

Clinicoepidemiological Study of Clinical Patterns of Paediatric Dermatoses in Patients Attending OPD at Tertiary Care Centre

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Abstract

Skin manifestations in the paediatric age group pose significant health concerns and cause morbidity. This hospital-based observational study aimed to investigate the cutaneous manifestations in children and adolescents, their prevalence, and clinical patterns. The study included patients aged newborn to 18 years attending the dermatology department of a medical college and hospital in Jaipur, India over a period of 18 months. A detailed history and clinical examination were conducted, and appropriate investigations were performed when necessary. The study found that the majority of paediatric dermatoses occurred in males, with a male-to-female ratio of 1.35:1. Adolescents constituted the highest proportion of cases (35.4%), followed by school children (23.6%). Infections (36.4%) were the most common dermatoses observed, with fungal infections (14%) being the predominant type. Parasitic infections (12.6%) and bacterial infections (5%) were also significant contributors. Among viral infections, warts (37.5%) were the most prevalent. Eczematous disorders (25.8%) ranked second, with seborrheic dermatitis being the most common subtype. Appendageal disorders (11.8%), papulosquamous disorders (6.4%), and pigmentary disorders (6%) were also observed. The study highlights the importance of recognising and addressing paediatric dermatoses, providing appropriate counselling and treatment, and improving preventive measures. The findings contribute to a better understanding of the prevalence and clinical patterns of paediatric dermatoses, aiding in the development of effective management strategies for this vulnerable age group.

Keywords: Paediatric dermatoses; Parasitic infections; Eczematous disorders

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1. Introduction

Paediatric age group is at more risk due to their thin and delicate skin, greater absorption because of greater ratio of skin surface area to body volume and poor ability to regulate temperature [1]. Dermatological problems constitute at least 30% of all outpatient visits to a paediatrician and 30% of all visits to a dermatologist involve children [2,3]. The prevalence of skin diseases among children in various parts of India ranges from 8.7% to 35% [4]. The clinical presentation, prognosis, and treatment are completely different from adults so, they should be evaluated more precisely.

The spectrum of skin diseases in paediatric age group is very different, so, our aim is to determine the clinical pattern at tertiary care centre in Rajasthan.

2. Materials and Methods

The observational study was carried out in the Department of Dermatology, Venereology, and Leprosy of Mahatma Gandhi Medical College, Jaipur. The duration was from January 2019 to June 2020. 500 children of the age 0-18 years attending the OPD, and inpatient department were included. Parent's written consent was taken from children of 7 years of age or more. A detailed history of the patient's disease was taken including the name, age, sex, nature and duration of illness, predisposing factors like drug intake, topical application of medicines and cosmetics etc. Diagnosis was made on the basis of history and clinical examination & investigation like KOH mount, Tzanck smear, Gram's stain, Wood's lamp examination and biopsy were done when required. Patients were divided into six subgroups.

Age group	Age
Neonate	0-28 days
Infant	1month- 1 year
Toddler	1-3 year
Preschool	3-6 years
School age child	6-12 years
Adolescent	12-18 years

We divided paediatric dermatoses into 14 groups of diseases, and data were recorded on predesigned pro forma as follows: dermatoses (bacterial, viral, fungal, parasitic, eczematous, papulosquamous, vesiculobullous, appendageal, nutritional, keratinization, connective tissue, pigmentary, allergic, and miscellaneous).

3. Results

In the study, there were a total of 500 patients in the paediatrics age group (0-18 years) out of which 287 (57.4%) were males and 213 (42.6%) were females. Regarding the frequency of paediatric dermatoses, overall, noninfectious disease (63.6%) was more common than infectious disease (36.4%) (TABLE1).

TABLE1. Incidence of various types of infections.

Infection	Percentage
Fungal	14%
Parasitic	12.6%
Bacterial	5%
Viral	4.8%

In the infectious disease, dermatophytoses (10.2%) was most common, which was followed by scabies (8.2%), papular urticaria (3.2%), pityriasis versicolor (2.4%), warts (1.8%), and impetigo (1.6%). Of the noninfectious diseases, acne vulgaris (5.6%) was the most common, which was followed by contact dermatitis (4.8%), atopic dermatitis (4.2%), urticaria (2.4%), perioral and perianal dermatitis (2%), PMLE (1.8%), and lichen planus (1.8%)

TABLE 2. Sex distribution of various dermatoses.

Dermatoses	Males (%)	Females (%)
Infections	100 (20%)	82 (16.4%)
Eczematous disorder	85 (17%)	60 (12%)
Keratinization disorder	15 (3%)	3 (0.6%)
Pigmentary	15 (3%)	15 (3%)
Papulosquamous	32 (6.4%)	24 (4.8%)
Appendageal	29 (5.8%)	26 (5.2%)
Nutritional disorder	9 (1.8%)	6 (1.2%)
Allergic disorders	11 (2.2%)	5 (1%)
Connective tissue disorders	5 (1%)	3 (0.6%)
Vesicobullous disorders	1(0.2%)	2 (0.2%)

4. Discussion

Cutaneous manifestation in the paediatric group causes significant morbidity and mortality, thus forming major health problems. The pattern of paediatric dermatoses varies by place and depends on various factors such as climate, culture, and environment. Infants are mostly restricted to their place only, whereas another age group of mid-childhood remains in the contact of surroundings and neighbourhood. Environmental, cultural, and social factors influence to the adolescent mainly [5].

In our study, incidence of paediatric dermatoses was found to be more in males (287, 57.4%) than in females 213, 42.60% with male to female ratio of 1.35:1. Similar observation was made by Sharma et al [6]. In our study, the majority of the patients were in adolescent age group (177, 35.4%) followed by school children (118, 23.6%), preschool children (18.6%) and infants (62, 12.4%) respectively. Similar observation was made by Reddy et al and Sharma et al [6,7].

In our study, most of the paediatric dermatoses contributed by infections (182, 36.4%), followed by eczematous disorders (129, 25.8%) and then appendageal disorders (59, 11.8%), papulosquamous disorders (32, 6.4%) and pigmentary disorders (30, 6%). Some studies such as Hayden GF et al, Karthikeyan K et al. and Negi KS et al. showed somewhat similar pattern in which infections were the most common but followed by eczema and hypersensitivity disorders [8-10].

Fungal infections of skin constituted 14% of total paediatric dermatoses and 38.46% of total infections. Among all fungal infections, dermatophytoses (72.85%) were most common followed by pityriasis versicolor and candidiasis. Parasitic infections were second most common, contributing 34.6% of all infectious diseases. Scabies were most common among parasitic infections contributing 8.2% of total dermatoses and 65.07% of parasitic infections followed by papular urticaria (25.39%) and pediculosis (9.5%). Balai M et al [11] showed similarity with our study in the pattern of parasitic infestations, in which scabies was the most common. Bacterial infections contributed 5% of total paediatric dermatoses and 13.73% of infectious diseases. Among all bacterial infections, impetigo (32%) was most common followed by folliculitis (20%), pyoderma (12%), furuncle (8%), perioritis (8%), hansen's disease (8%) and scrofuloderma (4%). Impetigo (15, 1.5%) was the most common in the bacterial infections similar to some studies such as Javed et al [12]. Viral infections were least common among infectious disorders contributing 4.8% of all dermatoses and 13.18% of infectious diseases.

Eczematous disorders were the second most common dermatoses in our study constituting 129(25.8%) of all cases. Similar findings are also noted in the studies done by Saurabh Sharma et al. 268 shows eczematous dermatitis was present in 27.3% patients and by Jawade S et al [13]. It was 20.6% while higher incidence (35.8%) noticed in study done by Jitendra Singh Bist et al [14].

Pigmentary disorders constituted 6.4% of total paediatric dermatoses. Vitiligo and Mongolian spot were most common dermatoses constituted 1.2% of all dermatoses and 18.75% of pigmentary disorder, Almost similar prevalence to our study were reported by Sacchidanand et al [15].

Nutritional disorders constituted 3% of total dermatoses. Jawade et al. [13] and Karthikeyan et al. [9] showed prevalence of nutritional disorders 3.82% & 2.8% of all dermatoses which were similar to our study.

Vesicobullous disorders constituted 0.6% of total dermatoses. All pemphigus vulgaris, pemphigus foliaceus and epidermolysis bullosa simplex showed a similar prevalence of 33.33%. Study done by Reddy et al. [16] was noticed 0.6% prevalence of vesicobullous disorders which was similar to our study.

5. Conclusion

A study was conducted on 500 pediatric patients at Mahatma Gandhi College & Hospital, ranging from birth to 18 years old. The study found that males outnumbered females, with a ratio of 1.35:1. The majority of patients were in the adolescent age group, followed by school children. The most common dermatoses observed were infections, eczematous disorders, appendageal disorders, papulosquamous disorders, and pigmentary disorders. Fungal infections, particularly dermatophytoses like tinea cruris and tinea corporis, were the most prevalent among infectious dermatoses. Scabies was the most common parasitic infection, and impetigo topped the list for bacterial infections. Warts were the most common viral infection. Seborrheic dermatitis was the most common eczematous disorder, while acne was the most common appendageal disorder.

The study suggests that improving sanitation, healthcare facilities, education, and socioeconomic status, as well as promoting personal hygiene through regular bathing and cloth washing, can reduce the incidence of common infectious diseases. Early diagnosis and proper counseling for infants and young children with transient dermatoses can alleviate parental stress. The study emphasizes the importance of early diagnosis, treatment, health education, healthy diet, and increased health awareness to prevent these dermatoses. It also highlights the significance of maintaining personal hygiene and cleanliness.

In conclusion, this study provides valuable insights into the prevalence and patterns of various dermatoses in pediatric patients. It emphasizes the need for appropriate care, early detection, and tailored treatment approaches based on age groups. Furthermore, the study underscores the importance of public health measures and hygiene practices to effectively address and prevent these skin conditions in children.

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