Original Article

The Prevalence Pediatric Patients Attending in A Tertiary care Hospital in Dhaka, Bangladesh

Alam MN[1*], Husain MA[2]

ABSTRACT

Introduction
The incidence of skin conditions in young people typically varies between nations and within a single nation's regions based on social, economic, racial, and environmental factors. A significant public health issue is the morbidity that skin diseases cause in children. There is a dearth of research on this pediatric issue in our nation, which is either centered on a condition, a community, or a particular population group.

Objective
To evaluate the dermatological complaints of the pediatric patients attending a dermatology outpatient department in a tertiary care hospital.

Materials And Methods
We retrospectively analyzed a total of 2472 pediatric patients who were in age range 0-18 years and came to the OPD of dermatology & venereology department of Ibn Sina Medical College Hospital, Dhaka, Bangladesh, over a period of 1½ year from January, 2020 to June, 2021. Data were collected on special proforma and analyzed with appropriate method.

Results
Among 2472 patients 1157 (46.8%) were male and 1315 (53.2%) were female and most of the patients belonged to the age group 12-18 year (52.6%). Male female ratio was 0.88:1. All diseases were broadly classified into noninfectious (71.2%) and infectious dermatoses (28.8%). Dermatitis (38.9%), infections (28.8%) and acne (14.44%) came out to be the top most common cause for OPD attendances. For the specific skin diseases, 20.1% were atopic dermatitis, 14.44% were acne, and 11.8 % were fungal infections. Atopic dermatitis was the most common condition below 12 years of age. In 12-18 years of age group, the most common condition was acne; females were more affected than males. Among the viral infections, wart was the most common (22.1%).

Conclusion
Atopic dermatitis was found to be the most common noninfectious disease and fungal infection was the most common infectious disease in all age groups and genders.

INTRODUCTION

Approximately 30% of youngsters worldwide experience skin conditions. Children's skin issues are treated and diagnosed differently than those of adult patients. There are socioeconomic and environmental factors that influence the prevalence of skin diseases in children. In the country, not many studies have been done in pediatric dermatology.

The aim of this study was to find out the privileges that may be helpful for future comparative studies in this field.

MATERIALS AND METHODS

The retrospective study was conducted at Ibn Sina Medical College hospital, a tertiary care private hospital of Dhaka Bangladesh. We reviewed that data of all patients aged 0 to 18 years who came in dermatology and Venereology OPD from 1st January 2020 to 31st December 2020. Demographic data including age and sex were extracted from the patients' medical records all the diagnosis were made by clinical features and laboratory tests when indicated. All newly diagnosed relapse.

1. Dr. Mohd. Nurul Alam, Associate Professor, Department of Dermatology& Venereology, Ibn Sina Medical College, Dhaka.
2. Dr. Md Anwar Husain, Professor & Head, Department of Dermatology & Venereology, Ibn Sina Medical College, Dhaka.

Correspondence
Dr. Mohd. Nurul Alam, Associate Professor, Department of Dermatology and Venereology, Ibn Sina Medical College & Hospital, Dhaka, Bangladesh.
E-Mail: sumondmc58@yahoo.com

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Patients were grouped according to sex and age as follows: newborns and infants (0-1 years), toddlers and preschoolers (1 to 5 years), school going (6-17 years) radicals, teenagers (12 to 18 years).

Data were collected on special performance and analyzed using appropriate method. Ethical approach was taken from research and Ethics Committee of the international Medical College hospital prior to start this research. The study was approved by the Ethical Review Committee of Ibn Sina Medical College Hospital, Dhaka, Bangladesh.

RESULT

A total of 2,472 paediatric patients were studied over a period of one year of which 1157 (46.8%) were male and 1315 (53.2%) were female. All disorders were broadly classified into noninfective 72.17% (table 1), an infective dermatosis 27.83% (table 2). Disease related prevalence in both genders given in Table 1, Table 2 and in different age groups has been given in Table 3. Figure 1 demonstrates top 10 non-infective dermatoses in study patients. Figure 2 shows the prevalence of infective dermatoses among the study patients. Figure 3 shows the prevalence in different pediatric age & gender groups.

Most common non infective dermatitis were found to be atopic dermatitis 20.1%, acne vulgeris 14.44%, contact dermatitis 6.75%, N.ECs 6.6%, SD4.08% urticurin 4.45%. Among the infective dermatitis fungal infection 11.93%, scabies 5.93% and viral infections 5.86% constituted the top of the list. Maximum number of patients reported in the age group of 12 to 18 years (52.6%) followed by 6 to 11 years (25.8%). Females (53.2%) out-numbered males (46.8%) and the male-female ratio was 0.88:1. The most commonly observed disease groups in the 0-1 age group was AD 2.9%. The most commonly found disease group is the 1-5 years age group included AD 87.3%, fungal infections 1.3%, viral infections 1.33% scabies. 6 to 11 years age group intended AD 5.58% fungal infections, 3.03% viral infections 2%, scabies 2.14%, NE 1.98%, CD 1.4%, P. Alba 1.57%. 12-18 years age group included AV 14.3%, fungal infection 7.3%, CD 4.24%, AD 4.32% NE 3.4% SD 2.39% viral infection 2.22%. Among infectious diseases superficial fungal infection topped the list with 293 subjects (11.8%) and viral infection were found in 74 (2.3%) subjects and parasites infection found in 174 (7.03%).

Among eczemas, Atopic dermatitis was found most commonly (20.1%). Contacts dermatitis, which includes irritant contact dermatitis, allergic contact dermatitis were found with a rate of 6.75%. Among all diseases, whereas nummular eczemas Seborrheic dermatitis (4.0%) Pityriasis allo (3.54%) photo dermatitis (1.2%) was observed in decreasing order. 4.45%of all patients were presented with Urticaria.

Pigmentation disorder were found in 110 subjects and 47 (1.9%) were of Vitiligo and 63 (2.54%) constituted by post inflammatory hyperpigmentation age group. Nevi were observed most commonly in the age group 12-18 years and in girls. Among erythematous and squamous diseases, which were found in 30 patients, Psoriasis (0.8%) and P. rosea (0.4%) were observed most commonly.

Table 1: Prevalence of non-infective dermatoses in different gender group (N=2472).

Diseases	Total		Male		Female	
	No	%	No	%	No	%
Atopic dermatitis	497	20.1	258	10.4	239	9.67
Seborrheic dermatitis	101	4.08	67	2.7	35	1.41
Nummular eczema	165	6.6	54	2.18	111	4.5
Contact dermatitis	167	6.75	78	3.15	89	3.6
Pityriasis alba	95	3.84	31	1.25	64	2.58
Photodermatitis	30	1.2	11	0.44	19	0.77
Urticaria	110	4.45	63	2.54	47	1.9
Acne vulgaris	357	14.44	144	5.8	213	8.6
Nevus	35	1.4	19	0.76	16	0.64
Hemangioma	09	0.36	05	0.2	04	0.16
Vitiligo	47	1.9	15	0.6	32	1.3
Post inflammatory hyperpigmentation	63	2.54	30	1.2	33	1.3
Psoriasis	20	0.8	14	0.57	06	0.24
Pityriasis rosea	10	0.4	03	0.12	07	0.28
Alopecia areata	15	0.6	00	00	15	0.6
Telogen effluvium	62	2.5	00	00	62	2.5
Total	1784	72.17	792	32.03	992	40.13

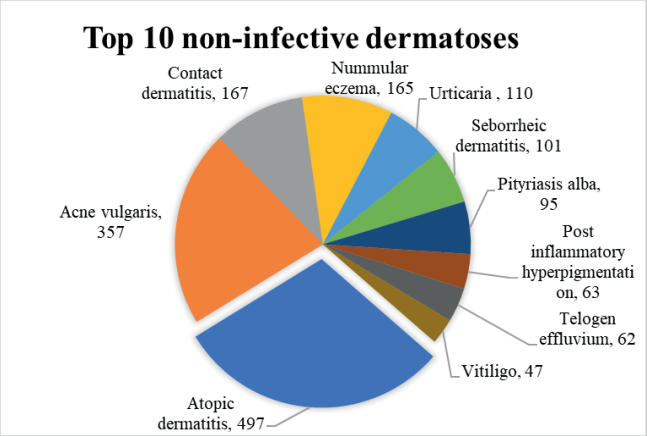

Figure 1: Top 10 non-infective dermatoses in study patients (N=2472).

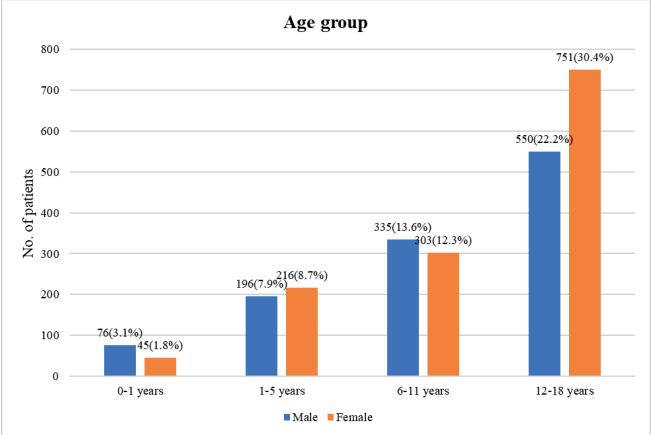

Figure 2: Prevalence of infective dermatoses among the study patients (N=2472).

Table 2: Prevalence of infective dermatoses in different gender group (N=2472).

Diseases	Total		Male		Female	
	No	%	No	%	No	%
Fungal infections	295	11.93	160	6.47	113	4.57
a. Tinea capitis	36	1.4	27	1.09	09	0.36
b. Tinea corporis	84	3.39	49	1.98	35	1.41
c. Tinea cruris	68	2.75	46	1.86	22	0.89
d. Tinea facei	22	0.89	12	0.48	10	0.4
e. Tinea pedis	11	0.44	00	00	03	0.12
f. Pityriasis versicolor	56	2.26	29	1.17	25	1.01
g. Onychomycosis	18	0.73	08	0.3	09	0.36
Bacterial infections	74	2.3	36	1.46	47	1.91
a. Impetigo	43	1.7	19	0.77	33	1.33
b. Furunculosis	31	1.25	17	0.69	14	0.56
Viral infections	145	5.86	67	2.7	78	3.15
a. Chicken pox	29	1.17	14	0.56	15	0.6
b. Herpes zoster	14	0.56	06	0.24	08	0.3
c. Viral exanthem	35	1.41	14	0.56	21	0.85
d. Molluscum contagiosum	20	0.8	09	0.36	11	0.44
e. Wart	31	1.25	13	0.52	18	0.73
f. Herpes simplex	15	0.6	09	0.36	05	0.2
Parasitic diseases	174	7.03	95	3.84	79	3.2
a. Scabies	148	5.98	82	3.3	66	2.67
b. Pediculosis capitis	27	1.05	14	0.56	13	0.52
Total	688	27.83	358	14.48	330	13.35

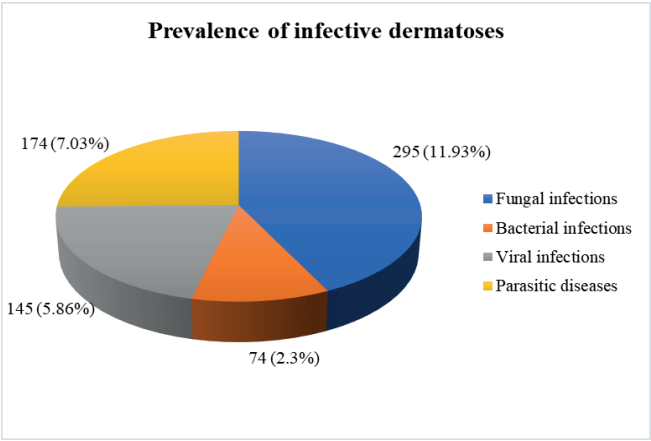

Figure 3: Prevalence in different pediatric age & gender groups (N=2472).

DISCUSSION

This study's primary goal was to identify the advantages that would be useful for next comparisons of Bangladeshi pediatric patients' skin disease prevalence. Of the 2,472 children who participated in this study, 1157 (46.8%) were men and 1315 (53.2%) were women. Researchers have discovered that childhood skin conditions differ between nations, cities, and even social groups. According to certain research, male children had a greater prevalence of pediatric skin illnesses (52.15%) than female children did (47.85%).[1] The age distribution of the participants showed that newborns (0–1 years) had the lowest frequency of skin disorders, while teens (12–18 years) had the highest incidence of skin diseases, up to 7.3%. Previous research has indicated

Table 3: Prevalence of dermatoses in different age group (N=2472).

Diseases	Total		0-1 Years		1-5 Years		6-11 years		12-18 years	
	No	%	No	%	No	%	No	%	No	%
Atopic dermatitis	467	18.9	72	2.9	180	7.3	138	5.58	107	4.32
Seborrheic dermatitis	104	4.2	13	0.5	08	0.3	24	0.97	57	2.3
Nummular eczema	164	6.6	05	0.2	25	1.0	49	1.98	84	3.4
Contact dermatitis	167	6.75	00	00	27	1.1	35	1.4	105	4.24
Pityriasis alba	95	3.8	14	0.5	12	0.4	39	1.57	30	1.21
Photodermatitis	30	1.2	00	00	00	00	09	0.36	21	0.85
Urticaria	94	3.8	00	00	18		43	1.74	51	2.06
Acne vulgaris	357	14.4	00	00	00	00	10	0.4	347	14.03
Nevus	35	1.4	00	00	00	00	27	1.09	08	0.3
Hemangioma	9	0.36	00	00	02	0.07	07	0.28	00	00
Vitiligo	45	1.8	00	00	16	0.64	14	0.56	15	0.6
Post inflammatory hyperpigmentation	63	2.5	00	00	05	0.2	11	0.44	47	1.9
Psoriasis	20	0.8	00	00	00	00	05	0.2	15	0.6
Pityriasis rosea	10	0.4	00	00	00	00	00	00	10	0.4
Alopecia areata	15	0.6	00	00	03	0.12	04	0.16	08	0.3
Telogen effluvium	62	2.5	00	00	00	00	04	0.16	58	2.34
Fungal infections	295	11.93	00	00	34	1.3	75	3.03	180	7.3
Tinea capitis	36	1.4	00	00	07	0.28	21	0.85	08	0.3
Tinea corporis	84	3.39	00	00	16	0.64	15	0.6	49	2.38
Tinea cruris	68	2.75	00	00	06	0.24	17	0.68	44	1.78
Tinea facei	22	0.89	00	00	02	0.7	11	0.44	09	0.36
Tinea pedis	11	0.45	00	00	00	00	03	0.12	08	0.3
Pityriasis versicolor	56	2.26	00	00	03	0.12	08	0.3	45	1.8
Onychomycosis	18	0.73	00	00	00	00	00	00	18	0.73
Bacterial infections	74	3.0	04	0.16	25	1.01	20	0.81	25	1.01
Impetigo	43	1.7	04	0.16	20	0.81	7	0.28	12	0.48
Furunculosis	31	1.25	00	00	05	0.2	13	0.52	13	0.52
Viral infections	145	5.86	00	00	33	1.33	52	2.1	55	2.22
Chicken pox	29	1.17	00	00	14	0.56	06	0.24	08	0.3
Herpes zoster	14	0.56	00	00	00	00	08	0.3	05	0.2
Viral exanthem	35	1.4	00	00	08	0.3	13	0.52	14	0.56
Molluscum contagiosum	20	0.8	00	00	07	0.28	12	0.48	00	00
Wart	31	1.25	00	00	00	00	11	0.44	20	0.8
Herpes simplex	14	0.56	00	00	04	0.16	02	0.08	08	0.3
Parasitic diseases	174	7.0	13	0.52	25	1.01	66	2.67	70	2.83
Scabies	148	5.98	13	0.52	25	1.01	53	2.14	57	2.3
Pediculosis capitis	26	1.05	00	00	00	00	13	0.52	13	0.52
Total	2472	100	121	4.9	412	16.67	638	25.8	1301	52.6

that among participants in the 13–18 age group, there was the lowest incidence of skin problems, which is quite comparable.[2] Atopic dermatitis, a kind of eczema, is the most frequent dermatosis, affecting over 18.9% of our pediatric patients, the majority of whom are male, according to the figure showing the frequency of dermatoses in different age groups. Pityriasis rosea is the least common, affecting 0.4% of our patients, primarily female children. It is a self-limiting rash. The second most frequent condition observed in pediatric patients was fungal infections, which were more prevalent in the 12- to 18-year-old age range.

Pityriasis versicolor is more common in post-pubertal children with active sebaceous glands, therefore older children are more likely to have it.[3] The study's lower 5.98% scabies prevalence is remarkable, although not very high. Other studies have documented wide variations in prevalence, ranging from 0.4% to 77% in preschoolers, rural households, and children under 5 in refugee camps.[4-6] The significant variation in incidence even within countries has been attributed to variations in socioeconomic status.[6-8]

More than one-third of all skin conditions are thought to be caused by infectious dermatoses, according Several studies have indicated that about one-third of skin problems are caused by infectious dermatoses.[7,9-12] Comparatively, more instances (18.9%) in our review were related to atopic dermatitis. The prevalence of tinea capitis was shown to be 1.4% higher in a research done in Nigeria more than 10 years ago, however our analysis was restricted to cases with positive cultures.[7] The most frequent isolation was for atopic dermatitis (18.9%), which was followed by fungal infections (11.93%) and contact dermatitis (6.75%). Khosravi AR et al. found that, in contrast to our country, Microsporum canis had the highest prevalence, at 19 percent; Trichophyton rubrum came in second, at 16.5%, and Epidermophyton floccosum came in third, at 15%.[13] Various species have been studied elsewhere in the world.[14-16] In our study, no infant or toddler experienced tinea pedis or tinea capitis. These are all unusual discoveries. Despite the limited sample sizes, these results highlight the need for further investigation to establish the frequency of these organisms and their involvement in the development of a range of fungal diseases in elementary and secondary school pupils. Furthermore, we discovered that tinea corporis (3.39%) was more prevalent than tinea pedis (0.45%) in our investigation. This might be as a result of the fact that our study was carried out in Dhaka, a city with nearly year-round heat and humidity. The schoolchildren there are susceptible to tinea corporis because they have embraced the Western way of life and wear closed shoes everywhere—at home as well as at school. Asian countries like Hong Kong, Japan, Singapore, and South Korea had high rates of pigmentary diseases.[17] It's possible that the first eruption was minor and ended completely. The correction of pigmentation might come after typical fire issues. Over time, the uneven pigmentation will gradually vanish. The onset of dyschromia, which is uncommon in our country, alarmed the parents and young patients. The concern need to be taken seriously, and cautious explanations and comforts should be given.[18]

CONCLUSION

Atopic dermatitis was found to be the most common noninfectious disease and fungal infection was the most common infectious disease in all age groups and genders.

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Conflict of interest: None declared.

Ethical clearance: The study was approved by the Institutional Ethics Committee.

AUTHORS' CONTRIBUTION

Data gathering and idea owner of this study: Dr. Mohd. Nurul Alam

Study design: Dr. Mohd. Nurul Alam, Dr. Md Anwar Husain.

Data gathering: Dr. Mohd. Nurul Alam, Dr. Md Anwar Husain.

Writing and submitting manuscript: Dr. Mohd. Nurul Alam.

Editing and approval of the final draft: Dr. Mohd. Nurul Alam.

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