

Infective Dermatoses in Genital Region - Prevalence in Children of 1-18 Years Age.

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ABSTRACT

Background: Dermatoses are a wide-spread health problem among children though not responsible for mortalities but for morbidities. Present survey was conducted to determine the prevalence of skin diseases, which are infectious origin in children of age group 1-18 years. **Methods:** This is a hospital based, Cross Sectional Study from November 2011-July 2013. 173 children were screened, General and Systemic examination, details of cutaneous lesions were noted and after examination provisional diagnosis of infectious genital dermatoses were made. **Results:** Infective Genital dermatoses were seen in 173 (86.5%) of the total cases. Among Infectious dermatoses, parasitic infections (50.2%) were commoner than fungal (26.5%), bacterial (19%) and viral infections(4%). Genital scabies was found to be the most common dermatoses among all the other types (43%). Tinea cruris was found to be the most common fungal infection (7.5%) followed by candidal intertrigo (6.0%). Among viral infections. Molluscum contagiosum was more frequently found (2.5%) than viral warts (0.5%) and pityriasis rosea (0.5%). **Conclusion:** To decrease the incidence of infectious dermatoses important thing to maintain is hygiene. Health education should give to parents or guardians of children about Hygienic measures, sexual behavior and need of seeking medical advice.

Keywords: Infectious Genital dermatoses, Parasitic infections, Fungal infections.

INTRODUCTION

Dermatoses are a wide-spread health problem among children though not responsible for mortalities but for morbidities. It has been neglected both by the community and health personnel in India. Skin of the child is more prone to develop skin diseases.^[1]

There is variation in the pattern and presentation of dermatoses, with eczemas being the most common skin disorder in developed countries and infections and infestations in the developing countries.^[2]

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Skin disorders in children may result in considerable discomfort, parental anxiety and embarrassment to the child and unnecessary absence from school and work. This in turn leads to loss of confidence and disruption of social relations, feeling of stigmatization and major changes in lifestyle.^[3]

Generally, the prevalence of pediatric dermatoses is higher in rural areas as compared to urban areas in relation to poor socio-economic status, overcrowded families, poor personal hygiene, and lack of general awareness, lack of education, lack of sanitation and lack of specialized health facilities.^[4]

Among skin diseases, pyoderma and fungal infections are more common in developing countries, while eczemas are more common in developed countries. Some investigators from India found 47% of skin diseases are due to infections and infestations and about 27% of skin diseases are due to eczema.^[5]

Various reports on the prevalence of skin diseases in children highlight the predominance of communicable diseases like parasitic infestations, bacterial and fungal infections in the school going age group^[6,7]

The incidence of pediatric dermatological conditions is on a gradual increase day by day but still adequate attention is not being paid to it as compared to systemic disorders in children.^[2]

Present survey was conducted to determine the prevalence of skin diseases, which are infectious origin in children of age group 1-18 years.

MATERIALS AND METHODS

This is a hospital based, Cross Sectional Study from November 2011- July 2013. The study was approved by the Institution Ethical committee of Rangaraya Medical College, Kakinada. An informed consent is taken from every patient or parent or guardian before enrolment.

A total of 200 children attending DVL & Pediatric OPD of Government General Hospital attached to Rangaraya Medical College, Kakinada were screened, among them 173 were clinically diagnosed as infectious Genital dermatoses and were selected for doing this study.

Inclusion criteria:

Children of either sex between 1 to 18 years of age attending DVL and Pediatric OPD with a clinical diagnosis of Genital dermatosis.

Exclusion criteria:

1. Patients not willing to participate and guardian not willing to allow their children for the study.
2. Those cases which are repeated are also excluded.

A detailed epidemiological data have been taken from all studied children, which includes name, age, sex, socio economic status, detailed history of present complaints, history of sexual exposure, related significant past and personal history. General and Systemic examination, details of cutaneous lesions were noted and after examination provisional diagnosis of genital dermatoses were made.

Patients were advised for routine blood and urine examination, skin scrapings for bacterial, fungal

and parasitic examinations, cytology of skin, related serological examination to rule out sexually transmitted diseases.

Data was entered into excel sheet and analyzed which is represented in the form of tables, bar diagrams & pie diagrams.

RESULTS

In the present study, the majority of genital dermatoses were found in adolescents 9-18 years (35.5%) followed by preschool children 3-6 years (31.5%), toddlers 1-3 years (17.5%) & school children 6-9 years (15.5%), in decreasing order.

In all the age groups, there is predominant involvement of male children when compared to females with the exception of toddlers.

Infective Genital dermatoses were seen in 173 (86.5%) of the total cases. Among Infectious dermatoses, parasitic infections (50.2%) were commoner than fungal (26.5%), bacterial (19%) and viral infections (4%).

Genital scabies was found to be the most common dermatoses among all the other types (43%). Scabies with secondary infection constituted 18%. Bullous impetigo was the predominant bacterial infection (9.5%) followed by Folliculitis (3.5%), Furunculosis (2%), BT Hansen's (1.0%) and Septic bubo (0.5%). Tinea cruris was found to be the most common fungal infection (7.5%) followed by candidal intertrigo (6.0%). Perianal dermatitis and candidal vulvitis were seen in 6.0% and 3.5% respectively. Among viral infections, Molluscum contagiosum was more frequently found (2.5%) than viral warts (0.5%) and pityriasis rosea (0.5%).

Table 1: Prevalence of various types of Infective Dermatoses

	No. of Cases (N)	Percentage (%)
Parasitic Infestations		
Genital Scabies	50	25.0
Scabies With Secondary infection	36	18.0
Posthitis due to insect bite	1	0.5
Bacterial Infections		
Bullous Impetigo	19	9.5
Folliculitis	7	3.5
Furunculosis	4	2.0
BT Hansen's	2	1.0
Septic bubo	1	0.5
Fungal Infections		
Tinea Cruris	15	7.5
Candidal Intertrigo	12	6.0
Candidal vulvitis	7	3.5
Perianal Dermatitis	12	6.0
Viral infections		
Genital Warts	1	0.5
Molluscum Contagiosum	5	2.5
P. Rosea	1	0.5
Total	173	86.5



Figure 1: Photograph of Scabies and Bullous Impetigo

Figure 2: Photograph of Scabies and Bullous Impetigo

The most common infective genital dermatoses was genital scabies (11.04%) & scabies with secondary infection (10.44%) in the age group of 9-18 years, bullous impetigo (8.12%) in preschool children and tinea cruris (5.22%) in adolescent age group.

Genital scabies (24.86%) and scabies with secondary infection (15.03%) were most common in male children, whereas scabies with secondary infection (5.78%), bullous impetigo (5.20%) & candidal intertrigo (5.20%) were predominant in female children.

Table 2: Age distribution of various types of Infective dermatoses

Genital dermatoses	Age group								Total	%
	1-3	%	3-6	%	6-9	%	9-18	%		
Parasitic infestations										
Genital Scabies	4	2.32	14	8.12	13	7.54	19	11.02	50	28.90
Scabies With 2 ^o infection	2	1.16	11	6.38	5	2.9	18	10.44	36	20.81
Posthitis due to insect bite	0	0	0	0	1	0.58	0	0	1	0.58
Bacterial infections										
Bullous Impetigo	2	1.16	14	8.12	1	0.58	2	1.16	19	11.02
Folliculitis	1	0.58	5	2.9	1	0.58	0	0	7	4.06
Furunculosis	1	0.58	3	1.74	0	0	0	0	4	2.32
BT Hansen's	0	0	0	0	0	0	2	1.16	2	1.16
Septic bubo	0	0	0	0	0	0	1	0.58	1	0.58
Fungal infections										
Tinea Cruris	3	1.73	2	1.16	1	0.58	9	5.22	15	8.67
Candidal Intertrigo	5	2.89	1	0.58	1	0.58	5	2.9	12	6.94
Candidal vulvitis	3	1.73	1	0.58	0	0	3	1.73	7	4.05
Perianal Dermatitis	6	3.47	2	1.16	1	0.58	3	1.73	12	6.96
Viral infections										
Molluscum Contagiosum	2	1.16	1	0.58	1	0.58	1	0.58	5	2.89
Genital Warts	0	0	1	0.58	0	0	0	0	1	0.58
P. Rosea	1	0.58	0	0	0	0	0	0	1	0.58
Total	30	17.4	55	31.9	25	14.5	63	36.54	173	100

Table 3: Sex distribution of various types of Infective Dermatoses

Genital Dermatoses	Sex					
	Male	%	Female	%	Total	%
Parasitic Infestations						
Genital Scabies	43	24.86	7	4.05	50	28.90
Scabies With Secondary infection	26	15.03	10	5.78	36	20.81
Posthitis due to insect bite	1	0.58	0	0.00	1	0.58
Bacterial Infections						
Bullous Impetigo	10	5.78	9	5.20	19	10.98
Folliculitis	6	3.47	1	0.58	7	4.05
Furunculosis	3	1.73	1	0.58	4	2.31
BT leprosy	1	0.58	1	0.58	2	1.16
Septic bubo	1	0.58	0	0.00	1	0.58
Fungal Infections						
Tinea Cruris	8	4.62	7	4.05	15	8.67
Candidal Intertrigo	3	1.73	9	5.20	12	6.94
Candidal vulvitis	0	0.00	7	4.05	7	4.05
Perianal Dermatitis	5	2.89	7	4.05	12	6.94
Viral infections						
Molluscum Contagiosum	5	2.89	0	0.00	5	2.89
Genital Warts	1	0.58	0	0.00	1	0.58
P. Rosea	1	0.58	0	0.00	1	0.58
Total	114	65.90	59	34.10	173	100.00

Table 4: Infective dermatoses and Socio-Economic Status

Genital dermatoses	Socio-Economic Status							
	Low	%	Middle	%	High	%	Total	%
Parasitic Infestations								
Genital Scabies	20	11.56	30	17.34	0	0	50	28.90
Scabies With Secondary infection	8	4.62	28	16.18	0	0	36	20.81
Posthitis due to insect bite	0	0.00	1	0.58	0	0	1	0.58
Bacterial Infections								
Bullous Impetigo	7	4.05	12	6.94	0	0	19	10.98
Folliculitis	6	3.47	1	0.58	0	0	7	4.05
Furunculosis	4	2.31	0	0.00	0	0	4	2.31
BT leprosy	1	0.58	1	0.58	0	0	2	1.16
Septic bubo	0	0.00	1	0.58	0	0	1	0.58
Fungal Infections								
Tinea Cruris	10	5.78	5	2.89	0	0	15	8.67
Candidal Intertrigo	7	4.05	5	2.89	0	0	12	6.94
Candidal vulvitis	2	1.16	5	2.89	0	0	7	4.05
Perianal Dermatitis	7	4.05	5	2.89	0	0	12	6.94
Viral infections								
Molluscum Contagiosum	0	0.00	5	2.89	0	0	5	2.89
Genital Warts	1	0.58	0	0.00	0	0	1	0.58
P. Rosea	0	0.00	1	0.58	0	0	1	0.58
Total	73	42.20	100	57.80	0	0	173	100.00

In children of low socio-economic class, genital scabies (16.18%) and tinea cruris (5.78%) were most common. Genital scabies (33.52%) was most common in middle socio-economic class children.

DISCUSSION

The evaluation for skin disorders forms an important component of primary health care practice for all including children. The prevalence of certain skin diseases in children can reflect status of health, hygiene, and personal cleanliness of a community.^[8] The pattern of skin disease is a consequence of poverty, malnutrition, overcrowding, poor hygiene, illiteracy, and social backwardness in many parts of India.^[9]

In the present study, Male children are predominantly involved with genital dermatoses (66%) than female children (34%) [Table 3]. This might be because of neglected female children in male dominated society or increased exposure of male children to soil and muddy environment.

In this study, 51% of children with genital dermatoses belonged to medium socio economic status & 49% to low socio-economic status. None were from high socio-economic status [Table 4]. This is probably due to not attending of the high socio-economic status children to Government Hospitals and because of affordability to consult a private doctor, and not able to wait for prolonged waiting hours or due to increased standard of living and personal hygiene in high socio-economic status. Poor standard of living in low socio-

economic status may be a reason for increased dermatoses in low socio-economic status and because of more number of children of middle and low socio-economic status attending to Government hospitals.

In our study, out of 200 children, infective dermatoses are seen in 173(86.5%) children. Karthikeyan K et al^[6] found infection & infestation (54.5%) in his study. Negi KS et al^[10], in his institutionalized study, out of 1754 children, infectious dermatoses were found in 1250 (50.9%). The warm and humid environment in and around sea coast and sandy soil of Kakinada may be a place for infective organisms to flourish and this may be the cause for increased percentage of infective dermatoses in our study.

Parasitic infestations like scabies are more prevalent in more populous country like India, and due to overcrowding, poor hygiene, susceptibility & easy transmissibility, there is increased chances of transmission to other children.

In the present study, out of 200 cases, scabies (43%) was found to be the most common dermatoses among all the other infective dermatoses. Genital scabies was seen in 25% and scabies with secondary infections in 18% of cases. The predominant age group where scabies was seen is adolescents (21.46%). It was seen less among toddlers (3.48%). This might be due to increased exposure with other children suffering from scabies infestation in adolescents.

In the present study, out of 200 children, bacterial infections are 16.5%, bullous impetigo is 9.5% followed by folliculitis (3.5%), furunculosis (2%) respectively.

Negi KS et al^[10] in his study found that pyoderma (15.4%) which is correlating with our study. Sardana K et al^[11] found bacterial infections 27.39% in his study. Gosh SK et al^[12] found that pyoderma, was the most common skin disease (35.6%), which differ from the present study. This is because the pattern of skin diseases varies from region to region which is attributed to differing climatic, cultural and socio-economic factors.^[13]

In fungal infections, Tinea cruris was found to be the most common (7.5%) followed by Candidal intertrigo and perianal dermatitis (6.0%). Sardana K et al^[11] found 4.65% of fungal infections in his study which is correlating with our study

Among viral infections, Molluscum contagiosum was more frequently found (2.5%) than viral warts (0.5%) and Pityriasis rosea (0.5%). In Gosh SK et al^[12] study Molluscum contagiosum was found in 4.6% of the children which is correlating with our study.

In the present study, majority of viral infections in were seen in toddlers (1.74%) and all were male. Sardana K et al^[11] found viral infections in 3.68% which is correlating with our study (3.5%).

The chronic dermatoses are associated with significant morbidity and psychological impact. Adequate amount of health education and training for hygienic practices are essential to reduce the prevalence of dermatoses among children^[14-16].

CONCLUSION

Infectious Genital dermatoses were common in adolescents 9-18 years, male children, low and middle socio-economic status children. Among Infectious dermatoses, parasitic infections (50.2%) were commoner than fungal (26.5%), bacterial (19%) and viral infections (4%). To decrease the incidence of infectious dermatoses important thing to maintain is hygiene. Health education should give to parents or guardians of children about Hygienic measures, sexual behavior and need of seeking medical advice.

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REFERENCES

1. Olayinka A, Olasode EB, Henshaw NA, Akpan and Agbulu RE. The Pattern of Dermatoses in a Skin Clinic in Calabar, Nigeria: A Baseline Study. *Clinical Medicine Insights: Dermatology*. 2011; 4 1-6
2. India Saurabh Sharma, Roopam Bassi, Manmeet Kaur Sodhi. Epidemiology of dermatoses in children and adolescents in Punjab. *Journal of Pakistan Association of Dermatologists*. 2012; 22 (3):224-229.
3. Suman H, Tulsyan, Savita Chaudhary, Devesh Mishra. A school survey of dermatological disorders and associated socio-economic factors in Lucknow; a region of north India. *Egyptian Dermatology online journal*. 2012; 8(2):4.
4. Sharma NK, Garg BK, Goel M. Pattern of skin diseases in urban school children. *Indian J Dermatol Venereol Leprol*. 1986; 52:330-1.
5. Sayal SK, Bal AS, Gupta CM. Pattern of skin diseases in paediatric age group and adolescents. *Indian J Dermatol Venereol Leprol*. 1998 May-Jun;64(3):117-9.
6. Kaliaperumal Karthikeyan, Devinder Mohan Thappa and Jeevan kumar B. Pattern of Pediatric Dermatoses in a Referral Center in South India. *Indian Pediatrics*. 2004; 41:373-377.
7. Sharma RC, Vibhu Mendiratta. Clinical Profile Of Cutaneous Infections And Infestations In the Paediatric Age Group. *Ind J Dermatol*. 1999; 44(4).
8. Taghreed Jameel Almaaita, Salah A Abdallat. Prevalence of skin diseases in Jordanian children. *Rawal Medical Jordan*. 2012; 37(4):374-376.
9. Manisha Balai, Ashok Kumar Khare, Lalit Kumar Gupta, Asit Mittal, and C M Kuldeep. Pattern of Pediatric Dermatoses in a Tertiary Care Centre of South West Rajasthan. *Indian J Dermatol*. 2012; 57(4): 275-278.
10. Negi KS, Kandpal SD, Parsad D. Pattern of skin diseases in children in Garhwal region of Uttar Pradesh. *In Pediatrics* 2001;38:77-80.

11. Sardana K, Mahajan S, Sarkar R, Mendiratta V, Bhushan P, Koranne RV, Gam VK. The spectrum of skin disease among Indian children. *Pediatr Dermatol*. 2009;26:6-13.
12. Naresh Jain, Suiay Khandpig. Pediatric dermatoses in India. *Indian J Dermatol Venereol Leprol*. 2010; 76(5):451-454.
13. Gupta P, Sarkar R. Common skin disorders and leprosy. In: Ghai OP, Gupta P, Paul VK, editors. *Ghai Essential Pediatrics*. 6th ed. New Delhi: CBS Publishers and Distributors; 2004. 627–63.
14. Jain N, Khandpur S. Pediatric dermatoses in India. *Indian Journal of DVL*. 2010;76 (5): 451-45.
15. Epidemiology and management of common skin diseases in children in developing countries. In *Discussion papers on child health* Geneva: WHO publications. 2005;12-15.
16. Emodi IT, Ikefuna AN, Uchendu U, Duru Askin U. diseases among children attending the outpatient clinic of the University of Nigeria teaching hospital, Enug. *African Health Sciences*. 2010; 10(4): 362 – 366.

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