

Patterns of Dermatological manifestation in patients attending Pediatric outpatient department

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ABSTRACT

Background: Dermatological manifestations in children contribute to significant morbidity and psychological distress. Children with dermatological problems constitute a major bulk of the patients presenting to the Outpatient department. The study was conducted with an objective to find out the pattern of skin disease among the various pediatric age group. **Method:** We analyzed epidemiological data of 612 patients, aged 1 months to 15 years, who were referred to the Dermatology outpatient from the Pediatric outpatient between 2nd Baisakh 2075 to 31 Chaitra 2076. Demographic data and the frequency of the various diagnoses in various age groups were studied. **Result:** The most common category of diagnosis was infection in 35.78%, followed by allergic reaction in 33.50% and infestations in 14.22%, other dermatosis in 13.07%, while multiple diagnosis was found in 3.43%. Among all diagnostic groups, Scabies was the most common (14.22%) followed by Urticaria (11.92%). **Conclusion:** Comparison of the common dermatosis with the age group showed a strongly significant effect on occurrence of common dermatosis. Their incidence can be brought down by improving nutrition and personal hygiene of children. Health and wellness of school going children reflects the health status of a community. Our study provides a preliminary baseline data for future epidemiological and clinical research.

Keywords: Dermatology, infections, infestations, pediatrics

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INTRODUCTION

Of the total outpatients visit in pediatric facility more than 30% is contributed by dermatological manifestations.^{1,2} Ethnic, socioeconomic, and environmental factors influence their incidence. Chronic skin diseases such as psoriasis, xeroderma pigmentosum, neurofibromatosis are a source of social stigmatization with widespread belief that these problems are contagious and related to impurities in the blood.³ According to the Ministry of Health and population in Nepal, skin manifestations are the cause of morbidity with about 2,700,000 and 2,680,000 outpatient visits of skin disease in 2009 and 2010.⁴ The prevalence of skin disease in children in Western Nepal was found to be at 13.46%.⁵ The pattern of skin diseases is known to differ in different countries of the world and in different region in the country.⁶ The aim of this study was to estimate the incidence rates of pediatric skin diseases in our region that can subsequently serve as reference material for future comparative studies.

METHODS

This was a retrospective study conducted in outpatient units of department of pediatrics at Gandaki Medical College Teaching Hospital, a tertiary care referral hospital situated in Pokhara Metropolitan of Gandaki Province of Nepal. The data from registry of the departments, was reviewed and data of the year 2075 Baisakh to Chaitra 2075 was collected after due ethical clearance from the Gandaki Medical College Institutional Review Committee. The collected data included all the patients visiting the pediatric OPD from the age of one month to 15 years who presented with dermatological disorder and further referred to the department of dermatology for diagnosis and management. The diagnosis was recorded in pediatric OPD. The patients below the age of 1 months were excluded due to the possibility of various birth marks and rashes occurring due to the birthing process and above 15 years of age were not seen in pediatric OPD.

The patients were grouped on basis of gender and into four age group categories as: Infants 1 to 12 months, toddler >1 to 3 years, preschool >3 to 6 years, school going >6 to 12 years and rest as others >12 to 15 years of age. The diagnosis made by the consultant Dermatologist in the department of dermatology was taken into account and the various diagnosis was grouped as infections, Infestations and others dermatosis. The data was analyzed for the demographic variables, and the various statistical tools applied by using SPSS version 25 for Mac (IBM Corp.).

RESULTS

During the period of one year, 612 children were examined for the first time in the department of pediatrics and hence referred to the department of dermatology. Six hundred and twelve patients with various diagnosis, consisted of males 321 (52.5%) and females 291 (47.5%).

Based on the age group, 73 were infants (11.93%), 134 were toddlers (21.90%), 54 were preschoolers (8.82%), 298 (48.69%) were school going and 53 (8.66%) were of the others age group category. Based on the geographical distribution, 404 were from urban area of inhabitation (66%), and 208 were from rural area of inhabitation (34%). Based on different ethnic groups, 154 were Brahmin (25.2%), 78 were Chettri (12.7%), 154 were Dalit (25.2%), 162 were Janajati (26.5), 4 were Muslim (0.7%), 44 were Newar (7.2%) and 16 were others (2.6%) including Marwari, Bengali, Jain.

Table 1 shows the type of dermatitis with the most common being infection (35.78%) followed by allergic reaction (33.5%), infestation (87), other dermatosis (13.07%) and multiple diagnosis (3.43%). The most common type of

infection was Impetigo (Table 2). Table 3 shows the most common type of allergic reaction was urticaria (11.93%). The most common type of dermatitis among other dermatosis was acne (6.7%) (Table 4).

Figure 1 shows the distribution of various dermatosis based on age group. It can be seen that incidence of allergic reactions was most common in infants, followed by infestations and infections. While in the toddlers, allergic reaction was commonest followed by infection, infestation and other dermatosis. In the preschooler age, same pattern was observed except with increase in the incidence of infectious diseases. Among school going and others group of children, infectious disease was the most common followed by allergic reaction, other dermatosis and infestations.

Table 1: Spectrum of dermatosis

Type of diagnosis	Frequency (%)
Infection	219 (35.78)
Allergic Reaction	205 (33.50)
Infestation	87 (14.22)
Other Dermatosis	80 (13.07)
Multiple	21 (3.43)
Total	612 (100)

Table 2: Patient distribution based on different dermatosis (Infections)

Infections	Frequency (%)
Impetigo	21 (3.43)
Abscess	3 (0.49)
Balanitis	2 (0.33)
Cellulitis	2 (0.33)
Candidal Intertrigo	3 (0.49)
Chicken pox	41 (6.70)
Furuncle	3 (0.49)
Herpes Zoster	7 (1.14)
HFMD	19 (3.10)
Molluscum contagiosa	17 (2.78)
Omphalitis	1 (0.16)
Onchomycosis	4 (0.65)
P.alba	11 (1.80)
P. versicular	9 (1.47)
P. rosea	4 (0.65)
Pyoderma	2 (0.33)
T. cruris	13 (2.12)
T. manum	5 (0.82)
T. Pedis	15 (2.45)
T. Capitis	8 (1.31)
T. Corporis	15 (2.45)
T. incognito	4 (0.65)
Veruca plana	3 (0.49)
Veruca vulgaris	3 (0.49)
Vulvo vaginal candidiasis	2 (0.33)
Viral exanthema	2 (0.33)
Total	219 (35.78)

Table 3: Patient distribution based on different dermatosis (Allergic reaction)

Allergic Reaction	Frequency (%)
Angioedema	6 (0.98)
Contact Dermatitis	41 (6.70)
Eczema	31 (5.07)
Palmoplantar Hypersensitivity	3 (0.49)
Pompholyx	1 (0.16)
Pruritis	5 (0.82)
Seborrheic Dermatitis	45 (7.35)
Urticaria	73 (11.93)
	205 (33.50)

Table 4: Patient distribution based of different dermatosis (Other)

Other Dermatoses	Frequency (%)
Acne	41 (6.70)
Alopecia areta	3 (0.49)
Chilblains	3 (0.49)
Eepidermal Naevus	2 (0.33)
Ichthyosis	3 (0.49)
Miliaria	5 (0.82)
Porphyria	1 (0.16)
Post inflammatory hyperpigmentation	2 (0.33)
Post inflammatory hypopigmentation	3 (0.49)
Psoriasis	3 (0.49)
Segmental nevus	3 (0.49)
SLE	1 (0.16)
Tuberous sclerosis	2 (0.33)
Vitiligo	8 (1.31)
Total	80

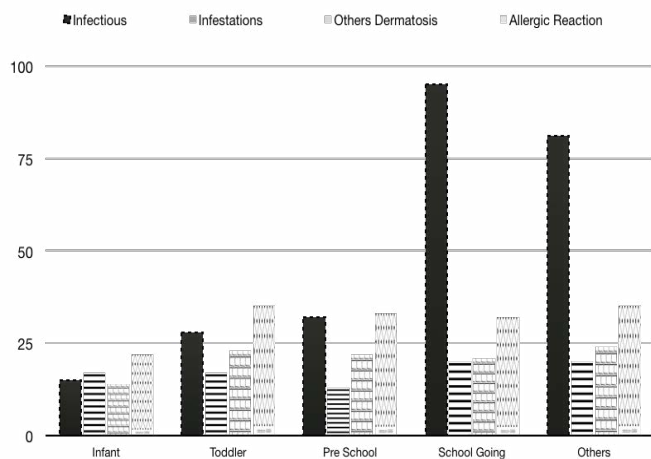


Figure 1: Distribution of various dermatosis based on age group

DISCUSSION

There is a huge gap of epidemiological data in pediatric dermatoses in our region. This retrospective study was done to find out the prevalence of different dermatological manifestations in the pediatric age group in a tertiary care

hospital in Gandaki state of Nepal. We also tried to categorize the various diagnosis based on the age group of the pediatric population also.

Dermatological manifestations have been found to vary from one geographical location to another, one state to another and also among various socioeconomic classes of the individuals also. With the paucity of data in pediatric dermatosis, we have tried to compare our data with various studies done in and around Indian subcontinent as we have multiple similarities socially and culturally. The male : female ratio of 1.1 : 1 was found in our study. This corresponds with the findings of a similar study done in Western Nepal. ⁷ Among the infections the most common was Chicken pox (6.70%) followed by Impetigo n21 (3.43%) which also corresponds to a similar study.⁸

In the allergic reaction group of diagnosis the most common was dermatitis n86 (14.05%) followed by urticaria n73 (11.93%) and eczema n31 (5.07%) which was similar to results as found in other studies of the region.⁸⁻¹² The most common dermatological manifestation observed was comparable to western studies ¹³ rather than to south Asian studies¹⁴, the derivation of majority of our patients were from the urban areas, which could have lead to the similar presentation as the study performed in Kathmandu Nepal.⁸ Among all the diagnosis, infestations still made of a high frequency, scabies was found at n87(14.21%), as the population of our study consisted of both rural and urban population and from various socioeconomic classes, could be a reason for the higher incidence.

The prevalence of scabies ranged from 0.2% to 71.4%.¹⁵ All regions except for Europe and the Middle East included populations with a prevalence greater than 10% which corresponds to findings of our study. The uncommon presentations of the pediatric population were also noted in our study, ie. tuberous sclerosis n2 (0.33%), alopecia areata n3 (0.49%) which was more common in pediatric females as presented by study,¹⁶ SLE n1 (0.16%), porphyria n1 (0.16%) which was not found commonly among the various similar studies, and have a similar prevalence in international studies.¹⁷

Though in most of the studies, be it institution based or community based, the infections and infestations were the main group of dermatoses. The higher frequency of allergic reaction in our study could be due to the large urban population attending our hospital.

CONCLUSION

The present study undertaken shows that there is a higher

prevalence of infectious dermatological manifestations in the school going age, along with a high prevalence of infestations and allergic manifestations distributed throughout the age groups. Their incidence can be brought down by improving nutrition and personal hygiene of children. Health and wellness of school going children reflects the health status of a community. Our study provides a preliminary baseline data for future epidemiological and clinical research.

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