Pattern of Dermatoses among Pediatric Population Attending Tertiary Care Centre

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ABSTRACT

Introduction: Skin diseases are encountered quite commonly in pediatric age group. There is wide variation in the pattern and presentation of different skin conditions in children when compared to adults. The aim of the present study was to study the pattern and prevalence of dermatoses in the pediatric population and the various etiologies causing them.

Material and methods: This study was conducted in the Government General Hospital, Vijayawada. 1000 children below the age of 14 years presenting with skin diseases were included in the study. Clinical diagnosis was made after a thorough clinical evaluation and physical examination.

Results: Among 1000 cases, 52.5% were males and females constituted 47.5%. Infectious group of diseases (38.6%) were the most common cause of dermatological diseases in the childhood followed by infestations (19.1%) and eczemas (12.6%). Hypersensitivity disorders (10.2%), diseases of the appendages (5.1%) and pigmentary disorders (4.9%) constituted the other important causes.

Conclusion: This study provides a gross idea about the pattern of skin diseases in children. The most common etiology in the present study belonged to infectious origin. Scabies was the most common disease seen. By providing information about the various causative skin diseases in pediatric population, this study helps in devising preventive measures and management options.

Keywords: Infections, Infestations, Preventive Measures

INTRODUCTION

Pediatric dermatoses include all the skin diseases encountered in children. Complaints related to the skin are one of the most common presenting complaints in pediatric population. Dermatological problems constitute at least 30% of all outpatient visits to a pediatrician and 30% of all visits to a dermatologist involve children.[1] The prevalence of skin diseases among children in various parts of India ranges from 8.7% to 35%.[2] Wide range of primary skin disorders are seen during childhood and skin is often a marker of underlying systemic diseases and hereditary syndromes[3] The pattern of skin diseases seen in children differ from those seen in adults, so do the management options. The pattern of dermatoses may differ according to the geographical area, age, gender, climatic conditions, seasonal, socio-economic and environmental variations.[4] Skin diseases in the pediatric age group can be transitory or chronic and recurrent. The chronic dermatoses are associated with significant morbidity and psychological impact.[5]

The aim of the present study was to study the pattern and prevalence of dermatoses in the pediatric population and the various etiologies causing them.

MATERIAL AND METHODS

This was a cross-sectional study done at Government General Hospital, Vijayawada in the Department of DVL.1000 children of age 14 years and below presenting to the DVL OPD with skin problems as the presenting complaint were included in the study. The study was conducted over a period of 6 months from May 2018 to October 2018. After obtaining informed consent from the patients and their attendants, the patients were subjected to detailed clinical evaluation and physical examination. Thorough history regarding the onset and progression of lesions as well as family history was noted. Simple bedside investigations like Woods lamp examination, KOH mount, diascopy and tzanck smear were done to aid diagnosis in relevant cases. Based on the above findings, the diagnosis was made.

STATISTICAL METHOD

The details were entered in Microsoft Excel 7 and percentages for variables were calculated.

RESULTS

Out of 1000 children included in the study, males contributed to 52.5% of the total study population whereas 47.5% were females. A slight male preponderance was noted.

Age wise distribution

Majority of the children belonged to 10-14 years of age group (49.2%) followed by age groups of 5-9 years and 0-4 years.

Distribution of various dermatoses

Among the various causes of dermatoses studied in the population of 1000 children, the most common cause was attributed to infections (38.6%). Fungal infections (20.9%) contributed to the majority of the cases among infections followed by bacteria (11.1%) and viral infections (5.7%)

Among fungal infections, dermatophytes (16.2%) constituted the highest number of cases followed by pityriasis versicolor (4.6%) and one case of onychomycosis (figure 1-4).

Among bacterial infections, impetigo was seen in 6.2% of

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Age group	Number	Percentage
0-4Y	201	20.1%
5-9Y	307	30.7%
10-14Y	492	49.2%

Table-1:

Disease group	Number	Percentage
Infections	386	38.6%
Infestations	191	19.1%
Eczematous diseases	126	12.6%
Hypersensitivity diseases	102	10.2%
Sweat and sebaceous glands	51	5.1%
Pigmentary disorders	49	4.9%
Papulosquamous diseases	20	2%
Nutritional diseases	19	1.9%
Keratinisation disorders	18	1.8%
Hair	8	0.8%
Naevi	7	0.7%
Genodermatoses	3	0.3%
Connective tissue diseases	2	0.2%
Bullous diseases	1	0.1%
Miscellaneous	17	1.7%

Table-2:

Figure-1: Impetigo

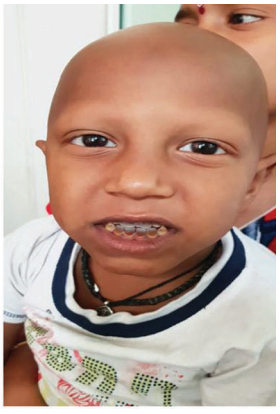

Figure-2: Alopecia totalis; **Figure-3:** A case of ectodermal dysplasia

cases, followed by furuncles in 3.9% of cases, periporitis in 0.5% and Hansen's diseases was noted in 0.4% of the study population.

Viral infections showed a predominance of exanthems including pityriasis rosea (2.5%) followed by verruca (1%), molluscum contagiosum (0.7%) and herpes infections in 0.8% of the study population.

Figure-4: A case of vitiligo vulgaris

Infestations contributed to 19.1% of cases. The most prevalent disease in the pediatric population was scabies which was seen in 17.9% of the population. Pediculosis capitis was seen in 1.2% population.

Eczematous disorders were noted in 12.6% of children. Causes of eczema in order of decreasing frequency are juvenile plantar dermatoses (3.4%), Pityriasis Alba (2.7%), atopic eczema (2.2%), chronic eczema (1.9%),allergic contact dermatitis (1.1%), irritant contact dermatitis (0.5%), pompholyx (0. 4%), seborrheic dermatitis (0. 4%) and diaper dermatitis (0. 2%).

Hypersensitivity diseases were seen in 10.2%. The most common causative factor being papular urticaria, seen in 4.5% followed by urticaria in 3.2%, insect bite reactions in 1.4%, polymorphic light eruption in 0.8%, pruritic popular eruption of HIV seen in 0.2% and angioedema in 0.1%.

Diseases of sweat and sebaceous glands contributed to 5.1% of the pediatric dermatoses in the current study. Acne was seen in 2.7% of the study population and milaria in 2.4% .

Pigmentary diseases were seen in 4.9%. Vitiligo was the most common disorder of pigmentation seen in 4.3% of cases followed by lentigines(0.2%), hypomelanosis of Ito(0.2%), lichen plano pigmentosus (0.1%) and post-inflammatory hyperpigmentation (0.1%).

Papulosquamous group of diseases were seen in 2% of children with psoriasis(1.1%) being the most common cause followed by lichen planus (0.9%). Nutritional diseases were seen in 1.9% of cases which comprised of phrynoderma. Disorders of keratinisation accounted for 1.8% of cases. Lichen nitidus was seen in 0.7% of cases followed by lichen striatus in 0.4%, Lichen spinulosus in 0.3% and ichthyosis vulgaris in 0.3% cases.

Disorders of hair attributed to 0.7% of cases with alopecia areata (0.6%) being the most common condition. A single case of aplasia cutis was seen (0.1%). Naevi were seen in 0.7% of cases. One case each of epidermal naevi, congenital melanocytic naevus and sebaceous naevus were seen. Two cases of port wine stain and naevus depigmentosus were seen. Two cases of morphea accounted for 0.2% of

connective tissue disorders seen. Genodermatoses were noted in three cases, one case each of ectodermal dysplasia, neurofibromatoses and tuberous sclerosis have been noted. A single case of epidermolysis bullosa simplex was seen. Miscellaneous cases accounted for 1.7% of total cases. They included two cases each of erythema multiforme, Henoch schnolein purpura, pyogenic granuloma, milia, prurigo nodularis and fissured feet were seen. 3 cases of lichen sclerosus atrophicans and one case of erythema toxicum neonaturm were observed.

DISCUSSION

Pediatric age group is very relevant in the society with regards to its clinical and social aspects. The management options for various diseases in children differ from adults. Skin diseases constitute a major chunk of childhood health problems. They pose a threat to the quality of life in the children.

Males outnumbered females in the current study. Similar findings were observed in the study done by Medasani V et al[6] (males 59.39% and females 40.60%). Among 1000 children studied, infections and infestations (57.7%) constituted the majority of cases. This is in concordance with a study done by Balai et al[7] (40.6%). VS Reddy et al[8] reported an incidence of 33.8%. Fungal infections were the most common cause among infections with dermatophytosis being the predominant condition. Sayal et al [9] reported fungal infections to be more common in their study. Tinea corporis is the most common infectious disease seen in the present study. The high prevalence can be attributed to the tropical weather. Most of the cases gave history of similar condition in their family members. This highlights the fact that the entire family should be made aware of the disease transmission and methods of prevention. Pityriasis versicolor was seen in 4.6% of cases. Among bacterial infections, impetigo was the most common cause (6.2%). This finding is similar to the one observed by Bhalai et al in their study.[7] Bacterial infections can also be prevented by taking appropriate measures and maintaining personal hygeiene. Viral infections were less commonly seen in our study compared to bacterial and fungal infections.Most common among them were viral exanthems. Scabies was the most common skin condition reported in the present study. Accounting for 17.9% cases, it is the most prevalent pediatric dermatoses in our centre. Scabies was the most common infestation seen in the study by Bhalai et al and VS Reddy et al.[7,8] Similar occurrence (10.61%) has been reported by Sardana et al.[10] The reasons for such high prevalence in the current study are unhygienic living conditions, poverty and overcrowding. A good number of patients with scabies had similar complaints in the family members. Most children of adolescent and school age group reside in hostels giving rise to the increased incidence of scabies in this age group. Lack of awareness about the condition and delay in approaching health care facilities result in the transmission of the disease to the members inhabiting with them. Pediculosis capitis was seen in 1.2% children and exclusively in females. Lack of self-care, personal hygiene and carelessness of the attendants was observed in the patients with this condition. Irregular bathing habits and infrequent change of clothing were the contributory factors. Negligence by the parents resulted in most cases of pediculosis presenting with secondary infection.

Eczematous disorders were noted in 12.6% of children. This finding is concordant with the studies done by Medasani V et al (11.06%).[6] Higher rates were seen in studies done by Balai et al (34.86%)[7] and Reddy et al (32.6%).[8] The most common cause of eczema was Juvenile plantar dermatoses followed by p.alba and atopic eczema. JPD was the most common eczema reported in a study done by Reddy et al.[8]

Hypersensitivity diseases were seen in 10.2%. The most commonly seen condition in this group of diseases is papular urticaria.This could be attributed to the tropical conditions. Arthropod bites are the inciting factors for the development of this disease. Most of the patients presenting to the tertiary care centre belong to low socioeconomic status with poor housing standards, thus increasing the chance of exposure to the arthropods, Urticaria was the next common condition seen in this spectrum.

Diseases of sweat and sebaceous glands contributed to 5.1% of the pediatric dermatoses in the current study. Acne was seen in 2.7% of the study population and milaria in 2.4%. Acne was seen mostly in children of 13 to 14 years of age which marks the onset of puberty. Acne has an effect on the social and psychological aspect of the adolescent life leading to increased self consciousness,embarrassment and attempts to self medicate to treat the condition resulting in further damage.

Milaria, on the other hand, was commonly seen in children of school going age group. The high prevalence of milaria can be attributed to the humid weather conditions of this region. Sweat retention syndrome was the commonest disorder seen among sweat gland diseases in a study done by Medasani V et al.[6]

Pigmentary diseases were seen in 4.9% of the study population. Vitiligo was the most common disorder of pigmentation seen in 4.3% of cases followed by lentigines (0.2%), hypomelanosis of Ito (0.2%), lichen Plano pigmentosus (0.1%) and post-inflammatory hyperpigmentation (0.1%). Higher incidence of vitiligo was observed in the current study compared to others. As vitiligo is a disease associated with social stigma it has to be dealt sensitively. Both parents and the child have to be counselled adequately and the various management options have to be discussed.

Papulosquamous disorders were noted in 2% of the cases during this study period. Nutritional diseases were seen in 1.9% of cases which comprised of phrynoderma. Reddy et al[8] reported that Phrynoderma was the most common among the nutritional deficiency disorders. Advice regarding nutrition has to be provided in such cases. Disorders of keratinisation accounted for 1.8% of cases.

Disorders of hair attributed to 0.7% of cases with alopecia areata (0.6%) being the most common condition. A single case of aplasia cutis was seen (0.1%).

Naevi were seen in 0.7% of cases. Thappa[11] in their study

observed a prevalence of 0.5%

Two cases of morphea accounted for 0.2% of connective tissue disorders seen. Connective tissue disorders constituted 0.6% of dermatoses in the study by Reddy et al.[8]

Genodermatoses were noted in 3 cases, one case each of ectodermal dysplasia, neurofibromatoses and tuberous sclerosis have been noted. A single case of epidermolysis bullosa simplex was seen. Miscellaneous cases accounted for 1.7% of total cases.

Though the above study provides a brief idea about the patterns of various dermatoses in pediatric population, it is limited by the size of the study population and duration of the study. Larger population size and study conducted throughout the year will provide better insight into the the prevalence of various dermatological diseases. Taking detailed history regarding the housing standards, income and education will help in devising preventive measures.

CONCLUSION

The findings from the current study prove that infections and infestations are the most commonly seen conditions in the children. Most of these diseases are easily preventable and can be managed with simple treatment. It reinforces the importance of public health education, school surveys and creating an awareness among the children and parents belonging to low socioeconomic status. Self care and hygiene go a long way in the prevention of these diseases. In cases of genodermatoses, psoriasis,Hansens disease and vitiligo which are associated with social stigma and treatment burden, appropriate counselling services have to be provided. Acne which can be a cause of depression in adolescents has to well handled. Coordination between the field workers,community physicians and dermatologists can help in prevention of most of the infections and infestations seen in children.A specialised branch of dermatology dealing exclusively with pediatric skin diseases is relevant in the current scenario.

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