

ORIGINAL RESEARCH ARTICLE

**A STUDY ON CLINICAL PATTERN OF DERMATOSES IN PAEDIATRIC AGE GROUP
IN A TERTIARY CARE HOSPITAL IN ASSAM**

Divya J N¹, Bhaskar Gupta², Johnson Cyriac³, Joydeep Roy⁴, Arup Paul⁵, Shromona Kar⁶

¹JUNIOR RESIDENT, DEPARTMENT OF DERMATOLOGY, VENEREOLOGY AND LEPROSY

²PROFESSOR AND HOD, DEPARTMENT OF DERMATOLOGY, VENEREOLOGY AND LEPROSY

³JUNIOR RESIDENT, DEPARTMENT OF PAEDIATRICS

^{1,2,3,4,5,6}SILCHAR MEDICAL COLLEGE AND HOSPITAL, SILCHAR, ASSAM

Corresponding author: Dr Divya J N

Received: 01-06-2025/ Review: 25-06-2025/ Accepted: 02-07-2025

ABSTRACT

Introduction: Paediatric dermatoses are a distinct group of disorders, comprising skin problems encountered during both childhood and adolescence. Skin diseases are a major health problem in the paediatric age group and are associated with significant morbidity and mortality. Dermatoses in children are more influenced by socioeconomic status, dietary habits, climatic exposure and external environment as compared to adults. **Objectives of the Study:** This study aimed to assess the clinical pattern and prevalence of various dermatoses among children up to age 18 years in a tertiary care centre in Assam. **Materials and Methods:** Patients in the age group of up to 18 years with skin diseases attending Dermatology Outpatient Department and Paediatrics' outpatient department from July to June 2025 were enrolled in this study. A predesigned proforma was used for all cases. A detailed history was taken. Clinical examination and relevant laboratory investigations were done to confirm the diagnosis in doubtful cases.

Results: This study included a total of 534 patients. The most common pattern of dermatoses was infections and infestations constituting 41.19% (220 cases). The other common dermatoses in order of prevalence were eczema/dermatitis constituting 14.23% (76 cases), papulosquamous disorders: 6.55% (35 cases), hypersensitivity disorders: 5.8% (31 cases), and pigmentary disorders: 4.68% (25 cases). Among the infections and infestations, fungal infections and parasitic infestations were most common (34.5%), followed by viral infections (21.81%), and bacterial infections (4.09%). Pityriasis alba was the most common eczematous disease.

Conclusion: The most common pattern of dermatoses seen in our study was infections and infestations, followed by eczematous disorders. A detailed knowledge about the pattern of dermatoses among school going children will help us in implementing essential changes in health education and disease control strategies in the area concerned.

Keywords: Child, paediatric dermatoses, pattern of dermatoses, school going children, skin diseases

INTRODUCTION

Paediatric dermatology deals with diseases and skin care needs from birth to adolescence, during which significant physiological, psychological and maturity changes occur¹. Skin diseases represent a significant health concern in the paediatric population, causing considerable morbidity. The impact is evident in healthcare utilization patterns: 30% of paediatrician outpatient visits involve skin conditions and 30% of dermatologist consultations are for children. In India, school-based surveys have shown that the prevalence of paediatric skin conditions (dermatoses) varies significantly by region, ranging from 8.7% to 35% of the student population.¹ Many childhood skin disorders have genetic roots. These conditions typically affect multiple body systems and continue throughout the patient's lifetime². Children's skin conditions are uniquely influenced by various external factors, including: socioeconomic conditions, diet and nutrition, climate exposure, environmental conditions³.

School-age children are particularly susceptible to skin infections. These dermatological conditions may be either temporary or chronic, with some recurring over time⁴. Beyond the physical symptoms, these conditions can have significant psychological effects on children and impact their overall quality of life⁵. The present study was undertaken to know the prevalence and patterns of paediatric dermatoses among patients attending Dermatology and Paediatrics outpatient department in a tertiary care hospital in Assam.

METHODS

This study was conducted in Dermatology and Paediatrics OPD of our Institute, a tertiary care centre in Assam, between July 2024 and June 2025.

Inclusion criteria

All newly diagnosed, untreated male and female paediatric patients (from neonates to adolescents ≤ 18 years of age) attending Dermatology and Paediatrics OPD.

Exclusion criteria

1. Previously diagnosed and treated cases.
2. Patients not willing to consent for the study.

Methodology

Patients were grouped according to age:

1. Infant: birth to 1 yr of age
2. Pre-school: 1-5 yrs of age
3. School age: 6 yrs-12 yrs
4. Adolescent: 13 yrs-18 yrs

Informed verbal consent was obtained from the patient's parents prior to study enrolment. A comprehensive medical history was documented. A thorough examination was performed, including general physical, systemic, and cutaneous assessments, along with relevant diagnostic tests. All collected data was systematically tabulated and analysed.

RESULTS

534 of the 2118 new cases that visited our outpatient dermatology and Paediatrics department throughout the twelve-month research period were in the paediatric age range. Therefore, 25.21 percent of the children in our study had dermatoses.

In order to determine the pattern of skin illness, this study examined 534 patients up to the age of 18. 335 (62.73%) of the population were children under the age of ten, and 199 (37.26%) were those over ten years. A male-to-female ratio of 1.19:1 indicates a male predominance, with 243 (45.5%) female participants and 291 (55.49%) male participants.

Infections and infestations accounted for 41.19% (220 cases), which was the most common pattern of dermatoses seen. Eczema/dermatitis came in second (76 instances). 14.23% [Table 1]

Sl no	Pattern of dermatoses	Frequency, n (%)
1	Infections and infestations	220(41.19)
2	Eczema/dermatitis	76(14.23)
3	Papulosquamous disorder	35(6.55)
4	Pigmentary disorder	25(4.68)
5	Hypersensitivity disorder	31(5.8)
6	Keratinization disorder	21(3.93)
7	Hair disorder	24(4.49)
8	Nutritional disorder	14(2.62)
9	Nevi	5(0.93)
10	Sebaceous gland disorder	20(3.74)
11	Photo dermatoses	18(3.37)
12	Others	45(8.42)
	Total	534(100)

Table 1: Distribution according to the pattern of dermatoses (n = 534)

Out of 220 children with infections and infestations, 34.5% were affected, with fungal infections and parasitic infestations being the most prevalent, fungal infections impacting 76 children and parasite infestations in 76 children (34.5%). (Table 2)

Infections and infestations	Frequency, n = (%)
Bacterial infection	20(4.09)
Fungal infection	76(34.5)
Viral infection	48(21.81)
Parasitic infestations	76(34.5)
Total	220(41.91)

Table 2: Distribution of infection and infestations (n =220)

Among the bacterial infections, impetigo and folliculitis were the most common constituting 45% (9 cases) each, followed by furuncle and acute paronychia 5% (1). [figure 1].

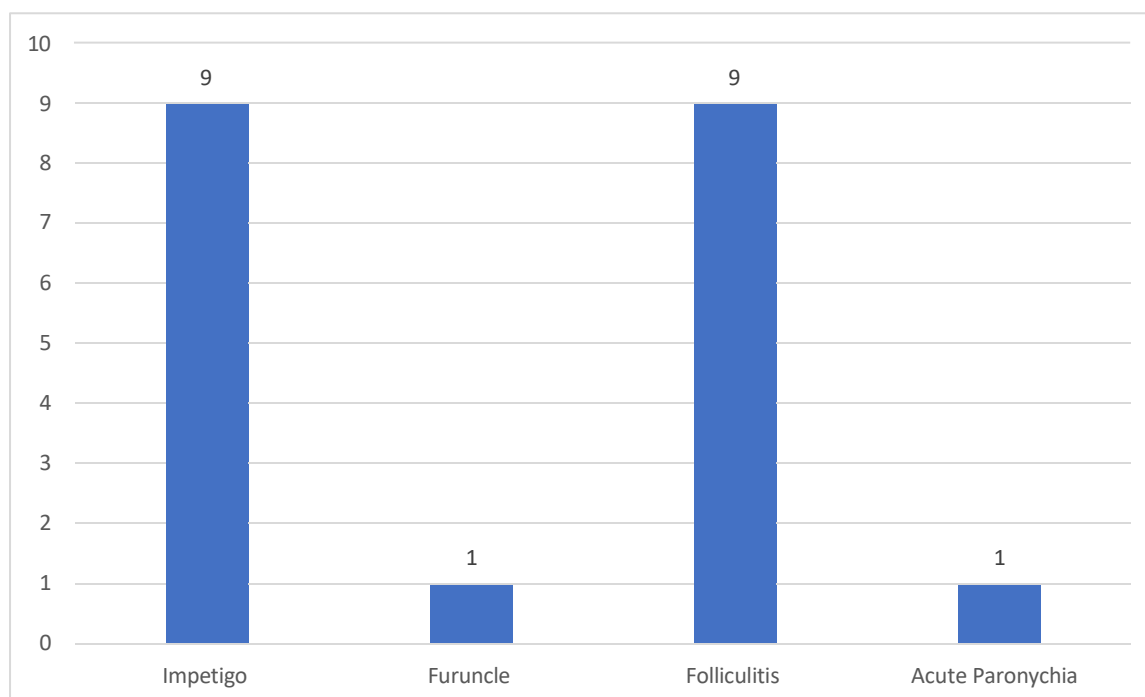


Figure 1: Distribution of bacterial infections (n=20)

Among the fungal infections, Tinea Corporis constituted the highest percentage of 27.63% (21), followed by Tinea Cruris at 22.36% (17) [Figure 2].

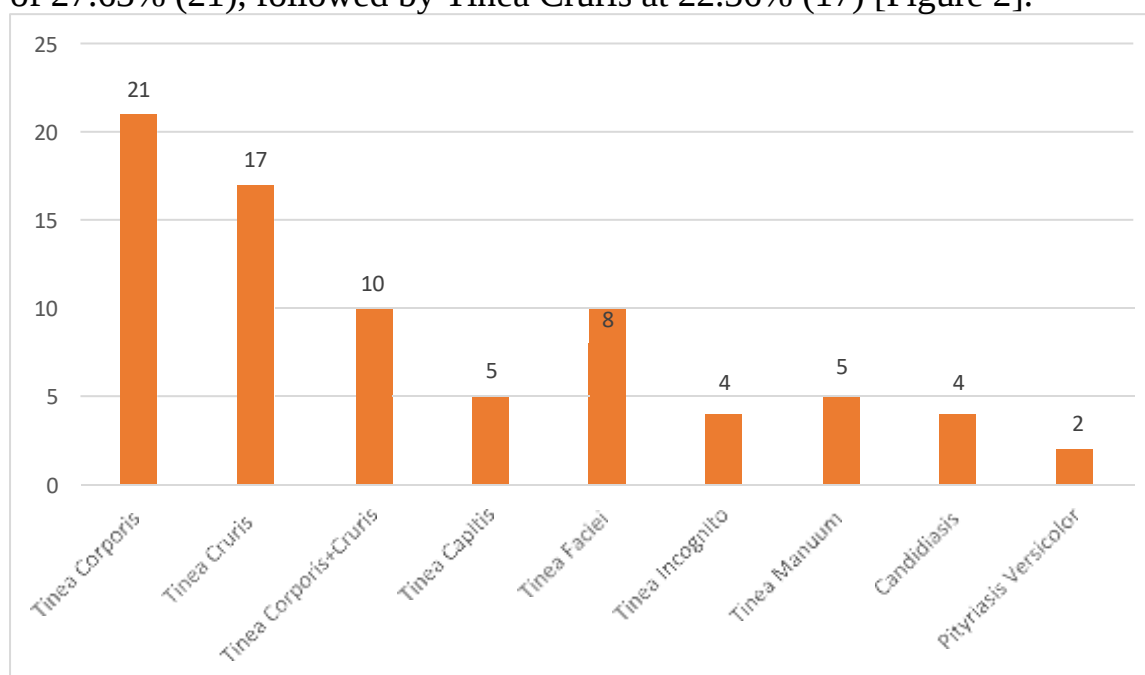


Figure 2: Distribution of fungal infection (n =76)

Among the viral infections, verruca/viral wart (palmar wart – 12, facial wart – 9, plantar wart – 7) was the most common constituting 58.33% (28), followed by varicella constituting 22.91% (11). [Figure 3].

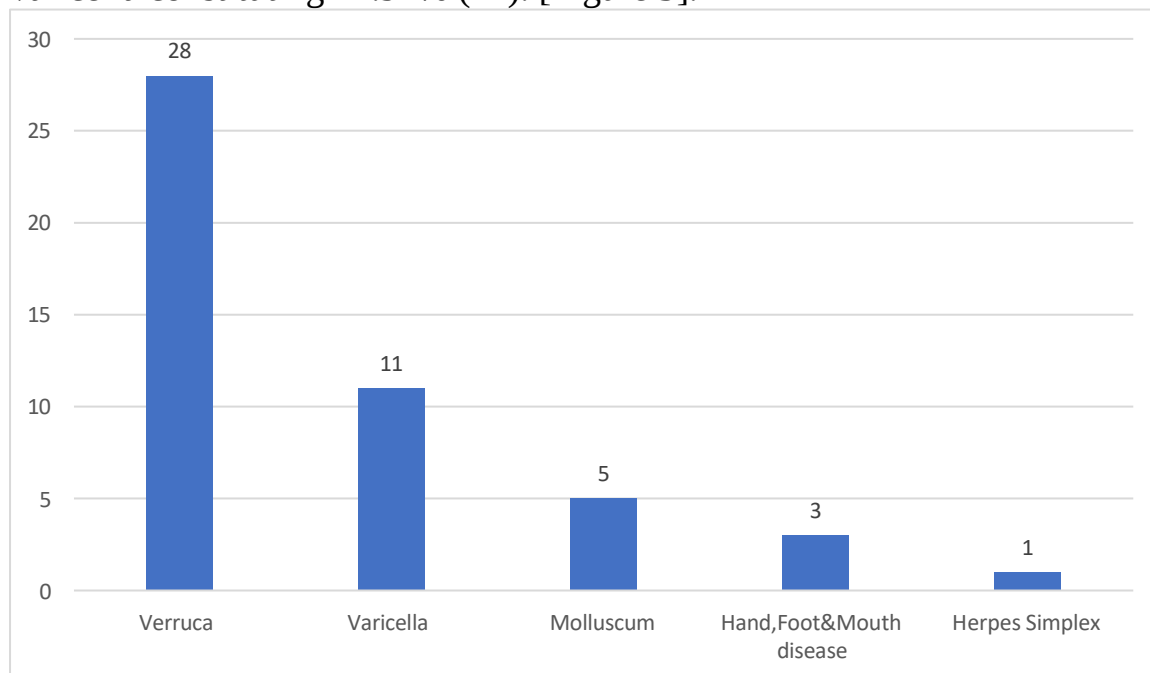
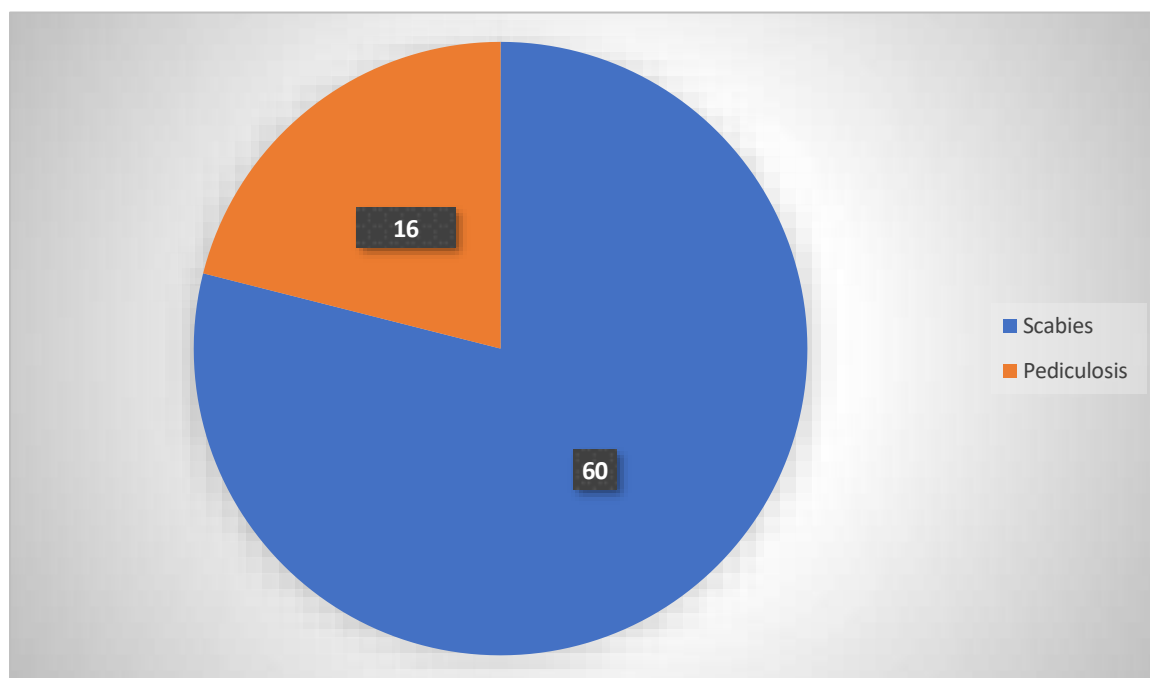


Figure 3: Distribution of viral infection (n =48)

Scabies was the most common parasitic infestation constituting 78.94% (60) of the infestation group and pediculosis constituted 21.05% (16) [Figure 4].



Among the eczematous diseases, endogenous eczema (46 cases) was more common than exogenous eczema (30 cases). Pityriasis alba (27 cases) was the most common endogenous eczematous disease, followed by atopic dermatitis (15 cases). Irritant contact dermatitis (15 cases) was the most common exogenous eczematous disease. (Figure 5)

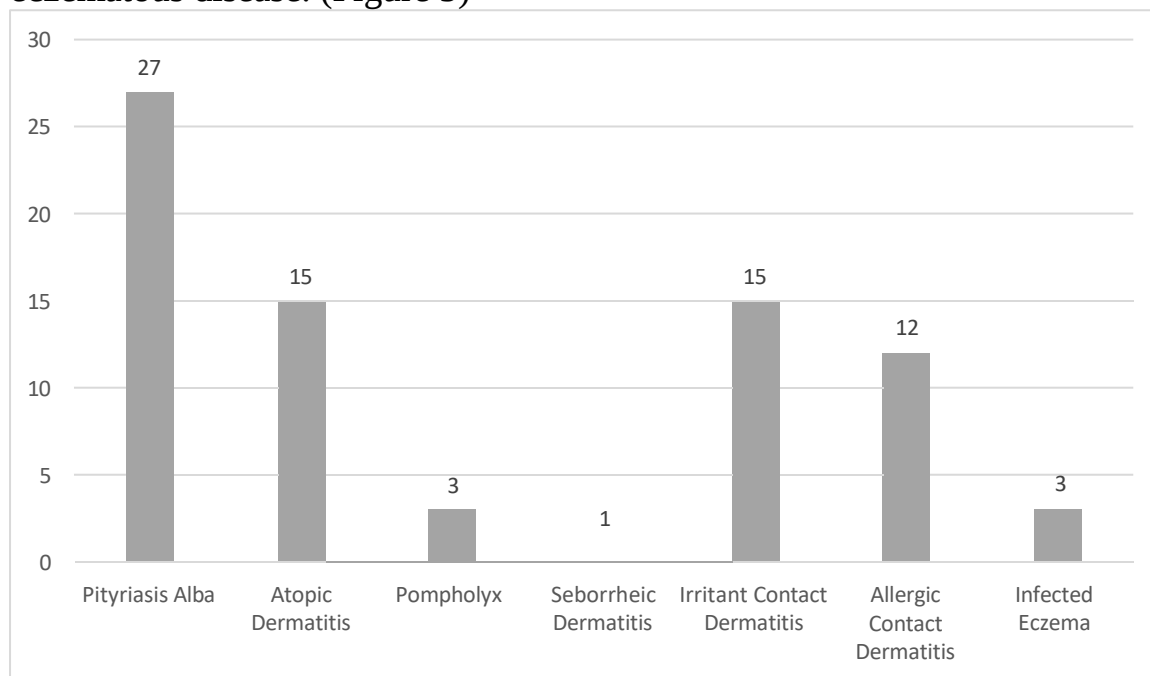


Figure 5: Distribution of Eczematous disorder (n =76)

Psoriasis was the most prevalent of the papulosquamous illnesses, accounting for 40% of cases (14), followed by lichen planus (34.28%) (12) and pityriasis rosea (20%) (7). Pityriasis rubra pilaris made up 2.85% (1) and lichenoid diseases 2.85% (1).

Vitiligo was the most prevalent pigmentary ailment in children, with 25 instances. The most prevalent presentation was vitiligo vulgaris (15), which was followed by acral vitiligo (1), mucosal vitiligo (3), and localised vitiligo (1). Previtiligo or early vitiligo was identified in three cases.

Acute urticaria was the most prevalent of the hypersensitivity disorders (17 instances), followed by papular urticaria (10 cases) and chronic urticaria (4).

In this study, keratinisation disorders accounted for 3.93% (21) of all dermatoses. The most prevalent condition was palmoplantar keratoderma (11) and keratolysis exfoliativa (6). Pachyonychia congenita (1), keratosis pilaris (1), and ichthyosis (2; one instance each of ichthyosis vulgaris and lamellar ichthyosis) were among the other illnesses observed.

Of all the illnesses, 4.49% (24) were hair problems. There were two cases of chronic telogen effluvium, six cases of premature canities, fourteen cases of alopecia areata, and one case of traction alopecia and one case of female pattern hair loss were noticed.

The most prevalent condition among nutritional problems was phrynoderma, which was observed in 13 cases. 0.9% of dermatoses were nevi. There was one case each of necrotic sebaceous hyperplasia, necrotic depigmentosus, necrotic epidermal nevus, necrotic melanocytic nevus, and necrotic linear and whorled necrotic hypermelanosis.

Nineteen cases of acne vulgaris and one case of truncal acne were observed among the sebaceous gland abnormalities. There were eighteen instances of polymorphic light eruption among photodermatoses.

Additional dermatoses were noted, including connective tissue diseases (5 cases: morphea – 4, Parry–Romberg syndrome – 1), sweat gland disorders (6 cases: palmoplantar hyperhidrosis – 4, miliaria crystallina – 2), vesiculobullous disease (one case of childhood chronic bullous dermatosis), developmental defects (2 cases of aplasia cutis), necrobiotic disorder (one case of granuloma annulare), lymphatic disorder (one case of lymphangioma circumscriptum), acanthosis nigricans (4 cases), adverse drug reaction (5 cases: erythema multiforme – 2, Stevens–Johnson syndrome – 3), keloid and hypertrophic scar (5), xerosis (7), and prurigo simplex (6).

DISCUSSION

Of the 550 children in the current study who were up to 18 years old, the majority (62.73%) were in the age group under 10 years old (335 children), followed by those over 10 years old (39.1%; 199 children). This is consistent with comparable studies conducted by Gupta et al.,^[6] in which the majority of children were in the 7–8 age range and Gupta M et al.,^[7] where the majority of the children were between the ages of 5 and 10.

There were 243 (45.5%) female children and 291 (54.49%) male children,

resulting in a male: female ratio of 1.19:1. Males outnumbered females in earlier investigations by Jose et al. ^[8] and Nagarajan et al. ^[9], which showed similar results.

Infections and infestations made up 41.19% (220 instances) of the most prevalent dermatosis pattern in the current investigation. Eczema/dermatitis came in second, accounting for 14.23% of cases (76). This was consistent with comparable research by Nagarajan et al.,^[9] Kiprono et al., ^[11], Reddy et al., ^[10], and Gupta et al. ^[6] Children are more susceptible to the spread of contagious skin conditions among themselves in the school setting.

Infestations with fungi and parasites were most frequently seen (34.5%) among the 220 (41.19%) children with illnesses and infestations in the current investigation. Viral and bacterial illnesses were next, accounting for 21.81% and 4.09% of the total respectively. The findings were similar to those of earlier research by Sangameshwara and Venkatesh et al.,^[13] Baskaran et al., ^[12], Poudyal et al., ^[14], Reddy and Narasimha Rao et al., ^[15], Gupta et al., ^[6], and Kiprono et al. ^[11] The most prevalent infection in each of these trials was a fungal infection. According to our investigation, parasites were most prevalent in research by Baskaran et al. ^[12], Poudyal et al. ^[14], Reddy and Narasimha Rao ^[15], and Gupta et al. ^[6].

The higher prevalence of fungal and parasitic infection seen in the elderly could be one of the reasons for the similar higher prevalence in children.

The most prevalent bacterial infections in the current investigation were folliculitis and impetigo. Impetigo was the most prevalent bacterial infection in research by Baskaran et al., ^[12], Gupta et al., ^[6], Kiprono et al., ^[11], Reddy and Narasimha Rao et al., ^[15], and Sangameshwara and Venkatesh et al., ^[13].

The most prevalent fungal infection in our sample was tinea corporis, which was followed by tinea cruris with corporis. Gupta et al. ^[6] and Reddy et al. ^[10] reported similar findings.

The most prevalent viral infection was determined to be viral wart/verruca, which was followed by varicella. In related investigations by Gupta et al., ^[6], Poudyal et al., ^[14], Kiprono et al., ^[11], and Sangameshwara and Venkatesh et al., ^[13] verruca was also the most prevalent viral infection.

The most prevalent parasite infestation in our study was scabies, which was followed by pediculosis. These findings were in line with research conducted by Reddy and Narasimha Rao et al., ^[15] Gupta et al., ^[6], and Baskaran et al., ^[12]. In the current study, eczematous disorders were the second most prevalent category of dermatoses. Pityriasis alba was discovered to be the most prevalent eczema. While atopic dermatitis was the most prevalent eczematous dermatitis in

another study by Sacchidanand et al.,^[2] This was consistent with other studies by Gupta et al.,^[6] and Hassan et al.,^[16].

Psoriasis was the most prevalent papulosquamous disorder, accounting for 6.9% of all dermatoses in our study. Research by Sacchidanand et al.,^[2] and Karthikeyan et al.,^[17] showed similar outcomes. In our investigation, palmoplantar keratoderma was the most prevalent keratinisation disorder; in a study by Thappa et al.,^[3], the most prevalent disorders of keratinization was palmoplantar keratoderma.

In the current study, vitiligo was the most prevalent illness, accounting for 5.1% of all dermatoses. Studies by Sacchidanand et al.,^[2] and Karthikeyan et al.,^[17] found a similar occurrence.

Alopecia areata was the most prevalent hair problem in the current investigation. This was consistent with the research from Vora et al.^[18] Phrynoderma was the most prevalent condition in this study, accounting for 2.5% of all dermatoses. Karthikeyan et al.,^[17] investigation revealed a comparable prevalence. In our investigation, the most prevalent condition affecting the sebaceous glands was acne vulgaris. This was consistent with the research that Gupta et al.,^[6]

Poor hygiene, overcrowding, starvation, and children's ignorance are the main causes of the highest number of diseases and infestations seen in our study. Therefore, by emphasising the need of bettering personal cleanliness, diet, and sanitation, as well as by providing parents and kids with effective health education, these dermatoses can be avoided.

Additionally, holding periodic camps in schools may aid in the early detection and management of skin conditions, hence reducing the spread of contagious skin illnesses.

The study was limited by the small sample size and the fact that it was only carried out in one location. To learn more about the prevalence and clinical pattern of juvenile dermatoses, a large prospective multicentric investigation is required.

CONCLUSION

The goal of the current study was to ascertain the prevalence and clinical pattern of different dermatoses in school-age children. Infestations and infections were

more common than non-infectious diseases, and skin problems were more common in infections. Among illnesses and infestations, bacterial and viral infections were the most prevalent, followed by fungal infections and parasitic infestations. Among non-infectious diseases, eczematous disorders were more common than papulosquamous, hypersensitive, and pigmentary disorders. We can make necessary adjustments to health education and disease management measures in the relevant area if we have a thorough understanding of the patterns of dermatoses among school-age children in each geographic location.

DECLARATION OF THE CONSENT

The authors attest that they have all the necessary consent paperwork, properly signed by the patient's parents or guardians. The parents/guardians have signed the form granting permission for the journal to publish their child's photos and other medical data. The parents are aware that their child or children's names and initials will not be shared, and that every attempt will be made to hide their identities, but anonymity cannot be ensured.

FINANCIAL SUPPORT AND SPONSORSHIP

Nil.

CONFLICTS OF INTEREST

There are no conflicts of interest

REFERENCES

1. Graham Brown RA. The ages of man and their dermatoses. In: Burns T, Breathnach S, Cox N, Griffith C, editors. Rook's Text Book of Dermatology. 7th ed. West Sussex, UK: Blackwell Science Publication; 2004. p. 70
2. Sacchidanand S, Sahana MS, Asha GS, Shilpa K. Pattern of paediatric dermatoses at a referral centre. Indian J Paediatric 2014; 81:375-80.
3. Thappa DM. Common skin problems. Indian J Pediatr 2002; 69:701-6.
4. Federman DG, Reid M, Feldman SR, Greenhoe J, Kirsner RS. The primary care provider and the care of skin disease: The patient's perspective. Arch Dermatol 2001; 137:25.
5. Sharma NK, Garg BK, Goel M. Pattern of skin diseases in urban school children. Indian J Dermatol Venereol Leprol 1986; 52:330-1.

6. Gupta AK, Mohammad A, Mohan L, Singh SK, Snehlata, Soni AK, et al. Epidemiological study of childhood dermatosis in Eastern Uttar Pradesh. *Int J Sci Study* 2018; 6:35-8.
7. Gupta M. Pattern of cutaneous infections in paediatric age group – A clinico-observational study. *Our Dermatol Online* 2020; 11:35-7.
8. Jose G, Vellaisamy SG, Govindarajan N, Gopalan K. Prevalence of common dermatoses in school children of rural areas of Salem; a region of South India. *Indian J Paediatrics Dermatol* 2017; 18:202-8.
9. Nagarajan K, Thokchom NS, Ibochouba K, Verma K, Hafi NA. Pattern of paediatric dermatoses in Northeast India. *Indian J paediatrics Dermatol* 2017; 18:286-91.
10. Reddy VS, Anoop T, Ajayakumar S, Bindurani S, Rajiv S, Bifi J. Study of clinical spectrum of paediatrics dermatoses in patients attending a Tertiary Care Centre in North Kerala. *Indian J paediatrics Dermatol* 2016; 17:267-72.
11. Kiprono SK, Muchunu JW, Masenga JE. Skin diseases in paediatrics patients attending a tertiary dermatology hospital in Northern Tanzania: A cross-sectional study. *BMC Dermatol* 2015; 15:16.
12. Baskaran PK, Manickam N, Gopalan K, Chacko E, Shoubin M. Prevalence of paediatric dermatoses in the age group of 5-14 years at a Tertiary care centre in Salem. *J. Evid. Based Med. Healthc* 2017; 4:337-41.
13. Sangameshwara G, Venkatesh U. Clinical study of cutaneous infection in children: Changing trends. *Indian J Paediatr Dermatol* 2015;16:136-8.
14. Poudyal Y, Ranjit A, Pathak S, Chaudhary N. Pattern of paediatric dermatoses in a tertiary care hospital of Western Nepal. *Dermatol Res Pract* 2016; 2016:6306404.
15. Reddy BR, Narasimha Rao TV. Pattern of dermatoses among paediatric population attending tertiary care centre. *Int J Contemp Med Res* 2019; 6:16-9.
16. Hassan I, Ahmad K, Yaseen A. Pattern of paediatric dermatoses in Kashmir valley: A study from a tertiary care centre. *Indian J Dermatol Venereol Leprol* 2014; 80:448-51.
17. Karthikeyan K, Thappa DM, Jeevankumar B. Pattern of paediatric dermatoses in a referral centre in South India. *Indian Pediatr* 2004; 41:373-7.
18. Vora R, Bodiwala N, Patel S. Prevalence of various dermatoses in school children of Anand district. *Natl J Community Med* 2012; 3:100-3.