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Original Article

Spectrum of Dermatoses among Paediatric Patients in a Teaching Hospital of Western Nepal

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Abstract

Introduction: Skin problems are fairly common among the paediatric populations. Children upto 14 years are considered as paediatric age group in Nepal and constitute a significant portion of the Nepalese population.

Objective: To document the types of skin disorders seen among children in a hospital setting.

Methodology: It was a retrospective study conducted in children attending the out patients department of the department of dermatology of Gandaki Medical College Teaching hospital, Pokhara, Nepal from May 2010 to April 2011. Children from day 1 to 14 years were enrolled in the study. The patients were grouped into four categories: infants (day1–1 year old); preschool children (2–5 years old); school children (6–10 years old); and adolescents (11–14 years old).

Results: There were a total of 5835 patients and paediatric patients constituted of 707 patients (12%). M: F ratio was 1.04. Majority of the patients were of preschool age (32%). Infants constituted 10% of all the patients. Altogether 84 dermatoses were recorded. They were divided into 13 groups. Infections were the most commonly seen dermatoses that constituted 48% followed by eczema (21%). Urticaria constituted 10% of all cases. Among the infections, bacterial infection was the commonest, followed by fungal, viral and parasitic infection. Bacterial infection constituted 40% of infections followed by fungal, viral and parasitic infestations. Impetigo was predominant among the bacterial infections.

Conclusion: Infectious and allergic skin diseases were the major skin problems among children.

Keywords: Impetigo, Nepal, paediatric dermatoses.

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Introduction

Skin problems are commonest reason for morbidity in Nepal.[1] Some are transitory and require single visit whereas others are chronic and require follow-up visits.[2] Children upto the age of 14 years are considered as paediatric age group in Nepal and constitute more than one third of the total population.[1] Skin problems are fairly common among the paediatric populations. But there is paucity of epidemiological as well as hospital based studies from our part. Hence we do not know the exact burden of skin diseases in the paediatric population in our part.

Objective

The study was conducted to document the types of skin disorders seen among children in a hospital setting in Western Nepal.

Methodology

It was a retrospective descriptive study conducted in children attending the out patients department of the department of dermatology of Gandaki Medical College, Charak Hospital and Research Centre, Pokhara, Nepal from May 2010 to April 2011. Children from day 1 to 14 years were enrolled in the study. The patients were grouped into four categories: infants (day 1–1 year old); preschool children (2–5 years old); school children (6–10 years old); and adolescents (11–14 years old). Statistical analysis was done using SPSS software version 16 for windows.

Results

There were a total of 5835 patients and paediatric patients constituted of 707 patients (12%). M: F ratio was 1.04. Majority of the patients were of preschool age (32%) followed by school aged children, adolescents and infants. Infants constituted 10% of all the patients (figure 1). Altogether 84 dermatoses were recorded. They were divided into 13 groups (Table 1). According to the descending order of prevalence they were infections (48%), eczema (21%), urticaria(10%), pilosebaceous unit disorders(4.2%), pigmentary disorders(3%), papulosquamous disorders(2.7%), sweat gland disorders(2.3%), keratinization disorders(1.8%), naevoid skin conditions(1.7%), deficiency disorders(1%), photodermatoses(0.8%), drug reactions(0.8%), and others(2.1%). Infection was common in preschoolers and eczema among school children (Table 2).

Considering the individual dermatoses, the top ten diseases were impetigo, scabies, urticaria, seborrheic eczema, atopic eczema, tinea capitis, tinea corporis, pityriasis alba, papular urticaria and allergic contact eczema (Table 3). Infections were the most commonly seen dermatoses that constituted 47.8%. Among the infections, bacterial infection was the commonest, followed by fungal, viral and parasitic infections (Table 4). Bacterial infection constituted 40% of infections. Bacterial infection was most common in preschool children, fungal infection in adolescents and parasitic infection in preschool children. Viral infection was of equal prevalence in preschool, school children and adolescents. Viral infection was of low prevalence in infants (Table 4). Among the bacterial infection, impetigo constituted most of the cases followed by furunculosis, both of them most common in the preschool children (Table 5). There was only one case of leprosy.

The most common type of eczema was seborrheic eczema followed by atopic eczema, pityriasis alba, allergic contact eczema and irritant contact eczema. Seborrheic eczema and atopic eczema predominated in the preschool children, pityriasis alba in the adolescents and contact eczema in the school children. There were no cases of contact eczema in infants (Table 6).

Acne constituted 4.2% of all the disorders, most prevalent in the adolescent age group. Among the dermatoses in adolescents, acne constituted of 11%. It was 1.5 fold higher in females (Table 7).

Urticaria constituted 10% of all cases. Papulosquamous disorders were mainly observed in the adolescents and school children. They

constituted of psoriasis, lichen planus and pityriasis rosea. Sweat gland disorder mainly constituted of miliaria and hyperhidrosis. Miliaria was observed mostly in infants. Deficiency disorders included cases of acrodermatitis enteropathica and riboflavin deficiency. Drug reaction was noted high in adolescents, low in preschool and school aged children. There was no case of drug reaction in infants.

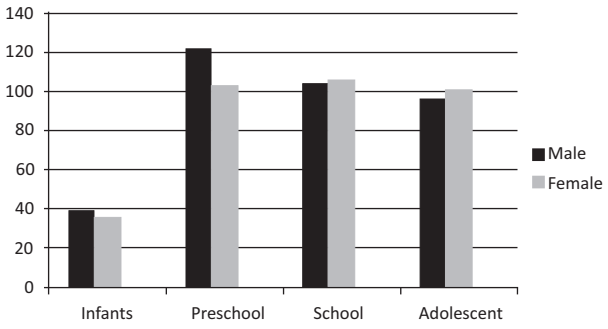

Table 1: Frequency of paediatric dermatoses.

Diagnosis	Frequency	percent
Infections	338	47.94
Eczema	153	21.49
Urticaria	71	10
Pilosebaceous unit disorders	30	4.2
Pigmentary disorders	21	3
Papulosquamous disorders	19	2.7
Sweat gland disorders	16	2.3
Keratinization disorders	13	1.8
Naevoid conditions	12	1.7
Deficiency disorders	7	1
Photodermatoses	6	0.8
Drug reaction	6	0.8
Others	15	2.1
Total	707	100

Table 2: Dermatoses in different age groups.

Diagnosis	Infants	Preschool children	School children	adolescents
Drug reaction	0	1	1	4
Eczema	18	45	47	42
Infections	40	129	96	74
Keratinisation disorders	1	1	4	7
Naevoid conditions	2	4	4	2
Others	0	6	3	6
Papulosquamous disorders	0	1	9	9
Photodermatoses	1	0	1	4
Pigmentary disorders	1	4	8	8
Pilosebaceous unit disorders	1	2	5	22
Sweat gland disorders	6	5	4	1
Urticaria	2	27	27	15
Vitamin deficiency	3	0	1	3
Total	75	225	210	197

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Table 3: Top ten paediatric dermatoses.

Diagnosis	Frequency	Percent
Impetigo	108	15.3
Scabies	45	6.4
Urticaria	42	5.9
Seborrheic eczema ato	29	4.1
Atopic eczema	28	4
Tinea capitis	26	3.7
Tinea corporis	25	3.5
Pityriasis alba	22	3.1
Papular urticaria	21	3
Allergic contact eczema	21	3

Table 4: Types of infections in different age groups.

Infections	Infants	Preschool Children	School Children	Adolescents	Total
Bacterial	16	74	36	8	134
Fungal	12	19	28	35	94
Parasitic	10	15	10	10	45
Viral	2	21	21	21	65

Table 5: Types of bacterial infections in different age groups.

Bacterial	Infants	Preschool children	School diseases	Adolescents
Impetigo	14	60	30	4
Furunculosis	0	7	2	1
Ecthyma	1	1	2	1
Abscess	0	5	1	0
Folliculitis	1	1	0	1
Cellulitis	0	0	1	0
Total	16	74	36	7

Table 6: Types of eczema in different age groups.

Types of eczema	Infants	Preschool children	School children	Adolescent	Total
Seborrheic eczema	7	13	6	3	29(19%)
Atopic	6	13	3	6	28(18%)
Pityriasis alba	2	1	7	12	22(14%)
Allergic contact	0	1	12	8	21(14%)
Irritant contact	0	4	10	4	18(12%)
Infective	2	5	4	0	11(7%)
Pompholyx	0	3	2	1	6(4%)
Others	0	6	4	8	12(8%)
Total	17	46	48	42	153

Table 7: Genderwise distribution of paediatric dermatoses

Dermatoses	Male	Female
Infections	185	153
Eczema	71	82
Urticaria	47	24
Pilosebaceous unit disorders	12	18
Pigmentary disorders	9	12
Papulosquamous disorders	7	12
Sweat gland disorders	8	8
Keratinization disorders	5	8
Naevoid conditions	3	9
Deficiency disorders	5	2
Photodermatoses	2	4
Drug reaction	1	5
Others	6	9
Total	361	346

Discussion

Dermatological problems constitute at least 30% of all outpatient visits to a paediatrician and 30% of all visits to a dermatologist involve children.[3,4] A study of the nutritional status of 818 school children in Nepal identified skin disease in 20 %.[5] A survey conducted in five villages in rural Nepal has demonstrated a very high point prevalence (62.2%) of skin disease.[6] A large study of skin disease in 12,586 schoolchildren from the northern city of Chandigarh demonstrated a prevalence of 38.8%.[7] A community survey conducted in south London in the U.K. identified skin disease that warranted medical treatment in 22.5% of people.[8] A school-based survey of skin disease in Romania found a very similar rate of skin disease of 22.8%.[2]

The pattern of skin diseases in children is very much influenced by climate, external environment, dietary habits and socioeconomic status.[9] Infections were the most common dermatoses in half of our children followed by eczema and dermatitis similar to findings of other authors.[10,11] Bacterial infections predominated followed by fungal, viral and parasitic in our study. Bacterial infections mainly impetigo and furuncle falls among the top ten diseases accounting for morbidity in Nepal.[1] Bacterial infections, similarly, preceded other infections in India, Egypt whereas parasitic infections mainly scabies came first in Pakistan, and viral infections prevailed in Kuwait, Turkey and Switzerland.[10,12,13-16]

Nepal is endemic for leprosy. But there was only one case of leprosy which may be due to the concentration of leprosy cases in specialized centre for leprosy. In many developing countries, where malnutrition, overcrowding, and poor sanitation are prevalent, infections and ectoparasitic skin diseases such as scabies and pediculosis are common.[17] Some studies from Ethiopia, Kuwait, and Switzerland reported predominance of allergic dermatoses over infections reflecting efficient control of transmissible dermatoses.[18,14,16]

A study conducted in school children in Sudan highlighted that eczema was more common among the children from families with a higher income and education whereas those with low socioeconomic status, infection was more prevalent.[19]

Eczemas, including atopic dermatitis, have a higher prevalence in developed countries, being influenced by socioeconomic and environmental factors such as excessive hygiene, carpets, and central heating.[17] Our prevalence rate of eczema was 21.5%. The point prevalence of eczemas/dermatitis was 6.5% in another study.[7] Prevalence rate of 11.4–22.3% have been reported in the population surveys performed in Western countries.[10] The commonest type of eczema noted in our study was seborrheic eczema followed by atopic eczema. Other studies have reported atopic eczema to be the commonest type of eczema in children. [13,14,18]

Acne constituted 4.2% of all the disorders, most prevalent in the adolescent age group. Acne was the third common disorder after infections in the adolescents, which is usual after the onset of puberty due to the influence of androgens on the

pilosebaceous unit. Acne was prevalent in 25% of adolescent in previous study.[15] The higher prevalence of acne in female patients may be due to the increased concern of cosmesis to the patients and their parents.

The diseases which had very low prevalence were grouped as others. They included cases of leucocytoclastic vasculitis, bullous diseases, pityriasis lichenoides, lipoma, connective tissue diseases and urticaria pigmentosa.

Conclusion

Infectious and allergic diseases are the major skin problems among children. Strategies to improve the socioeconomic conditions along with health education may be needed to decrease the prevalence of these infectious dermatoses.

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