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"A Clinical Study of Cutaneous Manifestations in Paediatric Age Group"

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Abstract
Background: *Pediatric dermatoses are distinct group of disorders, comprising of skin problems encounteredduring childhood and adolescence. Skin diseases are a major health problem in the peadiatric age group which vary in pattern and presentation compared to adults.*
Aim*: To ascertain the pattern of various dermatoses occurring in children aged below 12 years attending theout patient department of Dermatology Venereology, Leprosy, NRI Medical College and General Hospital,Chinakakani, Guntur district, Andhra Pradesh.*
Methodology: *This was a cross sectional, clinical observational study in pediatric patients attending DVL OPDof tertiary care centre Chinakakani between December 2015 – November 2016.*
Results: *Among 100 patients the most common age group is 4-6 yrs (38%) followed by 7-9 yrs (31%). Sex ratio in our study is 1.38:1(M: F). Common disease observed is infections 27.6%, followed by Infestations 16.2%,hypersensitivity disorders 15.2%. Eczemas13.3%, Nutritional disorders (4.8%), sweat and sebaceous glandlesions (3.8%), papulosquamous disorders, hair and nail disorders, pigmentary disorders, Transient Disordersof Neonate (2.9% each), Nevi & Nevoid disorders and Photodermatoses (1.9% each) Connective tissuedisorders, Congenital and developmental disorders (1% each).*
Conclusion*: The present study brings out the unique features of Tropical pediatric dermatology. The incidenceof pediatric dermatoses can be brought down by increasing awareness and literacy rates among parents and the populationregarding etiology and spread of pediatric diseases and also by improving sanitation, nutrition and personal hygiene of children.*
Key words: *Infections in Childhood, Pediatric Dermatoses.*

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I. Introduction

Paediatric dermatology is an important branch of dermatology that deals with the diagnosis, treatment,and prevention of skin diseases occurring in infancy, childhood, and adolescence[1]. The incidence ofpaediatric dermatological conditions is on a gradual increase day by day. Dermatologic Skin diseasesin the paediatric age group can be transitory or chronic and recurrent[2]. The chronic dermatoses areassociated with significant morbidity and psychological impact. The majority of dermatoses innewborns are physiological and transient, while genodermatoses or hereditary, congenital and nevoidanomalies which usually are first seen during childhood[3].

Skin diseases constitute 30% of all outpatient visit to a pediatrician and 30% of all visits to a dermatologistinvolve children[4].The prevalence of pediatric dermatoses in various parts of India has ranged from 8.7% to 35%in school-based surveys[5]. The pattern of skin diseases varies from country to country with pyoderma andmalnutrition being more prevalent in developing countries, while eczemas are more common in developedcountries. This can be attributed to differing climatic, cultural and socio-economic factors[6].

The aim of the present study is to determine the pattern of common dermatoses in children attending the NRI Medical College and General Hospital, Chinakakani, Andhra Pradesh. The present study brings into light the unique features of Tropical pediatric dermatoses.

II. Aim

To study the pattern of various dermatoses occurring in children aged below 12 years attending the out patient department of DVL, NRI Medical College and General Hospital, Chinakakani, Guntur district, Andhra Pradesh and to analyze the possible factors those contribute to the higher incidence of any particular group of diseases, and to come out with a solution, if possible to reduce the incidence of such problems.

III. Patients &Methods

Study was conducted on 100 children with dermatoses aged below 12 years attending the Dept.of D.V.L,NRI General Hospital, Chinakakani.It was a hospital based cross sectional and clinical observational studyconducted between December 2015 to November 2016. Informed valid written consent was taken from parentsand clinical data was recorded as per the proforma. Detailed history taken and complete clinical examinationwas done. All these patients were subjected to routine investigations and special investigations were donewhenever necessary.

IV. Observations & results

100 randomly selected children attending the DVL department,NRI General Hospital, Chinakakani from 1.12.2015 to 30.11.2016 were studied and analyzed as follows.

1. Age distribution:

Table No:1 (n=100)

Age Group	Number	Percentage
0- 3 years	22	22
4-6 years	38	38
7-9 years	31	31
10-12 years	9	9
Total	100	100

In the present study, most of the children were in the age group of 4-6 years constituting 38% followed by children of 7-9 years age group which was 31%, 0-3 years group children were 22% and the least number of children during the study period belonged to 10 to 12 years, comprising 9% of total children.

2. Sex distribution:

Table No: 2 (n=100)

Sex	Number	Percentage
Female	42	42
Male	58	58
Total	100	100

In the present study, male children constituted about 58% and female children constituted about 42%.

3. Socio Economic Status:

Table No: 3 (n=100)

SES	Number	Percentage
Upper	10	10
Upper middle	21	21
Lower middle	44	44
Poor	25	25
Total	100	100

In the present study, Socioeconomic background was taken into account.It showed that majority of children belonged to lower middle class (44%). 25% belonged to poor class,while 21% belonged to upper middle. Only 10%belonged to upper class.

4. Distribution of Pediatric Dermatoses:

Table No:5 (n=105)

Type of dermatoses	Number	Percentage
Infections	29	27.6
Infestations	17	16.2
Nutritional disorders	5	4.8

Eczemas	14	13.3
Nevi and nevoid disorders	2	1.9
Papulosquamous lesions	3	2.9
Sweat & Sebaceous gland lesions	4	3.8
Hypersensitivity reactions	16	15.2
Pigmentary disorders	3	2.9
Photodermatoses	2	1.9
Connective tissue disorders	1	1.0
Hair and nail lesions	3	2.9
Congenital and Developmental disorders	1	1.0
Transient Disorders of Neonate	3	2.9
Miscellaneous lesions	2	1.9
Total	105	100

In the present study, different types of cutaneous lesions seen in children were categorized according to the etiology. Infections were the commonest cause of various dermatoses. It constituted 27.6%. Infestations were next common group accounting for 16.2%.Hypersensitivity disorders were the third common dermatoses seen which constituted about 15.2%. Eczemas were seen in fourth position and they constituted about 13.3%. This was followed by Nutritional disorders in 4.8%, sweat and sebaceous gland lesions in 3.8%,papulosquamous disorders, hair and nail disorders, pigmentary disorders, Transient Disorders of Neonate (2.9%each), Nevi & Nevoid disorders and Photodermatoses (1.9% each) Connective tissue disorders, Congenital anddevelopmental disorders (1% each).

Impetigo

Papular Urticaria

Cutaneous larva migrans

Psoriasis

Infected scabies

Viral exanthem

Vitiligo

Aplasia cutis congenita with phocomelia

V. Discussion

In the current study it was observed that most of the children were in the age group of 4-6 years (38%)followed by 7-9 years (31%), 0-3 years (22%) and 10-12 years (9%). Similar findings were reported from astudy by S. Sacchidananda et al[7] in which majority of the study group were in the age group of 4-6 years.

Majority of children in the present study were male (58%) as against to female children who constitutedonly 42%.Similar finding was observed in the studies conducted by M.D.Al-Mendalawi et al[8],Sugat AJawade et al[9] Krina B. Patel et al[10] and Neela Patel et al[11]in which majority of the study group included males.

Present study shows that infections and infestations were most common dermatoses constituting about 43.8%, amongwhich infections occupying 27.6% takes the first place which is then followed by infestations that occupied16.2%. And this finding is consistent with the studies done by Krina B. Patel et al[10] in whichInfectiousdisorders and infestations were common dermatoses of about 52.6%.Similar results were also observed in studyconducted by Geet Gunjana et al[12]and Iffat Hassanet et al[13].The high incidence of infections and infestations inthe present study could possibly be due to large rural population attending our hospital belonging to low socio-economic strata and other co-factors like poor hygienic conditions, overcrowding.

Current study shows that among infections, bacterial infections (44.8%) were predominant infectionsfollowed by fungal infections (27.6%), viral infections (24.1%) and mycobacterial infections (3.4%). In a studyconducted by Manisha Balai et al[14], it was observed that among infections, bacterial infections (13.72%)were the most common entity followed by fungal (6.52%), and viral infections (3.40%). These findings weresimilar to the present study.In a study conducted by the Neela Patel et al[11] also the findings were similar to thatof the current study, where 39.15% patients of bacterial infections, 21.70% patients of fungal infections and16.19% patients of viral infections were observed. In a study conducted by M.D.Al-Mendalawi et al[8] it wasobserved that among the infections, fungal were the most common infections (13.3%), followed by viral (5.1%)and bacterial (4.1%). These results were different from the present study. In a study conducted bySaurabhsharma et al[15] among infections viral infections were most common. These results were also differentfrom the present study. The variation among infective dermatoses among various studies could possibly beattributed to the region of study, prevalent environmental factors, type of population studied, hygiene andnutritional status.

Current study shows that Among bacterial infections impetigo was the commonest infection (38.5%)followed by secondary infections (30.7%), Folliculitis (15.4), furuncles and ecthyma (7.7% each). The pattern ofbacterial infections found in the present study is in correlation with the study done by Manish balai et

al[14].Similarly, impetigo was the commonest bacterial infection in studies done by Iffat Hassan et al[13], Karthikeyan ket al[16] and Saurabh Sharma et al[15] and are thus in correlation to the present study.

In the present study Molluscumcontagisum and Varicella infections were common (28.6% each), followedby viral exanthema, warts, Pityriasis rosea (14.3% each). Similarly in studies conducted by ManishaBalai et al[14],Sugat A Jawade et al[9] and Neela Patel et al[11], Molluscum contagiosum was the commonest viral infection.

Present study shows that fungal infections contribute to 27.6% of all infections and among themPityriasisversicolor (50%) was most the common followed by Tinea infections(37.5%) and candidiasis(12.5%). But in astudy conducted by Manisha Balaiet al[14], it was observed that majority had Tinea capitis.In the studyconducted by the Neela Patel et al[11] it was observed that most common fungal infection was candidiasis. Thedecreased prevalence of candidiasis noted in the present study could be due to the low referral from thepediatrics department and the increased prevalence of pityriasis versicolor was observed compared to otherstudies which may be incidental.

Infestations were found to be 16.2% in the present study and it included scabies and pediculosis. Scabiesconstituted majority of this, about 70.6% and pediculosis constituted the remaining 29.4%. Similar findingswere observed in studies conducted by Saurabhsharma et al[15] Manisha Balai et al[14].Higher frequency of scabiesin present study, could be possibly attributed to the ignorance of the parents especially mother about the natureand progression of the disease failure and to properly comply with the medication.

In the current study it was observed that hypersensitivity reactions (15.2%) constituted about secondcommon dermatoses and among them, papular urticaria was common (50%%) followed by urticaria (37.5%)and insect bite reaction (12.5%). In a study conducted by Manisha Balai et al[14], Papular urticaria was thecommonest hypersensitivity disorder (59.05%) followed by urticaria (32.38%). Sayal et al[6]and Sardana et al[17]also noticed a frequent occurrence of papular urticaria compared to urticaria. Increased frequency ofhypersensitivity reactions in the present study might be due to low hygienic conditions, and as many of thechildren are from rural and semi-urban areas which has much of agricultural fields and plants that harbormultiple insects. The children usually wear scanty clothing in these areas due to hot climatic conditions and thusare exposed to insect bites.

Current study shows that among 13.3% cases of eczemas, pityrasis alba was the commonnest eczema(35.7%). Similar observations was made in studies done by Iffat Hassan et al[13] and Rita Vora et al[18] wherePityriasis alba was most common which are in correlation with the present study. The increased frequency ofPityriasis alba in the present study compared to other studies could be due increasing awareness of the parentsparticularly the upper socioeconomic population about the condition.

Current study shows that among 5% of nutritional disorders, Phrynoderma was the commonest (80%)followed by Acrodermatitis enteropathica (20%).In studies conducted by Rita Voraet et al[18] and Karthikeyan Ket al[16] also phrynoderma was the commonest (47.1%) which is consistent to the findings of the present study.

In the present study it was observed that among sweat and sebaceous gland lesions miliaria was morecommon (75%) followed by milia (25%).In the study conducetd by Iffat Hassan et al[13], miliaria is seen in 1%.In study by Saurabh sharma et al[15], sweat gland disorders constituted about 1.6% of cases.The higher rates ofmiliria in the present study could be due to the increased temperature and humidity in the study area that canresult in increased sweating and occlusive clothing usually aggravates the condition.

In the current study it was observed that among hair disorders, alopecia areata was more commonfollowed by canities. Similar incidence of hair disorders were also reported from studies conducted byKarthikeyan K et al[16] and Iffat Hassan et al[18].

In the present study, 2.9% of Papulo squamous disorders were observed and among them one case of lichennitidus, one case of lichen planus and one case of psoriasis were noted. But In a study conducted by M.D.Al-Mendalawi et al[8] it was observed that Papulosquamous dermatoses were the fourth common dermatoses(14.2%). And among them, psoriasis was the most common (5.3%), which is higher than present study. Thevarying results regarding papulo squamous disorders could be explained by the diverse factors that contribute tothe etiology of these disorders (like streptococcal sore throat infections, familial causes, environmental factors)which vary from region to region.

Among 2.9% of cases with pigmentary disorders, vitiligo was the commonest lesion followed bylentigenosis. Dogra S et al[19]and Ruiz-Maldonado R et al[20] also reported a similar incidence of 2.6% from theirrespective studies. In the study conducted by Krina B. Patel[10], pigmentary disorders constituted about 2%.

Among Transient Disorders of Newborn, three cases of erythema toxicum neonatarum were recorded and constituted about2.9%. Sugat A Jawade[9] study also summarizes that Erythema toxicum neonatorum was the most commontransient disorder in newborn in their study.

Current study shows that among 2 nevi and nevoid disorders constituting about 1.9% of total dermatoses,one case of mangolian spots and one case of hemangioma were noted. In a study conducted by Ruiz-Malnado Ret al[20] nevi reported to be 2.1% which is in correlation to the present study.

In present study the photo dermatoses encountered is Polymorphic light eruption which constituted about1.9%. In a study conduted by S. Sacchidanand et al[7], Photodermatoses constituted about 2.5%.In a studyconducted by Karthikeyan K et al[16],the polymorphic light eruption was reported to be about 0.14%. The factorsthat contribute to photo dermatoses in this part of the country could be attributed to increased sun intensityduring summer.

In the current study it was observed that connective tissue disorders constituted about 1%. One case ofMorphea was noted. In a study conducted by karthikeyan K et al[16] the connective tissue disorders constitutedabout 0.5%. These findings were simlar from the present study in the view of lower percentages.
In present study, genodermatoses was seen in about 1% cases.One case of aplasia cutis was recorded

VI. Conclusion

The present study brings into light the unique feature of tropical pediatric dermatology such as highfrequency of dermatomes like infections and infestations, eczemas and environmental associated disorders(insect bite reactions and miliria). The incidence of pediatric dermatoses can be brought down by increasingawareness and literacy rates among parents and the population regarding etiology and spread of pediatricdiseases. It is important to determine the prevalence of skin disorders to asess the magnitude and distribution ofskin disorders in children in developing nations like India which helps in identifying the disease burden. Itfurther helps the government, policymakers, and different health related organizations to take appropriatemeasures in diagnosing, providing adequate treatment, and undertaking various preventive measures.

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