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Original Research Article

A Retrospective Assessment of Children Presented with Infectious Dermatological Conditions

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Abstract

Aim: To study the Infectious Dermatological Conditions Observed in children.

Material and Methods: This retrospective study was conducted Department of Dermatology, GMCH, Purnia, Bihar, India for one year. 250 children were included in this study. Relevant data were extracted from their medical files using a data collection proforma and these included age, gender, history of skin diseases and type of skin disease diagnosed. Diagnosis of skin diseases in the clinic were made by trained dermatologists. The diagnoses were mainly clinical but laboratory confirmation was done where necessary. The infectious skin diseases diagnosed were categorized into bacterial, fungal, viral disorders and infestations.

Results: A total of 250 children aged less than 18 years were seen in the Dermatology clinic over the 1 year period. The mean age of children with ISDs was 8.12±6.3 years with a male to female ratio of 1.22:1. ISDs were diagnosed in 100 (40%) of these children. The most frequent ISDs according to a etiologic group were: Scabies in 44 (44%), Verruca Vulgaris in 12 (12%), Tinea corporis in 16(16%) and Impetigo in 10 (10%). Relationship of age and gender occurrence of ISDs Age and Gender showed no significant association with the occurrence of skin diseases.

Conclusion: ISDs are common in children with a prevalence of 40%. Scabies was the leading ISDs in our study. Age and gender showed no significant association with the occurrence of ISDs among the children studied. It is hoped that findings from this study will be useful in the formulation of policies towards the prevention and control of these ISDs.

Keywords: Infectious, Dermatological Conditions, Paediatric. ISDs

Introduction

Infectious skin disorders are common in children, presenting a spectrum of clinical manifestations that range from benign and self-limiting to severe and potentially life-threatening conditions. [1] These disorders encompass a diverse array of pathogens, including bacteria, viruses, fungi, and parasites, each with distinct epidemiological patterns and clinical features. Bacterial skin infections in children are frequently encountered and can manifest as impetigo, cellulitis, abscesses, and erysipelas. [2,3] *Staphylococcus aureus* and *Streptococcus pyogenes* are predominant pathogens, with impetigo being the most common bacterial skin infection characterized by honey-colored crusted lesions. Cellulitis presents as erythema, warmth, and swelling, often accompanied by systemic symptoms, requiring prompt antibiotic therapy to prevent complications. Viral skin infections in children are predominantly caused by herpesviruses, poxviruses, and papillomaviruses. [4,5] Herpes simplex virus (HSV) infections result in painful vesicles and erosions, commonly affecting the orofacial region (HSV-1) or genital area (HSV-2). Varicella-zoster virus (VZV) causes chickenpox (varicella), characterized by pruritic vesicular lesions in successive crops, and herpes zoster (shingles), which presents as a painful unilateral vesicular rash along a dermatomal distribution. [6] Fungal skin infections in children often involve dermatophytes, causing conditions such as tinea corporis (ringworm), tinea capitis (scalp ringworm), and tinea pedis (athlete's foot). *Trichophyton* species are the most common pathogens, leading to circular, scaly patches with central clearing and pruritus. Candida species can cause diaper dermatitis in infants and oral thrush in children, characterized by erythematous plaques with satellite pustules and white pseudo membranes, respectively. Parasitic skin infections in children include scabies and pediculosis (lice infestation). Scabies, caused by the *Sarcoptes scabiei* mite, presents with intense pruritus and linear burrows in interdigital spaces and flexural areas, often leading

to excoriations and secondary bacterial infections. Pediculosis capitis (head lice) and pediculosis corporis (body lice) are common infestations characterized by pruritus and visible lice or nits attached to hair shafts or clothing fibers.

Material and Methods

This retrospective study was conducted Department of Dermatology, GMCH, Purnia, Bihar, India for one year. 250 children were included in this study. Relevant data were extracted from their medical files using a data collection proforma and these included age, gender, history of skin diseases and type of skin disease diagnosed. Diagnosis of skin diseases in the clinic were made by trained dermatologists. The diagnoses were mainly clinical but laboratory confirmation was done where necessary. The infectious skin diseases diagnosed were categorized into bacterial, fungal, viral disorders and infestations.

Statistical Analysis

Data collected was coded and entered into Microsoft excel before analysis using the IBM SPSS Statistics version 24.0. Descriptive statistics were reported using frequency tables and charts. Discreet variables were compared using Chi-square test. Statistical significance was set at 95% confidence interval with p- value<0.05.

Results

A total of 250 children were seen in the Dermatology clinic over the 1-year period. The mean age of children with ISDs was 8.12±6.3 years with a male to female ratio of 1.22:1. ISDs were diagnosed in 100 (40%) of these children. The most frequent ISDs according to a etiologic group were: Scabies in 44 (44%), Verruca Vulgaris in 12 (12%), Tinea corporis in 16(16%) and Impetigo in 10 (10%). Relationship of age and gender occurrence of ISDs Age and Gender showed no significant association with the occurrence of skin diseases.

Table 1. Types of ISDs and gender distribution

Type of skin disease	Male n=55	Female n=45	Total N=100(%)
Pediculosis Capitis	7	5	12 (12)
Scabies	10	2	12(12)
Tinea Corporis	9	6	15 (15)
Pityriasis Versicolor	3	5	8 (8)
Tinea Capitis	3	5	8(8)
Tinea manum	2	2	4 (4)
Tinea Pedis	2	4	6 (6)
Diaper Candidiasis	4	5	9 (9)
Tinea Unguis	1	0	1 (1)
Tinea Cruris	2	3	5 (5)
Verruca Vulgaris	0	2	2 (2)
Molluscum Contagiosum	2	0	2 (2)
Herpes Zoster	2	1	3 (3)
Varicella	1	0	1(1)
Hensen's Disease	2	1	3 (3)
Impetigo	1	1	2 (2)
Folliculitis	2	2	4 (4)
Furunculosis	2	0	2 (2)
Cellulitis	0	1	1 (1)

Table 2. Relationship of age and gender with the occurrence of ISDs

Variables	ISDs n=100(%)	No ISDs n=150(%)	Total N=250(%)	Chi-Square	P value
Age					
<5	25(38.47)	40(61.53)	65(100)	0.74	0.68
5-10	35(45.45)	42(54.55)	77(100)		
>10	40(37.04)	68(62.94)	108(100)		
Gender					
Male	55(44)	70(66)	125(100)	2.33	0.17
Female	45(36)	80(64)	125(100)		

Discussion

The overall prevalence of ISDs in this study was 40%. This is higher than the prevalence rates of 26.1% reported by Ayanlowo et al. [7] , in Lagos, Nigeria, 24.62% reported by Ozcelik et al. [8], in Turkey and 27.2% reported is a study done in Saudi Arabia. [9] It is however lower than the prevalence rates of between 51% and 72.3% reported in some studies done in Nigeria [10,11], and Nepal [12], The disparity in prevalence rates between our study and the other studies in comparison may reflect variations in contributory factors to ISDs such as hygiene practices, cultural differences and socioeconomic status among the participants in the different studies.

With regards to the aetiologic categories of ISDs, fungal disorders were the most common lesions noted in our study and they accounted for 40% of all the ISDs seen. A similar finding was reported by Yotsu et al. [13], in Cote d'Ivoire. In contrast, Vakirlis et al [14], reported viral infections as the most common aetiologic category of ISDs among the children studied in Greece. The prevailing temperate climate in their environment may have been favorable to viral agents as against the tropical African climate. Furthermore, two studies done in Ethiopia reported infestations and bacterial infections as the most common aetiologic categories of ISDs seen in their respective studies. [15,16] Concerning specific ISDs, scabies was the most common disorder seen in the present study. This is a neglected tropical disease which has shown resurgence in recent years due to the prevailing poor sanitary conditions and overcrowding in our society. On the contrary, several other authors reported tinea capitis as the leading ISDs found among the children they studied. [11,17,18] These studies in comparison were however done among school children unlike the present study which was conducted in a tertiary dermatology clinic. Additionally, studies done in Nigeria, Ethiopia and India all reported impetigo as the predominant ISD seen among children in their study. [15,16,19-21] Age and Gender showed no significant association with the occurrence of ISDs in our study. These findings have been corroborated by previous authors. [15,22] Conversely, other authors have reported factors significantly associated with skin diseases to be age less than 10 years [11], and male gender. [11,13] The reason for this contrast from our study is unknown. It may however be related to the reduced capacity of the younger children below 10 years to maintain optimal personal hygiene without adult assistance and to the sometimes more adventurous nature of male children which brings them into closer contact with the aetiologic agents of these ISDs.

Conclusion

ISDs are common in children with a prevalence of 40%. Scabies was the leading ISDs in our study. Age and gender showed no significant association with the occurrence of ISDs among the children studied. It is hoped that findings from this study will be useful in the formulation of policies towards the prevention and control of these ISDs.

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