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A Clinical Study of Pattern of Dermatoses in Pediatric Age Group Attending Dermatology Outpatient Department in a Tertiary Care Hospital

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ABSTRACT
In children, a wide variety of primary skin conditions can be observed, and skin is frequently an indicator of underlying systemic diseases and genetic abnormalities. Research indicates that up to 30% of patients visiting the pediatric outpatient department have skin issues. Due to variations in economic condition, literacy rates, sanitation standards and illness awareness, cutaneous dermatoses in the pediatric age group exhibit distinct patterns that vary by state and nation. Patients of pediatric age group attending dermatology OPD was examined thoroughly including general physical, systemic and dermatological examinations and all the details was recorded after obtaining Informed consent from the parent or guardian. All the observations was recorded in a pre-set Proforma in each case. In our study, out of 400 patients, 216 patients (54%) had non-infectious disorders and 184 patients (46%) had infectious disorders. Out of 184 subjects with infections and infestations, fungal infections were the most common 55 patients (29.89%), followed by viral infections and parasitic infestations 51 patients (27.71%), followed by bacterial infections 27 patients (14.67%).

INTRODUCTION

In the pediatric age group, skin disorders are a serious health concern that place a substantial financial burden on the healthcare system. A range of infectious and noninfectious diseases affect the paediatric age group's skin and these conditions may be impacted by social, cultural, racial, regional and economic variables[1]. The main contributing causes to the increase in skin diseases in impoverished nations such as India include overpopulation, inadequate hygiene standards and malnutrition. A society's level of hygiene and health can be assessed by looking at the frequency of specific skin conditions in the local youngsters[2,3]. In children, a wide variety of primary skin conditions can be observed and skin is frequently an indicator of underlying systemic diseases and genetic abnormalities. Research indicates that up to 30% of patients visiting the pediatric outpatient department have skin issues. Due to variations in economic condition, literacy rates, sanitation standards and illness awareness, cutaneous dermatoses in the pediatric age group exhibit distinct patterns that vary by state and nation[4]. Skin disorders in Children can spread quickly among themselves because of their close contact, but they can be avoided by giving kids, parents and teachers appropriate health information. The dermatologist may be able to determine underlying systemic disease and improve patient management by looking closely at the location and distribution of lesions[5]. Acute or chronic dermatological problems in children, may or may not be associated with other systemic illness. The prevalence of dermatological disorders in the population will be ascertained through research on patients hospitalized for systemic illnesses, even if hospitalizations primarily for skin conditions are less common. Assessing and monitoring of cutaneous abnormalties can enhance the precision of the diagnosis, leading to better treatment for the patient. Furthermore, understanding the trends in dermatological disorders will enhance patient care and satisfaction[6].

MATERIALS AND METHODS

Study Site: Outpatient department of dermatology, venereology and leprosy.

Duration of Study: 24months.

Study Subject: Patients aged 0-18 years attending dermatology OPD.

Sampling Method: Purposive sampling.

Study Design: Cross sectional descriptive study.

Sample Size: The required minimum sample size to conduct the study is 370.

Inclusion Criteria: All children aged 0-18 years attending dermatology OPD and ready to participate in study after consent from parents.

Exclusion Criteria: Patients whose parents are not giving consent and patients who are not willing to participate in the study.

Methods and Collection of Data:

- Patients of pediatric age group attending dermatology OPD was examined thoroughly including general physical, systemic and dermatological examinations and all the details was recorded after obtaining Informed consent from the parent or guardian. All the observations was recorded in a pre-set Proforma in each case.
- Investigations such as complete blood count, for fungal infections-examination of scrapings for fungus, for bacterial infections-pus swabs for culture and smears from pustules for Gram staining and punch biopsy for histopathology was performed wherever they are required.

RESULTS AND DISCUSSIONS

Table 1: Pattern of Distribution of Dermatoses among Study Subjects

Dermatoses	Frequency	Percent (%)
Infections and Infestations	184	46
Non Infectious Disorders	216	54
Total	400	100

In our study, out of 400 patients, 216 patients (54%) had non-infectious disorders and 184 patients (46%) had infectious disorders.

Table 2: Distribution of Infections and Infestations among Study Subjects

	Frequency	Percent (%)
Bacterial infections	27	14.67
Fungal infections	55	29.89
Viral infections	51	27.71
Parasitic infestations	51	27.71
Total	184	100

Out of 184 subjects with infections and infestations, fungal infections were the most common 55 patients (29.89%), followed by viral infections and parasitic infestations 51 patients (27.71%), followed by bacterial infections 27 patients (14.67%).

Table 3: Distribution of Non-Infectious Disorders Among Study Subjects

	Frequency	Percent (%)
Dermatitis	113	52.31
Sweat and sebaceous gland disorders	37	17.12
Hypersensitivity disorders	36	16.66
Keratinization disorders	1	0.46
Nutritional disorders	7	3.24
Papulosquamous disorders	7	3.24
Pigmentary disorders	14	6.48
Others	1	0.46
Total	216	100

Among Non-infectious disorders, Dermatitis was the most common 113 patients (52.31%), followed by Sweat and Sebaceous gland disorders 37 patients (17.12%), Hypersensitivity disorders 36 patients (16.66%) and Pigmentary disorders 14 patients (6.48%).

Table 4: Distribution of Bacterial Infections in Study Subjects

Bacterial infections	Number	Percentage	Percentage in overall study subjects
Bullous impetigo	20	74.07	5
Folliculitis	1	3.70	0.25
Furuncle	1	3.70	0.25
Non bullous impetigo	4	14.81	1
Pitted keratolysis	1	3.70	0.25
Total	27	100	6.8

Among Bacterial infections, Bullous impetigo 20 patients (74.07%) and Non- Bullous impetigo 4 patients (14.81%) were the most common.

Table 5: Distribution of Fungal Infections Among Study Subjects

Fungal infections	Number	Percentage
Pityriasis versicolor	13	23.63
Tinea capitis	9	16.36
Tinea corporis	6	10.90
Tinea facei	1	1.81
Tinea cruris	26	47.27
Total	55	100

Among Fungal infections, Tinea cruris 26 patients (47.27%) and Pityriasis versicolor 13 patients (23.63%) were the most common.

Table 6: Distribution of Viral Infections among Study Subjects

Viral infections	Number	Percentage
Hand foot mouth disease	12	23.52
Molluscum contagiosum	8	15.68
Palmar wart	7	13.72
Plantar wart	3	5.88
Varicella	8	15.68
Viral exanthem	4	7.84
Plane wart	9	17.64
Total	51	100

Among Viral infections, Hand foot mouth disease 12 patients (23.52%) and Plane warts 9 patients (17.64%) were the most common followed by Molluscum Contagiosum and Varicella 8 patients (15.68%).

Table 7: Distribution of Parasitic Infestations among Study Subjects

Parasitic Infestations (12.8%)	Number	Percentage
Scabies	50	98.03
Pediculosis	1	1.96
Total	51	100

Among parasitic infestations, scabies was the most common 50 patients (98.03%). In Non-infectious disorders, Among Dermatitis, Atopic dermatitis was the most common disorder 45 (39.82%), followed by seborrheic dermatitis 27 patients (23.89%). Among sweat and sebaceous gland disorders, acne vulgaris 29 patients (78.37%) was the most common followed by miliaria rubra 6 patients (16.21%). Among hypersensitivity disorders, papular urticaria was the most common 19 patients (52.77%) followed by acute urticaria 17 patients (47.22%). Among pigmentary disorders, acral vitiligo and vitiligo vulgaris was the most common 5 patients (35.71%).

RESULTS AND DISCUSSIONS

In our study, Non-infectious disorders were the most common, comprising about 54%. This is identical to 57.4% reported by Jose[7] and 58% reported by Kohli[8]. On the contrary, infections and infestations were the most common dermatoses in studies by Sacchidanand[9]. (32.47%) and Nithya sathish[10] (39%). Out of infectious dermatoses, fungal infections were predominant (13.8%) followed by viral infections and parasitic infestations (12.8%), followed by bacterial infections (6.8%). Similarly, Yogesh Poudyal[11]. In his study reported fungal infections to be more common, while viral infections out-numbered bacterial and fungal infections in a study by Iffat Hassan[12]. The variation among infective dermatoses can possibly be attributed to the region of study, prevalent environmental factors, type of population studied and hygiene and nutritional status. Bullous impetigo 20 patients (74.07%) and Non-Bullous impetigo 4 patients (14.81%) were the most common bacterial infections. A study by Ritu Gujarati[13]. Found impetigo to be the commonest bacterial infection (59.59%), followed by scalp folliculitis (13.13%). Out of fungal infections, Tinea cruris 26 (47.27%) and Pityriasis versicolor 13 (23.63%) were the most common, which is similar to studies by S. Saini[14] and I Podder[15]. Hand foot mouth disease 12 (23.52%) was the most common viral infection in our study, followed by plane warts 9 (17.64%), Molluscum contagiosum and Varicella 8 patients (15.68%). However, Nagarajan[16] found that Varicella (24., 6%) molluscum contagiosum (16., 4%) and hand, foot and mouth disease (HFMD) (16., 4%) were the most common viral diseases Scabies was the most common cause of skin disorders in the present study and the most common infestation (12.5%) comparable to Podder[15]. Study (17.3%). This may be explained by its contagious nature, congested and unhygienic living conditions. In this study, incidence of Pediculosis Capitis was 0.3%. Dermatitis was the most common non-infectious disorder 113 patients (52.3%). Other non-infectious disorders, in order included, Sweat and Sebaceous gland disorders 37 patients (17.2%), hyper sensitivity disorders 36 patients (16.66%), Pigmentary disorders 14 patients (6.48%). Among dermatitis, Atopic dermatitis was found to be the most common 45 patients (39.82%), Seborrheic dermatitis 27 patients (23.89%), Pityriasis alba 21 patients (18.58%), followed by Diaper dermatitis 8 patients (7.07%). Balai[2] observed pattern of eczematous disorders to be the commonest dermatoses. Similar to our study, Atopic dermatitis was the commonest (198., 55.31%) followed by Seborrhoeic dermatitis (60., 16.76%) and Pityriasis alba (29., 8.10%). Among Sweat and Sebaceous gland disorders, Acne vulgaris 29 patients (78.37%) was the most common, followed by, Miliaria rubra 6 patients (16.21%) and Miliaria crystallina 2 patients (5.40%). Papular urticaria 19 patients (52.77%) was the most common hypersensitivity disorder followed by acute urticaria 17 patients (47.22%).

Table 8: Distribution of Non Infectious Diseases among Study Subjects According to Diseases

Dermatoses	Total	Percentage %	Diseases	Frequency	Percentage%
Dermatitis	113	28.30%	Atopic dermatitis	45	39.82%
			Seborrheic dermatitis	27	23.89%
			Pityriasis alba	21	18.58%
			Allergic contact dermatitis	5	4.42%
			Diaper dermatitis	8	7.07%
			Irritant contact dermatitis	1	0.88%
			Photodermatitis	1	0.88%
			Pmle	1	0.88%
			Pompholyx	1	0.88%
			Perioral dermatitis	1	0.88%
			Angular cheilitis	1	0.88%
			Lip lick dermatitis	1	0.88%
Sweat and sebaceous disorders	37	9.30%	Acne vulgaris	29	78.37
			Miliaria crystallina	2	5.40
			Miliaria rubra	6	16.21
Hypersensitivity disorders	36	9	Acute urticaria	17	47.22
			Papular urticaria	19	52.77
Keratinization disorders	1	0.3	Ichthyosis vulgaris	1	100
Nutritional disorders	7	1.8	Phrynoderma	7	100
Papulosquamous disorders	7	1.8	Pityriasis rosea	4	57.14
			Psoriasis vulgaris	1	14.28
			Lichen nitidus	1	14.28
			Lichen striatus	1	14.28
Pigmentary disorders	14	3.5	Acral vitiligo	5	35.71
			Vitiligo vulgaris	5	35.71
			Mucosal vitiligo	3	21.42
Hypopigmentation	1	7.14	Post inflammatory		
Others	1	0.3	Infantile hemangioma	1	100

Out of Pigmentary disorders, Acral vitiligo and Vitiligo vulgaris 5 patients (35.71%) were the most common, followed by Mucosal vitiligo 3 patients (21.4%) and Post inflammatory hypopigmentation 1 patient (7.14). Phrynoderma was the most common nutritional disorder and Pityriasis rosea was the most common papulosquamous disorder.

CONCLUSION

- The Prevalence of non-infectious dermatoses was the highest with prevalence of 54% compared to 46% of infectious dermatoses.
- Among non-infectious dermatoses, prevalence of Atopic dermatitis was 11.25% followed by acne vulgaris 7.25%.
- Among infectious dermatoses, prevalence of fungal infections was 13.75%, Viral and Parasitic dermatoses was 12.75% and Bacterial dermatoses was 6.75%.

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