

Clinico-epidemiological study of pattern of dermatoses among patients of pediatric age group in tertiary health Centre - A cross-sectional study

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Abstract

Background: Skin diseases are a major health problem in the pediatric age group. Due to the thin delicate skin and greater ratio of skin surface area to body volume, pediatric age group is more at risk for various skin conditions. Dermatological problems constitute at least 30% of all outpatient visits to a pediatrician and 30% of all visits to a dermatologist involve children

Objective: The aim of this study was to determine the pattern of various dermatoses among children of the age group 0–18 years in a tertiary health Centre.

Methods: A cross-sectional study was conducted over 4 months. Children of the age 0–18 years attending the outpatient department were included. A detailed history of the patient including name, age, sex, family history and past history were taken. Patients were divided into

four subgroups: 0–1 year – Birth to infant, 1–7 years – Mid-childhood, 8–12 years – Preadolescent 13–18 years – Adolescent

Results: A total of 400 patients were included. Range of age group was 0–18 years. This study included 260 males and 140 females. The patients were further divided into the age group of 0–1 year, 1–7 years, 8–12 years, and 13–18 years.

The most prevalent dermatoses in 0–1 year age group were eczematous disorders (27.08%). Viral infections were predominant (30.1%) in the age group of 1–7 years. Scabies (24.7%) was the most common dermatoses in the age group of 8–12 years and in the age group of 13–18 years disorders of sweat and sebaceous glands (28.9%) was the most common

Conclusion: This study demonstrates different types of dermatoses among pediatric patients according to their age group which helps pediatricians and dermatologists in their practice.

A detailed knowledge about the pattern of pediatric dermatoses in each geographic area will help us in implementing essential changes in health education, disease control, and preventive strategies in the area concerned.

Keywords: Pediatric dermatoses, infection, children, pattern,

Introduction

Pediatric dermatology deals with diseases and skin care requirements in individuals from birth to adolescence, a relatively short period in lifetime where significant psychological and maturity changes take place. Skin which covers entire body consists of around 16% of entire body weight. Due to thin delicate skin and greater ratio of skin surface area to body volume, pediatric age group is at higher risk for various skin conditions. Many

earlier studies have also attributed to increased frequency among this age group to their personal habits, socioeconomic status and the geographical effect of their places.¹

Various dermatoses of pediatric population are reported with the incidence from 9% to 37% all over the world.² Psychological impact may be associated with the chronic and severe diseases. Dermatological problems constitute at least 30% of all outpatient visits to a pediatrician and 30% of all visits to a dermatologist involve children.³ Adolescents may also have a tendency not to seek medical care and depend on local remedies or commercially available products.

Common skin conditions among adolescents include acne vulgaris, seborrheic dermatitis, pityriasis versicolor, hyperhidrosis, bromhidrosis, psoriasis and atopic dermatitis.⁴

Objective

The aim of this study was to determine the pattern of various dermatoses among children of the age group 0–18 years in a tertiary health Centre.

Methodology

Patients satisfying both inclusion and exclusion criteria were recruited irrespective of sex. The cross-sectional study was carried out in the Department of Dermatology, Venereology, and Leprosy of Hassan Institute of Medical Sciences, between August 2022 to November 2022. 400 children of the age 0–18 years attending the outpatient department were included. A detailed history of the patient including name, age, sex, family history and past history were taken.

All the necessary general, cutaneous, and systemic examination with relevant laboratory investigations were done.

Skin biopsy was taken wherever it was needed. Patients were divided into four subgroups

0–1 year: Birth to infant

1–7 years: Mid-childhood

8–12 years: Preadolescent

13–18 years: Adolescent

Pediatric dermatoses were categorized into 18 groups of diseases, and data were recorded on predesigned proforma as follows: Bacterial, viral, fungal, parasitic, eczematous, papulosquamous, vesiculobullous, sweat and sebaceous, nutritional, nevoid, keratinization, connective tissue/collagen, vascular, pigmentary, hair, nail, hypersensitivity, vascular malformation

Results

In this study, 400 pediatric patients of age 18 and below were included. Of them, 260 (65%) were males and 140(35%) females (chart: 1). The age group 1-7 years constituted highest proportion of pediatric patients 156(39%) (chart:2). Overall, non-infectious diseases (54.5%) were more common than infectious diseases (45.5%)[Charts 3].

In the infectious diseases, scabies was 20.3%, followed by molluscum contagiosum 11.5% and tinea corporis 10.4%(Chart:5). Of the noninfectious diseases, insect bite reaction was 11% followed by atopic dermatitis which was 10.1% (Table:1). In the 0–1 year age group, most common dermatoses were eczematous disorders which was 27.08%.

In the age group of 1–7 years, maximum cases reported were viral infections 30.1%, parasitic infestations 24.7% were the most common in the age group of 8-12 years and in the age group of 13–18 years, sweat and sebaceous disorders, 28.9% was the most common (Table:2)

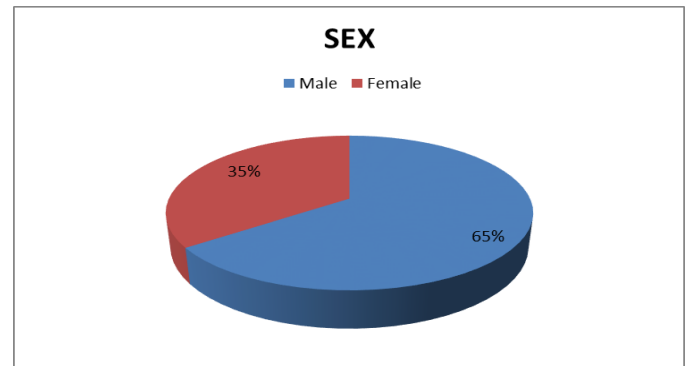


Chart 1: Gender-wise distribution

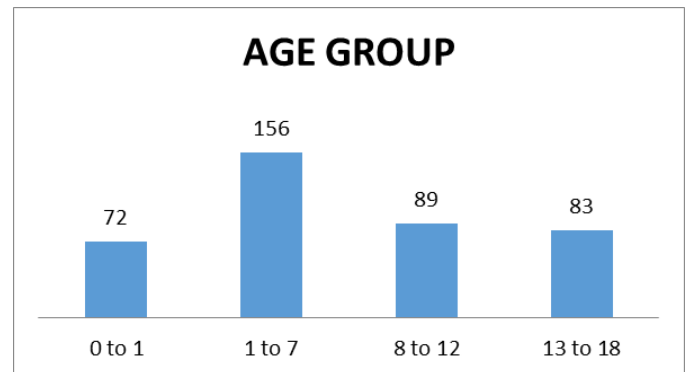


Chart 2: Age-wise distribution

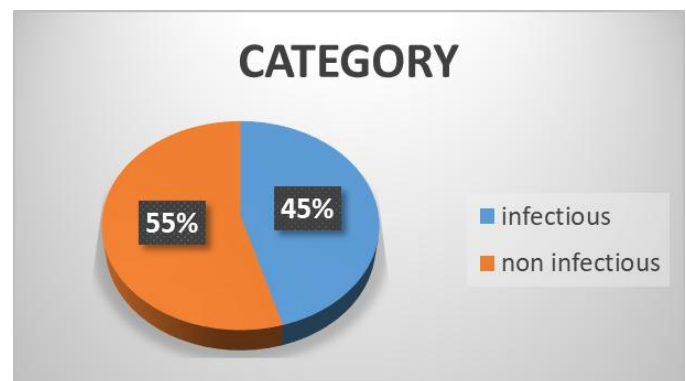


Chart 3: Distribution of diseases

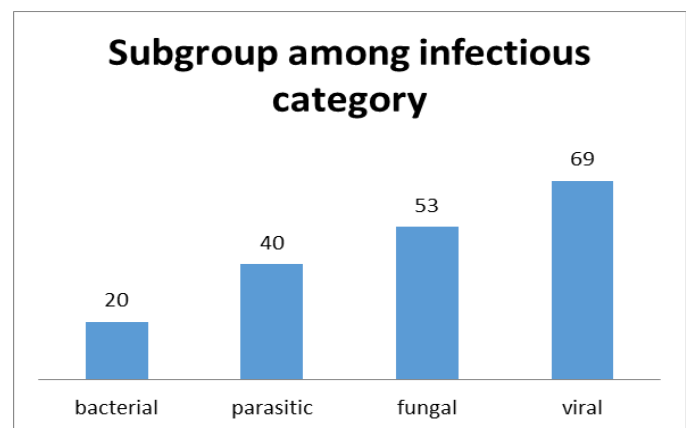


Chart 4: Infectious diseases

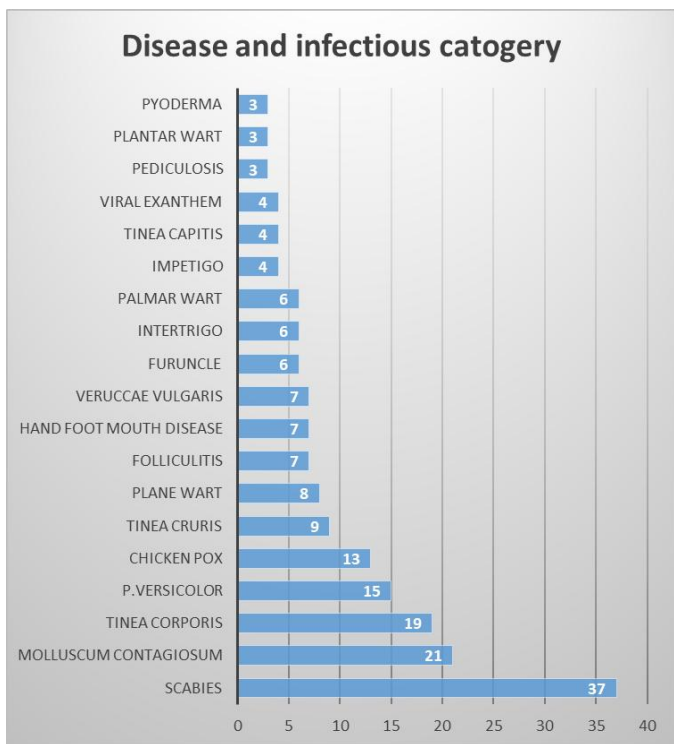


Chart 5: Infectious diseases distribution.

Non-infectious		%
Bullous disorder (0.5%)	Epidermolysis bullosa simplex	100.0
Connective tissue disease 5(2.3%)	Keloid	60.0
	Morphea	40.0
Eczematous 49(22.5%)	Atopic dermatitis	40.8
	Hand eczema	4.1
	P.alba	22.4
	Seborrheic dermatitis	32.7
Hair 11 (5.1%)	Alopecia areata	45.5
	Premature canitis	54.5
Hypersensitivity 43 (19.7%)	Insect bite reaction	55.8
	Papular urticaria	14.0
	Urticaria	30.2
Keratinisation 10 (4.6%)	Acquired ichthyosis	30.0
	Colloidon baby	10.0
	Keratolysis exfoliata	60.0
Nail 3 (1.4%)	Trachonychia	100.0
Nevoid 11 (5.0%)	Congenital hairy melanocytic nevi	9.1

	Nevus depigmentoses	63.6
	Nevus of ota	9.1
	Verrucous epidermal nevus	18.2
Nutritional 11 (5.0%)	Angular chelitis	54.5
	Phrynoderma	45.5
Papulosquamous 21 (9.6%)	Lichen nitidus	9.5
	Lichen planus	47.6
	Lichen striatus	14.3
	Psoriasis	28.6
Pigmentary 13 (6.0%)	Freckles	30.8
	Lentigenes	15.4
	Vitiligo	53.8
Sweat and sebaceous 37 (17.0%)	Acne	51
	Miliaria	48
Vascular 3 (1.4%)	Hemangioma	33.3
	Pyogenic granuloma	66.7

Table 1: Noninfectious disease distribution

Sub category	Age				Total
	0 - 1	1 - 7	8 - 12	13 -18	
Bacterial	8.3%	3.2%	6.7%	3.6%	5.0%
Bullous disorder	0.0%	0.0%	1.1%	0.0%	0.3%
Connective tissue disease	0.0%	0.0%	2.2%	3.6%	1.3%
Eczematous	27.8%	9.6%	11.2%	4.8%	12.3%
Fungal	20.8%	11.5%	10.1%	13.3%	13.3%
Hair	1.4%	0.6%	4.5%	6.0%	2.8%
Hypersensitivity	22.2%	9.6%	6.7%	7.2%	10.8%
Keratinization	1.4%	5.8%	0.0%	0.0%	2.5%
Nail	0.0%	0.6%	2.2%	0.0%	0.8%
Nevoid	5.6%	4.5%	0.0%	0.0%	2.8%
Nutritional	0.0%	5.8%	2.2%	0.0%	2.8%
Papulosquamous	0.0%	7.7%	6.7%	3.6%	5.3%
Parasitic	5.6%	6.4%	24.7%	4.8%	10.0%
Pigmentary	0.0%	0.0%	5.6%	9.6%	3.3%
Sweat and	4.2%	3.8%	4.5%	28.9%	9.3%

sebaceous					
Vascular	0.0%	0.6%	2.2%	0.0%	0.8%
Viral	2.8%	30.1%	9.0%	14.5%	17.3%

Table 2: Distribution of dermatoses according to age groups

Discussion

Skin manifestations in the pediatric age group causes significant morbidity, thus forming major health problems. They can be transitory, recurrent, or chronic.

The pattern of pediatric dermatoses depends on various factors such as climate, culture, environment and place. Infants are mostly restricted to their home environment, whereas other age group children come in contact with their surroundings and neighborhood.

Overall, non-infectious diseases (54.5%) were more common than infectious diseases (45.5%). Most of the patients were in the age group 1-7 years. Amongst that, most common dermatoses were viral infections.

Among infectious disorders, viral infections were the most common, which were 17.3% followed by fungal infections 13.3%, parasitic infestations were 10% and bacterial infections were 5% whereas the study done by Sacchidanand et al⁵, showed viral infection 34.1%, followed by bacterial 23%, parasitic infestations 22.03% and fungal infections 19.8%. Out of the viral infections, molluscum contagiosum was predominant, with 30.4% followed by varicella zoster 18.8%. The findings were similar to the study done by Karthikeyan et al⁶ which showed molluscum contagiosum predominant, 56% followed by varicella zoster with 8.3%. Tinea corporis was the most common fungal infection 35.8%, followed by pityriasis versicolor with 28.3%. Among parasitic infestations, scabies was the most common which showed 90%. This was similar to the study of Balai et al⁷, which showed 88%. Among bacterial infections,

folliculitis was the most common 35.1%, followed by furuncle 30.1%. Overall, in the infectious diseases, scabies was 20.3% followed by molluscum contagiosum 11.5% and tinea corporis with 10.4%.

Among noninfectious dermatoses, most common were eczematous group of disorders 22%, followed by hypersensitivity dermatoses 19.7% and sweat and sebaceous disorders 17%. Among the eczematous group of diseases, atopic dermatitis (40.8%) was found to be predominant, followed by seborrheic dermatitis (32.7%) and P.alba(22.4%). The pattern of incidence of eczematous dermatoses were similar in the study done by Wenk and It in et al⁸ which showed atopic dermatitis (33.5%) to be predominant. Among hypersensitivity dermatoses, most common was insect bite reaction which was 55.8% followed by urticarial 30.2%. Sweat and sebaceous gland disorders constituted 9.25% of dermatoses during this study period. Acne was the most common among them with prevalence rate of 12.75%. In the study done by Venkata Subba Reddy et al⁹, the prevalence rate of acne was 5.6%, which was most common among sweat and sebaceous disorders. Of the noninfectious diseases, insect bite reaction was the most common 6% followed by atopic dermatitis 5% and acne vulgaris 4.75%. Our study duration extended through both rainy and winter season. This explains the higher prevalence of insect bite reaction and atopic dermatitis in our study.

Our present study showed 2.75% of nutritional dermatoses, which was similar to Karthikeyan et al.'s⁶ study 2.8%. Out of the nutritional disorders, angular cheilitis (54.5%) and phrynoderma (45.5%) were the most common. Out of the Papulosquamous disorders, lichen planus was the most common dermatoses 47.6% followed by psoriasis vulgaris which was 28.6%. The

frequency of psoriasis was less than the study done by Rao et al.¹⁰ and Mostafa et al.¹¹ This can be explained as different total number of patients attending OPD may affect the outcome.

Pigmentary disorders constituted 3.25% of which vitiligo was 53.8%. Sacchidanand et al⁵ reported that pigmentary disorders constituted 5.81% and Karthikeyan et al⁶ reported 5.7%.

Our study brings into light the unique features of tropical pediatric dermatology such as high frequency of dermatoses like infections and infestations, nutritional disorders and environment associated disorders (insect bite reaction and miliaria). We would like to highlight the fact that many of these dermatoses can be controlled by proper sanitation, improving nutrition.

Conclusion

The present study was done to determine the characteristic clinical pattern and prevalence of pediatric dermatoses. Our study demonstrates different types of dermatoses among pediatric patients according to their age groups. The pattern of dermatosis is due to influencing factors such as hygiene, environmental and socio-economic. This information should will help to raise the awareness of pediatricians and dermatologists regarding the most common dermatological diagnosis in the patient population. A proper knowledge about the pattern of pediatric dermatoses in each geographic area will help us in implementing essential changes in health education, disease control, and preventive strategies in the area concerned.

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