Category	Number (n)	Percentage (%)
Main symptom	Itching	15	27.27
	Pain	10	18.18
	Discoloration	9	16.36
	Dryness of skin	9	16.36
	Oozing	7	12.73
	Scaling	5	9.09
More than one symptom	Yes	38	69.09
	No	17	30.91
More than one site involved	Yes	31	56.36
	No	24	43.64
Similar episode in the past	Yes	11	20.00
	No	44	80.00

Table 3. Main Site of Involvement (n = 55)

Site	Number (n)	Percentage (%)
Hands	16	29.09
Groin	10	18.18
Trunk	9	16.36
Waist area	8	14.55
Feet	5	9.09
Hands and feet	3	5.45
Face	2	3.64
Scalp	2	3.63

Table 4. Hygiene and Fomite-Sharing Practices (n = 55)

Hygiene Factor	Category	Number (n)	Percentage (%)
Sharing towel	Yes	12	21.82
	No	43	78.18
Sharing footwear	Yes	7	12.73
	No	48	87.27
Sharing clothing	Yes	12	21.82
	No	43	78.18
Sharing toilet soap	Yes	6	10.91
	No	49	89.09
Usage of soap	Yes	55	100.00
	No	0	0.00

Table 5. Bathing Frequency among Study Participants (n = 55)

Bathing Frequency	Number (n)	Percentage (%)
Daily	30	54.55
Alternate days	16	29.09
Once in three days	8	14.55
Weekly once	1	1.82

Table 6. Distribution According to Clinical Diagnosis (n = 55)

Clinical Diagnosis	Number (n)	Percentage (%)
Atopic dermatitis	12	21.82
Impetigo	12	21.82
Other eczemas	8	14.55
Candidiasis	7	12.73
Scabies	6	10.91
Diaper dermatitis	4	7.27
Urticaria	4	7.27
Tinea corporis	2	3.64

Table 7. Laboratory Investigation Profile

Investigation	Performed in (n)	Positive (n)	Negative (n)	Positivity Rate (%)
KOH examination	9	6	3	66.67
Diascopy test	4	3	1	75.00
Wood's lamp	8	8	0	100.00
Skin culture	33	16	17	48.48

Table 8. Final Etiological Diagnosis (n = 55)

Atopic dermatitis	12	21.82
Impetigo	12	21.82
Other eczemas	9	16.36
Diaper dermatitis	7	12.73
Scabies	6	10.91
Candidiasis	4	7.27
Urticaria	3	5.45
Tinea corporis	2	3.64
Total	55	100.00

Table 9. Infectious versus Non-Infectious Dermatoses (n = 55)

Disease Category	Diagnoses Included	Number (n)	Percentage (%)	95% Confidence Interval
Infectious dermatoses	Impetigo, scabies, candidiasis, tinea corporis	24	43.64	30.5 – 57.7
Non-infectious dermatoses	Atopic dermatitis, other eczemas, diaper dermatitis, urticaria	31	56.36	42.3 – 69.5

Table 10. Key Proportions with 95% Confidence Intervals (n = 55)

Variable	Number / Total	Percentage (%)	95 % Confidence Interval
Age 11–15 years	23 / 55	41.82	29.0 – 55.7
Male gender	29 / 55	52.73	39.2 – 65.9
Lower socioeconomic status	31 / 55	56.36	42.3 – 69.5
Itching	15 / 55	27.27	17.2 – 40.3
More than one symptom	38 / 55	69.09	55.9 – 79.8
More than one site involved	31 / 55	56.36	42.3 – 69.5
Towel sharing	12 / 55	21.82	12.9 – 34.4
Clothing sharing	12 / 55	21.82	12.9 – 34.4
Less-than-daily bathing	25 / 55	45.45	32.9 – 58.5
Infectious dermatoses	24 / 55	43.64	30.5 – 57.7
Atopic dermatitis	12 / 55	21.82	12.9 – 34.4
Impetigo	12 / 55	21.82	12.9 – 34.4

Table 11. Comparison of Clinical Diagnosis versus Final Diagnosis (n = 55)

Diagnosis	Clinical Diagnosis n (%)	Final Diagnosis n (%)	p value
Atopic dermatitis	12 (21.82)	12 (21.82)	1.00
Diaper dermatitis	4 (7.27)	7 (12.73)	0.07
Other eczemas	8 (14.55)	9 (16.36)	0.93
Impetigo	12 (21.82)	12 (21.82)	1.00
Scabies	6 (10.91)	6 (10.91)	1.00
Candidiasis	7 (12.73)	4 (7.27)	0.08
Tinea corporis	2 (3.64)	2 (3.64)	1.00
Urticaria	4 (7.27)	3 (5.45)	0.93

Table 12. Measures of Diagnostic Agreement

Parameter	Value
Cohen's kappa	0.84
Diagnostic accuracy	89.3%
Interpretation	Excellent agreement

55 kids with dermatological conditions between the ages of one and fifteen were examined. Males were somewhat more impacted, and the most prevalent age group was 11 to 15. More than half of the cases had lower socioeconomic level.

The most frequent symptom was itching, and the most often affected area was the hands. Over 50% of kids were involved in numerous sites. The most common fomite-sharing behaviours were towel and clothes sharing.

The most common diagnosis, each accounting for 21.82% of cases, were impetigo and atopic dermatitis. Of the entire illness burden, infectious dermatoses accounted for 43.64%. With KOH positive of 66.67%, Wood's lamp positivity of 100%, and culture positivity of 48.48%, laboratory confirmation validated clinical assessment.

With an accuracy of 89.3% and a kappa of 0.84, the clinical diagnosis demonstrated outstanding agreement with the final diagnosis.

DISCUSSION

The clinical profile, etiological spectrum, hygiene behaviours, laboratory results, and diagnostic agreement of paediatric dermatoses among children attending a tertiary care hospital between the ages of one and fifteen were all assessed in this study. The age group of 11 to 15 years old comprised the biggest percentage of patients. Increased environmental exposure, school attendance, sports involvement, peer contact, and older children's delayed healthcare-seeking behaviour may all be contributing factors. School-age and adolescent children have a significant prevalence of skin problems, according to similar paediatric dermatology studies. Males and teenagers are more likely to have paediatric dermatoses, with infections and infestations accounting for a significant percentage of cases, according to a recent outpatient-based study.

In the current study, male children were somewhat more impacted. This male prevalence could be caused by differences in sociocultural healthcare-seeking practices, more exposure to minor injuries, and increased outdoor exercise. Nonetheless, the gender disparity was negligible and shouldn't be taken too seriously. Over half of the study population had a lower

socioeconomic position. Because socioeconomic inequality is strongly associated with overcrowding, restricted access to clean water, poor sanitation, fomite sharing, delayed treatment, and recurrent skin diseases, this is clinically significant. The thesis conclusion also highlights how the burden of paediatric skin diseases is influenced by low income, overcrowding, unhygienic settings, and restricted access to healthcare.

The most frequent presenting symptom was pruritus. This result is predicted as itching is a typical symptom of atopic dermatitis, eczema, scabies, fungal infections, and urticaria. Persistent pruritus can worsen quality of life, interfere with sleep, decrease focus, and raise irritation. The most commonly impacted area was the hands. Frequent contact with allergens, irritants, contaminated surfaces, and infectious agents may be the cause of hand involvement. Fungal infections, scabies, frictional dermatoses, and disorders connected to cleanliness are further supported by the involvement of the groin, trunk, waist, and feet. 56.36% of children had multiple-site involvement, which could indicate transmissible diseases, delayed presentation, recurring exposure, or broad disease. In infectious and infestation-related dermatoses such as scabies, impetigo, candidiasis, and tinea, multiple-site involvement is particularly important.

In this investigation, the most frequent diagnoses were impetigo and atopic dermatitis. Skin barrier malfunction, immunological dysregulation, microbial imbalance, and environmental stressors all combine intricately to cause atopic dermatitis, a chronic inflammatory disease. Atopic dermatitis remains one of the most prevalent and debilitating paediatric dermatoses, according to international research. In tropical and developing regions, where inadequate hygiene, a warm environment, crowding, skin damage, and underlying eczema increase susceptibility, impetigo is still quite relevant. 43.64% of cases were infectious dermatoses. This is a significant burden that validates the need for school-based screening, early treatment, hygiene education, and a decrease in fomite sharing. In settings with inadequate resources, bacterial skin infections, scabies, and fungal infections continue to be significant paediatric public health issues. Among this sample, hygiene-related behaviours were noteworthy.

In this study, 21.82% of people shared towels and clothes, 12.73% shared shoes, and 10.91% shared toilet soap. These behaviours could make it easier for bacterial, fungal, and parasitic illnesses to spread. The descriptive frequency indicates significant modifiable behaviours, even though the existing aggregate data does not allow for the proper computation of individual odds ratios between each hygiene factor and infectious dermatoses. 54.55% of respondents reported bathing every day, whilst 45.45% reported bathing less frequently. Every youngster said they used soap. However, if personal belongings are shared, bathing is irregular, clothing is reused, or close-contact transmission continues, using soap alone might not be sufficient to avoid dermatoses. Selective laboratory investigations were carried out. With a 66.67% positive rate, the KOH test proved to be beneficial in cases with suspected fungal infections.

Although the small number restricts interpretation, Wood's light inspection proved positive in every examined case. 48.48% of skin cultures were positive, suggesting that microbiological confirmation is helpful in cases of bacterial dermatoses that are clinically suspected. These results are in favour of selective laboratory testing as opposed to routine testing. Excellent agreement was found between the final diagnosis and the clinical diagnosis. For common paediatric dermatoses, rigorous clinical evaluation by qualified doctors is still very reliable, as evidenced by Cohen's kappa of 0.84 and diagnosis accuracy of 89.3%. This is especially important in environments with low resources, when sophisticated dermatological tests might not always be accessible. The current study's combined evaluation of clinical characteristics, hygienic behaviours, etiological diagnosis, laboratory tests, and diagnostic agreement is its strongest point.

The study does have several drawbacks, though. Purposive sampling was used, the study was single-center, and the sample size was small. Multivariable logistic regression could not be legitimately carried out since cross-tabulated raw data for all hygiene variables were unavailable. Additionally, follow-up outcome data were excluded. The study offers helpful clinical and public health insights in spite of these drawbacks. It draws attention to the combined burden of infectious and inflammatory dermatoses and emphasises the importance of early diagnosis, hygiene counselling, and the prudent use of laboratory tests.

Advantages

- Children in this study ranged widely in age from one to fifteen.
- Investigations that were recommended supported the clinical diagnosis.
- Fomite sharing and hygiene habits were evaluated.
- Diagnostic agreement data were used to compare clinical and final diagnosis.

Restrictions

- Generalisability is limited by single-center architecture.
- Advanced subgroup analysis is limited by small sample sizes.
- Causal inference is impossible with a cross-sectional design.

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- It was not possible to calculate the adjusted odds ratio using raw cross-tabulated data.
- Recurrence follow-up or long-term therapy results were not evaluated.

Clinical Relevance

The results encourage routine outpatient screening for common paediatric dermatoses. Avoiding sharing towels, clothing, shoes, and soap should be part of hygiene counselling. A thorough evaluation for infectious, fungal, and infestation-related dermatoses should be performed on children who exhibit itching, multiple-site involvement, and recurrent lesions.

CONCLUSION

Children between the ages of one and fifteen had a wide range of clinical and etiological paediatric dermatoses. The most common diagnoses were impetigo and atopic dermatitis. 43.64% of cases were infectious dermatoses, highlighting the ongoing burden of avoidable skin diseases in children.

The most frequent site was the hands, many sites were frequently involved, and itching was the most prevalent complaint. A significant percentage of youngsters were found to engage in hygiene-related behaviours such sharing towels, clothes, shoes, and soap.

With a Cohen's kappa of 0.84 and a diagnostic accuracy of 89.3%, the clinical diagnosis demonstrated outstanding agreement with the final diagnosis. Reducing the prevalence of paediatric dermatoses continues to depend heavily on careful clinical examination, judicious laboratory testing, and hygiene education.

REFERENCES

1. Chu DK, Schneider L, Asiniwasis RN, Boguniewicz M, De Benedetto A, Ellison K, et al. Atopic dermatitis (eczema) guidelines: 2023 American Academy of Allergy, Asthma & Immunology/American College of Allergy, Asthma & Immunology Joint Task Force on Practice Parameters GRADE- and Institute of Medicine-based recommendations. *Ann Allergy Asthma Immunol.* 2024;132(3):274-312.
2. Jin L, Li J, Wang X, Chen Y, Zhang L. Worldwide prevalence of atopic dermatitis in children, adolescents and adults: findings from the Global Burden of Disease Study. *J Am Acad Dermatol.* 2025.
3. Lomelí-Valdez R, Orozco-Covarrubias L, Sáez-de-Ocariz M. Skin and systemic infections in children with atopic dermatitis: review of the current evidence. *Front Pediatr.* 2025;13:1513969.
4. Durango KP, Silverberg JJ, Hanifin JM, et al. Global burden of atopic dermatitis. *Dermatol Clin.* 2024;42(4):617-626.
5. Deva M, Mahajan VK, Mehta KS, Chauhan PS. A systematic review of guidelines for the management of atopic dermatitis. *Indian Dermatol Online J.* 2024;15:1-10.
6. Sarkar R, Inamadar AC, Dhar S, Dogra S, Khopkar U, Madhu R, et al. Standardising the diagnosis and management of atopic dermatitis in India: a consensus statement by the IADVLS Special Interest Group of Pediatric Dermatology. *Indian J Dermatol Venereol Leprol.* 2025.
7. Nicolini G, Cattalini M, Esposito S. When infection hurts: golden rules for managing pediatric skin and soft tissue infections. *Ital J Pediatr.* 2025;51:1-10.
8. Soutou B, Martin L, Chiaverini C, et al. Pediatric epidemiology of skin disorders in a Mediterranean population with a nonreferral-based health-care system: a retrospective large series analysis. *Indian J Paediatr Dermatol.* 2023;24(4):287-294.
9. Chandler DJ, Fuller LC. A review of scabies: an infestation more than skin deep. *Dermatology.* 2023;239(3):310-320.
10. Romani L, Marks M, Sokana O, Neko L, Harrington R, Nasi T, et al. Efficacy of mass drug administration for scabies control in highly endemic settings: a cluster randomized trial. *Lancet Infect Dis.* 2022;22:1281-1292.