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Pattern of skin disorders among pediatric age group cases attending a tertiary health care center

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ABSTRACT

Background: Skin diseases among the pediatric age group people are more common and it contributes to significant burden to health sectors. Also, the pattern of skin diseases changes consistently with reference to place and time. Hence the present study was conducted to assess the pattern of skin diseases in pediatric age group patients attending a tertiary care hospital.

Methods: The cross-sectional study was conducted by the department of Dermatology, Venereology and Leprosy at Sri Muthukumaran Medical College Hospital and Research Institute, among the pediatric age group patients attending the outpatient department, during the month of October to December 2019. A total of 412 pediatric age group patients with skin disorder were included in the study. The study was conducted using a proforma with the clinical history and diagnosis of the participants. Data was entered in Microsoft excel and data analysis was done using SPSS version 17.

Results: The common skin disorders reported in this study includes infections (34.7%) followed by dermatitis (32.3%), infestations (11.4%), miliaria (8.3%), popular urticaria (7.5%) and urticaria (6.1%). Among the infections fungal, bacterial and viral pathogens contributes to 16.3%, 10.9% and 7.5% of cases, respectively. Also 11.2% of cases were found to be infested with scabies (9.2%) and pediculosis (2.2%).

Conclusions: Skin disorders in the pediatric age group are common and showing increasing trend. Hence health education of the parents and the school children about good nutrition, hygiene practices, and proper hydration of skin can be promoting in order to reduce the burden of skin disorders.

Keywords: Skin disorders, Pediatric age group, Infections, Dermatitis

INTRODUCTION

Dermato-epidemiology refers to study of the epidemiology of dermatological disorders. Distribution of skin diseases differs from country to country and even city to city. Some factors like genetic, environment, race, occupation, nutrition and habits can influence the pattern of skin diseases. ²⁻⁴

Skin or dermatological disorders are more common and it is the fourth non-fatal health burden, globally.⁵ It

constitutes two percentages of total outpatient department (OPD) consultations worldwide.⁶

Various studies conducted in developing countries have concluded that skin diseases are very common among children and adolescents, infections and infestations being high on the list.⁷ India being the second most populous country in the world with about 35% of its population in the pediatric age group (<14 years of age).⁸

Skin diseases in the pediatric age group can be transitory, chronic or recurrent. Primary or secondary

dermatological complaints constitute about 30% of all outpatient visit to a children clinic and dermatological outpatient department visits. 9-11

The most important factors accounting for distribution of skin diseases in the developing country like India includes malnutrition socioeconomic status, poor standards of hygiene and overcrowding.⁷

The knowledge about the prevailing morbidity pattern of skin diseases among pediatric population is more important in order to take essential steps in reducing them and also health educational programs and precautionary measures like personal hygiene, proper nutrition can be planned which in turn improve the health status of pediatric population. Present study was conducted to assess the pattern of skin diseases in pediatric age group patients attending a tertiary care hospital.

Objectives

To assess the prevailing pattern of skin disorders among the pediatric age group patients attending outpatient department of dermatology in a tertiary care center.

METHODS

The cross-sectional study was conducted by the department of Dermatology, Venereology and Leprosy at Sri Muthukumaran Medical College Hospital and Research Institute, among the pediatric age group patients attending the outpatient department, during the month of October to December 2019. Based on the literature, considering the prevalence of common skin disorder among the pediatric age group as 41% with confidence of 95% and absolute precision of 5%, the sample size was calculated as 372. 12 Also 10% non-response rate was added to the calculated sample size and thus a total of 412 pediatric age group patients with skin disorder were included in the study. All children between 0-12 years of age who were attending the outpatient department of dermatology, Venereology and Leprosy were included in the study. Participants who were immunocompromised were excluded from the study.

The individual participant's parents were explained about the study and they were also assured that, their identity and their child identity would be kept strictly confidential and they have the option to refuse participation in the study. Written informed consent was obtained from the study participant's parents prior to the interview.

Every effort was made, to be sure that all information collected from the participants, remain confidential. The study was conducted using a proforma with the clinical history and diagnosis of the participants. Data was entered in microsoft excel and data analysis was done using statistical package for social sciences (SPSS) version 17.

RESULTS

In this study majority of the study participants (30.1%) were in the age group of 7-9 years followed by 27.4%, 22.1% and 20.4% of participants in the age groups of 3-6 years, less than 3 years and 10-12 years, respectively. The mean age of the study participants was found to be 7.21±4.53 years. This study showed male predominance with 58.5% and 41.5% of male and female participants, respectively (Table 1).

Table 1: Proportion of participants in different age group and gender.

Variables	Frequency	Percentage
Age group (in years)	•	
<3	91	22.1
3-6	113	27.4
7-9	124	30.1
10-12	84	20.4
Gender		
Male	241	58.5
Female	171	41.5

In the present study, the common skin disorders reported includes infections (34.7%) followed by dermatitis (32.3%), infestations (11.4%), miliaria (8.3%) and urticaria (6.1%). Among the skin disorders, infective disorders contribute to major proportion (34.7%). Among the infections fungal, bacterial and viral pathogens contributes to 16.3%, 10.9% and 7.5% of cases, respectively. Also 11.2% of cases were found to be infested with scabies (9.2%) and pediculosis (2.2%) (Table 2).

Table 2: Proportion of cases with infections and infestations.

Variable	Frequency	Percentage
Infections	143	34.7
Bacterial	45	10.9
Viral	31	7.5
Fungal	67	16.3
Infestations	47	11.4
Scabies	38	9.2
Pediculosis	9	2.2

In this study, 32.3% of cases were found to have dermatitis with seborrheic dermatitis being the most common (11.7%). Other dermatitis includes atopic dermatitis (6.3%), pityriasis alba (5.8%), eczema (4.4%), contact dermatitis (3.4%) and diaper dermatitis (0.7%). Urticaria was reported among 6.1% of cases with 5.1% and 1.0% cases of acute urticaria and chronic urticaria, respectively (Table 3).

In this study, miliaria and popular urticaria were reported among 8.3% and 7.5% of cases, respectively. Other

disorders like acne, vitiligo, autoimmune disorder, keloid, hair disorders were reported among 1.5%, 1.2%, 1.7%, 0.7% and 1.2% of cases, respectively (Table 4).

Table 3: Proportion of cases with dermatitis and urticaria.

Variable	Frequency	Percentage
Dermatitis	133	32.3
Atopic dermatitis	26	6.3
Seborrheic dermatitis	48	11.7
Pityriasis alba	24	5.8
Diaper dermatitis	3	0.7
Contact dermatitis	14	3.4
Eczema	18	4.4
Urticaria	25	6.1
Acute	21	5.1
Chronic	4	1.0

Table 4: Proportion of cases with uncommon skin disorders.

Other skin disorders	Frequency	Percentage
Papular urticaria	31	7.5
Acne	6	1.5
Vitiligo	5	1.2
Autoimmune	7	1.7
Keloid	3	0.7
Miliaria	34	8.3
Hair disorders	5	1.2
Miscellaneous	12	2.9

DISCUSSION

In the present study, among the skin disorders, infective disorders contribute to major proportion (34.7%). Among the infections fungal, bacterial and viral pathogens contributes to 16.3%, 10.9% and 7.5% of cases, respectively. Also 11.2% of cases were found to be infested with scabies (9.2%) and pediculosis (2.2%).

In this study, 32.3% of cases were found to have dermatitis with seborrheic dermatitis being the most common (11.7%). Other dermatitis includes atopic dermatitis (6.3%), pityriasis alba (5.8%), eczema (4.4%), contact dermatitis (3.4%) and diaper dermatitis (0.7%). Urticaria was reported among 6.1% of cases with 5.1% and 1.0% cases of acute urticaria and chronic urticaria, respectively.

In this study, Miliaria was reported among 8.3% of cases. Other disorders like acne, vitiligo, autoimmune disorder, keloid, hair disorders were reported among 1.5%, 1.2%, 1.7%, 0.7% and 1.2% of cases, respectively

Dogra et al reported that in their study the most common skin conditions was infections (11.4%) followed by pityriasis alba (8.4%), dermatitis/nonspecific eczemas

(5.2%), infestations (5.0%), disorders of pigmentation (2.6%), keratinization disorders (mostly keratosis pilaris) (1.3%) and nevi/hamartomas (1.1%).¹³

In their study they reported that the point prevalence of eczemas/dermatitis was 6.5%. This finding was comparatively much lower than the findings of the present study and the studies conducted in the Western countries which reported prevalence between 11-22%. ^{14,15}

Ghosh et al conducted a study among 500 children (<12 years) attending dermatology OPD were recruited to study the pattern of common dermatoses. ¹⁶ In their study, pyoderma was the most common skin disease (35.6%), followed by scabies (22.4%), eczema (17.6%), molluscum contagiosum (4.6%), papular urticaria (4.0%), vitiligo (3.4%), miliaria (2.8%) and nevi (1.6%).

An epidemiologic study from Garhwal et al, conducted in the hilly area of Uttar Pradesh in children showed that pediculosis capitis (22.6%) was the most common dermatosis, followed by pyodermas (15.4%), pityriasis alba (10.4%) and eczema (8.1%). Nutritional deficiency dematoses (17.5%) were also common in this region [common manifestations included sparse hair (6.2%) and pigmented skin (7%).

A study from south India by Karthikeyan et al among the children of less than 14 years of age reported that infections and infestations (54.5%) were the most common pediatric dermatoses.¹⁸

Bisht et al reported that infections and infestations were commonest disorders contributing to 36.46% of all cases. Major infections/ infestations were viral (9.76%) followed by scabies (9.29%), fungal (9.01%) and bacterial (8.46%).¹⁹ Other important groups dermatological disorders were dermatitis in 29.63% cases out of which seborrheic dermatitis (10.12%), atopic dermatitis (5.96%), ptyriasis alba (5.96%), non-specific eczema (3.46%) and contact dermatitis (2.77%). Other skin diseases included papular urticaria/insect bite allergy naevi/developmental (8.46%),lesions (4.02%),pigmentary disorders (3.32%), sweat gland disorders (2.08%) and miscellaneous group (6.38%) respectively.

Balai et al reported that infection and infestation were the most common finding in their study (40.6%) followed by eczematous (34.8%) and hypersensitivity (10.2%).¹² They reported that among the infection and infestation, bacterial infection (13.7%) was the most common entity followed by scabies (10.4%), fungal (6.5%), and viral infection (3.4%).

In the present study, 4.4% of cases had eczema. 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.⁷

CONCLUSION

Skin disorders in the pediatric age group are common and showing increasing trend compared to the previous studies. Hence there is a need for diagnostic and therapeutic training for dermatologists, general practitioners and pediatricians in this group of disorders. Also, health education of the parents and the school children about good nutrition, hygiene practices, and proper hydration of skin can be promoting in order to reduce the burden of skin disorders.

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Institutional Human Ethical Committee

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