

# Clinical and socioeconomic pattern of infective dermatoses in pediatric population at a tertiary care center of Northeast India



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Submission: 03-05-2024

Revision: 27-05-2024

Publication: 01-07-2024

## ABSTRACT

**Background:** Cutaneous disorders are one of the most important components of any health-care system, especially which including children. Infective dermatoses are the most common skin diseases in children. The pattern of dermatoses in children varies from one country to another and within the same country from one state to another due to various climatic, cultural, and socioeconomic factors. **Aims and Objectives:** The aims and objectives are to study the clinical and socioeconomic profile of cutaneous infections and infestations among children. **Materials and Methods:** All children up to 12 years presenting with cutaneous infections and infestations were taken as study participants. A detailed history of the disease, socioeconomic status, and housing condition was taken from the patients as well as from the parents. Local, general, and systemic examinations were carried out on all the children and their examination findings were recorded in a standard pro forma for analysis and interpretation of data. **Results:** A total number of 1932 were children aged 0–12 years patients attended the Dermatology Outpatient Department during the study period of which 665 (34%) presented with infective dermatoses. 61.20% of patients belonged to school-aged children (5–12 years) 76.7% had a family with 4–6 members. 67.67% were from the rural areas, and 77.4% belonged to the lower class. Scabies was the leading offender (29.92%) among infective dermatoses followed by Impetigo contagiosa (20.45%). **Conclusion:** There is an increased incidence of cutaneous infections and infestations with increasing age among children. The incidence is associated with housing conditions, family size, socioeconomic strata, and seasonal. Most of these conditions are common and controllable with easy preventive and curative measures.

**Key words:** Infective; Children; Cutaneous

## INTRODUCTION

Skin diseases are important health problems among the pediatric age group, which not only affect the growth and development of children but also cause much morbidity. It poses a great challenge to the dermatologist as well as to the pediatricians and physicians at the primary care level. The prevalence of pediatric dermatoses in school-based surveys has ranged from 8.7% to 35% in various parts of India.<sup>1</sup> Skin diseases constitute 30% of all outpatient visits

to a pediatrician and 30% of all visits to a dermatologist involve children.<sup>2,3</sup>

Infection of the skin constitutes a large percentage of skin diseases in India. Bacteria, fungi, and viruses are responsible for a large number of such infections, among which bacteria play a major role. Heterogenous groups of dermatoses caused by protozoa, worms, or arthropods such as mites, lice, insects, and fleas are also very common. Parasites living on the skin, called ectoparasites, cause infestation; those

### Access this article online

**Website:**

<http://nepjol.info/index.php/AJMS>

**DOI:** 10.3126/ajms.v15i7.65381

**E-ISSN:** 2091-0576

**P-ISSN:** 2467-9100

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living within the body, endoparasites, cause infections. They may cause skin damage through mechanical injury, toxins, and immune-mediated mechanisms or act as vectors. A man may be the definitive or intermediate host. Most conditions are common in the tropics and wherever living conditions are poor.<sup>4</sup>

A child does not simply represent a miniature adult form but shows basic morphologic and functional differences, which apply in particular to the skin. Pediatric dermatoses require a separate view from adult dermatoses as there are important differences in clinical presentation, treatment, and prognosis. Dermatoses in children are more influenced by socioeconomic status, climatic exposure, dietary habits, and external environment as compared to adults. The pattern of dermatoses in children varies from one country to another and within the same country from one state to another due to changes in these various factors.

Assam Medical College and Hospital situated in Dibrugarh in the state of Assam has a large catchment area from upper Assam districts as well as adjoining states of the Northeast. A large number of children from different sections of society attend the Department of Dermatology and Venereology, Assam Medical College and Hospital, Dibrugarh. Therefore, this study was carried out to provide an insight into the clinical and socioeconomic profile of the common cutaneous infections and infestations affecting the children of this region.

### Aims and objectives

To study the clinical and socioeconomic profile of cutaneous infections and infestations amongst children between 0-12 years of age attending the Dermatology Outpatient Department of Assam Medical College and Hospital.

## MATERIALS AND METHODS

The study was conducted in the Department of Dermatology, Assam Medical College and Hospital, Dibrugarh, Assam, for a period of 1 year.

The study participants included all new patients aged 0–12 years attending the Dermatology Outpatient Department with cutaneous infections and infestation.

The children were divided into the following age groups:

- Infant : 0–1 year
- Pre-school : 1–5 years
- School age : 5–12 years

Neonates with physiological cutaneous manifestations, patients coming for follow-up, and skin lesions occurring

as a result of trauma, injury, and burn were excluded from the present study. Patients with separate episodes of dermatoses were regarded as new patients. It was ensured that they had not received any topical or systemic medication nor used any medicated soap or powder before their entry into the study.

A detailed history was taken from the patients as well as from the parents. Chief complaint(s), duration of illness, the onset of the disease, nature of the primary lesions(s), the evolution of the disease, secondary changes if any, associated infection, inflammation, previous treatment if any, and its outcome, socioeconomic status, family history, demographic profile, and personal hygiene were recorded.

All the patients were subjected to thorough clinical examinations. The entire skin surface including the mucous membrane, nails, and hair was examined in adequate light. General examinations and systemic examinations were carried out on all the children and their examination findings were recorded. In a patient presenting with multiple diseases, only a single diagnosis has been taken considering the primary and the predominant disease. The findings were recorded in standard pro forma.

### Statistical analysis

Simple proportions and percentages for comparing the different variables were used. The findings were recorded in a pro forma for analysis and interpretation of data.

## RESULTS

A total number of 16,585 patients attended the Dermatology Outpatient Department during the study period of which 1932 were children aged 0–12 years. Thus, the overall incidence of pediatric dermatoses was 12%. Out of 1932 children, 665 (34%) presented with infective dermatoses.

The maximum number of patients belonged to school-aged children (61.20%). Male outnumbered female in all age groups with a total percentage of 53.08% compared to female (46.92%) (Table 1).

**Table 1: Age and sex distribution**

Age group	Male		Female		Total	
	No.	(%)	No.	(%)	No.	(%)
Infant	28	54.90	23	45.10	51	7.67
Pre-school children	120	57.97	87	42.03	207	31.13
School-aged children	205	50.37	202	49.63	407	61.20
Total	353	53.08	312	46.92	665	100.00

The majority of the cases were presented in the month of July (12.78%) and August (12.63) and the minimum in the month of April (3.76%) (Figure 1).

The lower limb was the most common site (47.06%) of involvement followed by the trunk, upper limb, and head and neck. However, among bacterial infections head and neck region was mostly involved followed by the lower limb, trunk, and upper limb (Table 2).

Out of 665 children examined, 510 (76.7%) belonged to families with 4–6 members, and 136 (20.4%) had >6 family members. It was also observed that each type of infection and infestation was more prevalent in children who lived in thatch (kaccha) houses with non-cemented floors and walls.

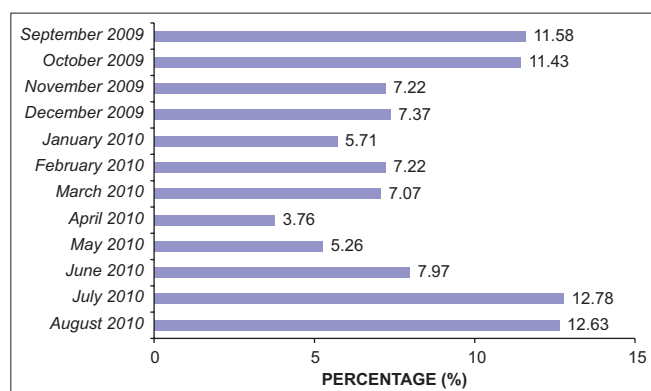


Figure 1: Distribution of cases according to various months of years

Table 2: Site of involvement		
Site	Number of cases	Percentage
Head and neck	256	38.49
Trunk	289	43.46
Upper limb	281	42.25
Lower limb	313	47.06

Table 3: Various household and socioeconomic factors						
Characteristics	Bacterial infection (%)	Fungal infection (%)	Viral infection (%)	Parasitic infestation (%)	Cutaneous tuberculosis (%)	Leprosy (%)
Family size						
<4	10 (1.50)	5 (0.75)	3 (0.45)	0 (0.00)	0 (0.00)	0 (0.00)
4–6	198 (29.77)	68 (10.23)	64 (9.62)	177 (26.61)	3 (0.45)	2 (0.30)
>6	53 (7.97)	17 (2.56)	5 (0.75)	52 (7.81)	5 (0.75)	4 (0.60)
Type of house						
Kuccha	200 (30.08)	73 (10.98)	49 (7.37)	177 (26.61)	8 (1.20)	6 (0.90)
Pucca	61 (9.17)	18 (2.71)	23 (3.46)	52 (7.81)	0 (0.00)	0 (0.00)
Locality						
Rural	166 (24.96)	66 (9.92)	56 (8.42)	151 (22.70)	8 (1.20)	5 (0.75)
Urban	95 (14.29)	25 (3.76)	16 (2.41)	78 (11.72)	0 (0.00)	1 (0.15)
Socioeconomic distribution						
Lower	204 (30.68)	73 (10.98)	49 (7.37)	177 (26.61)	8 (1.20)	06 (0.90)
Lower middle	53 (7.97)	15 (2.26)	22 (3.31)	52 (7.81)	0 (0.00)	0 (0.00)
Upper lower	10.15	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Upper middle	3 (0.45)	4 (0.60)	1 (0.15)	0 (0.00)	0 (0.00)	0 (0.00)
Total cases	261 (39.25)	92 (13.83)	72 (10.83)	229 (34.43)	8 (1.20)	6 (0.90)

Bacterial, fungal, viral, and parasitic infections were highest in 4–6 member groups, whereas cutaneous tuberculosis and leprosy were highest in >6 family members. It was seen that the patients belonged mostly from the rural areas (67.67%) in every etiological classification. 515 (77.4%) belonged to lower class. Bacterial infections formed the main bulk of infective dermatoses (39.25%), followed by parasitic infestation (34.43%), whereas fungal infection, viral infection, cutaneous tuberculosis, and leprosy constituted 24.7% of infective dermatoses (Table 3).

Scabies was the leading offender (29.92%) among infective dermatoses followed by impetigo contagiosa (20.45%), Tinea corporis (4.96%), folliculitis (4.81%), and viral warts (4.81%). Among bacterial infections, impetigo constituted 52.11% of the cases followed by folliculitis (12.26%), IED (9.96%). Bullous impetigo was the most common in infants constituting 66.7% of all bullous impetigo. Tinea corporis (35.87%) was the most common fungal infection followed by Tinea capitis (20.65%) and candidial infection (14.12%). Verruca vulgaris (44.44%) and molluscum contagiosa (43.06%) formed the main bulk of viral infections. Eight patients of cutaneous tuberculosis and 6 patients of leprosy were noted. 25 cases (3.76%) presented with lymphadenopathy. Seven out of 8 cases of cutaneous tuberculosis were scrofuloderma. 50% of children with leprosy belonged to BT type (Table 4).

## DISCUSSION

Infective dermatoses are the most common skin diseases in children. The underdeveloped immune system of neonates causes increased susceptibility to infections. Physical activity is less during the neonatal period and infancy. With the growth of the child, the physical activity increases leading to increased susceptibility to trauma, irritants, and infections.

Table 4: Etiological distribution								
Etiology	Infant		Pre-school		School-aged		Total	
	Male	Female	Male	Female	Male	Female	No.	(%)
<b>Bacterial infection</b>								
Impetigo contagiosa	6	4	32	25	41	28	136	52.11
Bullous impetigo	4	2	2	1	0	0	9	3.45
Ecthyma	0	0	1	3	14	3	21	8.05
Folliculitis	0	2	8	5	9	8	32	12.26
Furunculosis	0	0	1	4	8	6	19	7.28
Abscess	0	0	1	0	1	0	2	0.77
Cellulites	0	0	0	0	0	3	3	1.15
IED	0	1	2	5	5	13	26	9.96
Acute paronychia	0	0	0	0	2	0	2	0.77
Chronic paronychia	0	0	0	0	0	1	1	0.38
Periostitis	3	2	5	0	0	0	10	3.83
Total	13	11	52	43	80	62	261	100.00
<b>Fungal Infection</b>								
<b>Dermatophyte infection</b>								
Tinea corporis	1	1	6	2	17	6	33	35.87
Tinea capitis	1	0	3	2	5	8	19	20.65
Tinea pedis	0	0	0	0	2	4	6	6.52
Tinea facie	0	0	0	2	1	0	3	3.26
Tinea manuum	0	0	0	0	3	1	4	4.35
Tinea unguium	0	0	1	1	2	2	6	6.52
P. versicolor	0	0	2	1	3	2	8	8.70
<b>Candidial infection</b>								
Oral candidiasis	0	1	0	0	0	0	1	1.09
Candidial intertrigo	2	3	1	2	1	3	12	13.04
Total	4	5	13	10	34	26	92	100.00
<b>Viral infection</b>								
Molluscum contagiosa	0	1	7	7	7	9	31	43.06
Verruca vulgaris (Viral warts)	0	0	2	3	12	15	32	44.44
Herpes simplex	0	0	1	0	0	4	5	6.94
Herpes zoster	0	0	0	0	0	0	0	0.00
Measles	0	0	0	0	1	1	2	2.78
Varicella	0	0	0	0	0	2	2	2.78
Total	0	1	10	10	20	31	72	100.00
<b>Parasitic Infestation</b>								
Scabies	11	6	42	21	67	52	199	86.99
Pediculosis capitis	0	1	0	2	0	27	30	13.10
Total	11	7	42	24	67	84	229	100.00
<b>Cutaneous Tuberculosis</b>								
Scrofuloderma	0	0	4	0	1	2	7	87.50
Pediculosis	0	0	0	0	1	0	1	12.50
Total	0	0	4	0	2	2	8	100.00
<b>Leprosy</b>								
Hansen's Disease (BT)	0	0	0	0	2	1	3	50.00
Hansen's Disease (BL)	0	0	0	0	0	2	2	33.33
Hansen's Disease (Polyneuritic Type)	0	0	0	0	1	0	1	16.67
Total	0	0	0	0	3	3	6	100.00

The overall incidence of pediatric dermatoses noted in our study was 12%. In a study by Mavoori et al.,<sup>5</sup> in South India, the incidence of pediatric dermatoses was 8.25%. Sharma et al.,<sup>1</sup> in a school survey reported 14.3% incidence.

34.42% of the children presented with infective dermatoses in the present study. Bhatia<sup>6</sup> recorded 63.3% infective, whereas 50.9% of the children had infective dermatoses in the study by Negi et al.<sup>7</sup> The present study recorded a decreased percentage of observation and comparable to 37% by Hayden.<sup>8</sup>

#### Age and sex distribution

There was an increasing trend of infective dermatoses with increasing age. Sayal et al.,<sup>9</sup> showed similar increasing trends in age with neonates 6 (2%) being the lowest and school-age children 124 (41.3%) showing the highest cases. This might be due to more exposure to environmental factors with the increasing age. In our study, the boys were affected more than the girls in all the age groups similar to the study by Negi et al.,<sup>7</sup> (53.73% boys) whereas Bhatia<sup>6</sup> reported a greater number of girls (56.4%) than that of the boys.

### Socioeconomic status and family size

Infection and infestation were more prevalent in rural areas in comparison to urban areas. Most of the children belonged to the lower class and lower middle class. The majority (76.67%) of the cases belonged to families with 4–6 members. In our country, most of the families belonging to these classes have 4–6 members commonly which might be the reason for the increased number of cases whereas family with <4 members recorded the least number of cases. Observation of a higher prevalence of bacterial infection, pediculosis, and scabies was also reported in a comparative school survey between two high- and low-class schools in Turkey.<sup>10</sup>

### Seasonal distribution

The overall highest prevalence for any skin conditions was seen in July (12.78%) and the lowest in April (3.76%). The low prevalence of infections and infestations particularly in April may be because of the relatively less humid and lower temperature as compared to July and August. Warm and humid conditions have been factors for increased incidence of bacterial infections 6.17% (41 cases) in August. Another reason could be due to the exposure of the skin, as most Indian children particularly those of lower socioeconomic groups are very scantily clad during the summer months. Thus, the skin is subjected to trauma and insect bites due to the increased incidence of this disease in summer. Increased incidence of cutaneous bacterial infection in the summer months has also been seen by Dayani et al.,<sup>11</sup> Verma et al.,<sup>12</sup> and Marriete et al.<sup>13</sup>

### Site of involvement

The lower limb is the most common site (47.06%) of involvement. However, among bacterial infections, head-and-neck region was mostly involved followed by the lower limb, trunk, and upper limb. This is similar to the study by Marriete et al.,<sup>13</sup> who observed a maximum number of lesions in the face, neck, and scalp followed by the extremities. The increased frequency of bacterial infection in the head-and-neck region in our study is perhaps due to the reason that nasal colonization by *Staphylococcus aureus* is most frequent in this group. Various studies have shown that people colonized with *S. aureus* carry a greater chance of subsequent infection with this organism.<sup>14</sup>

### Bacterial infection

39.25% of the children presented with bacterial infection and belonged mostly to school-aged children. Sayal et al.,<sup>9</sup> reported bacterial infection in 4.3%, Hayden<sup>8</sup> reported 17.45% Ghosh et al.,<sup>15</sup> reported 35.6% incidence of bacterial infections.

Among the bacterial infections, impetigo (contagiosa and bullosa) was the most common 55.5% followed by

folliculitis 13.03% similar to the study by Kar et al.,<sup>16</sup> with the maximum number of impetigo at 47%. Out of nine bullous impetigo cases, 6 (66.67%) were noted in infants. Bullous impetigo is common in infants due to a lack of good adhesion between the epidermis and dermis.

### Viral infection

The present study recorded 10.8% viral infection which is similar to 8.5% and 15.7% of viral infection by Hayden<sup>8</sup> and Findlay et al.,<sup>17</sup> with verruca vulgaris and molluscum contagiosa forming the main bulk of disease. Molluscum contagiosa was also the most common viral infection in the study conducted by Sharma and Sharma.<sup>18</sup>

### Fungal infection

13.8% of the cases were fungal infections which was slightly higher than Sayal et al.,<sup>9</sup> with 11%. Dermatophytoses were the most common fungal infection observed with *Tinea corporis* comprising the maximum followed by *Tinea capitis* but Findlay et al.,<sup>17</sup> reported higher cases of *Tinea capitis* than *Tinea corporis*. The incidence of candidal infection was reported by Findlay et al.,<sup>17</sup> as 1.1% which is comparable to our value.

### Scabies

Scabies recorded the highest number of cases 199 (29.92%), which is comparable with that of 22.4% incidence reported by Ghosh et al.,<sup>15</sup> whereas Bhatia<sup>6</sup> and Sharma et al.,<sup>1</sup> reported a low incidence of 2.25% and 3.21%, respectively. The higher value in our study might be due to the reemergence of scabies.<sup>19</sup>

### Leprosy and cutaneous tuberculosis

There were 0.9% leprosy patients similar to Negi et al.,<sup>7</sup> with 0.8% leprosy, whereas Sharma et al.,<sup>1</sup> reported 5.1%. cutaneous tuberculosis constituted 1.2% of the infectious dermatoses, of which 7 (87.5%) were scrofuloderma and 1 (12.5%) lupus vulgaris. According to Vashisht et al., (36.9%)<sup>20</sup> and Kumar et al., (53.35%),<sup>21</sup> scrofuloderma was the most common form of cutaneous tuberculosis seen in children similar to our study.

### Limitations of the study

Long-term and multi-centric studies with a larger sample size will further help in better understanding of childhood dermatoses and the various cutaneous infection and infestations.

## CONCLUSION

The present study showed that school-going children and preschool children are more susceptible to communicable diseases in the form of cutaneous infections and infestations. Increased incidence with increasing age and seasonal

variations of the different diseases are also noteworthy. The housing condition, family size, socioeconomic strata, locality, and type of housing play an important role in the incidence of these dermatoses. Most of these disorders are common and controllable with easy preventive and curative measures.

As most of the cutaneous infestations and infestations were seen in the school-going and pre-school children, it will be useful to screen this population to prevent complications and disability at a tender age.

## ACKNOWLEDGMENT

We are thankful to all the individuals included in the study.

## REFERENCES

- Sharma NK, Garg BK and Goel M. Pattern of skin diseases in urban school children. In J Dermatol Venereol Leprol. 1986;52(6):330-331.
- Thappa DM. Common skin problems. Indian J Pediatr. 2002;69(8):701-706.  
<https://doi.org/10.1007/BF02722708>
- Federman DG, Reid MC, Feldman SR, Greenhoe J and Kirsner RS. The primary care providers and care of skin disease. Arch Dermatol. 2001;137(1):25-29.  
<https://doi.org/10.1001/archderm.137.1.25>
- Marks R. Roxburgh's Common Skin Diseases. 17<sup>th</sup> ed. London: Hodder Arnold; 2003.
- Mavoori A, Sriram D, Pamar S and Bala S. An epidemiological study of pattern of dermatoses in paediatric age group at a tertiary care teaching hospital in South India. Int J Res Dermatol. 2020;6(3):392-397.  
<https://doi.org/10.18203/issn.2455-4529.intjresdermatol20201077>
- Bhatia V. Extent and pattern of paediatric dermatoses in rural areas of central India. Indian J Dermatol Venereol Leprol. 1997;63(1):22-25.
- Negi KS, Kandpal SD and Prasad D. Pattern of skin diseases in children in Garhwal region of Uttar Pradesh. Indian Pediatr. 2001;38:77-80.
- Hayden GF. Skin diseases encountered in a pediatric clinic. A one-year prospective study. Am J Dis Child. 1985;139(1):36-38.  
<https://doi.org/10.1001/archpedi.1985.02140030038023>
- Sayal SK, Bal AS and Gupta CM. Pattern of skin diseases in paediatric age group and adolescent. Indian J Dermatol Venereol Leprol. 1998;64(3):117-119.
- Inanir I, Sahin MT, Gunduz K, Dinc G, Türel A and Oztürkcan S. Prevalence of skin conditions in primary school children in Turkey: Differences based on socioeconomic factors. Pediatr Dermatol. 2002;19(4):307-311.  
<https://doi.org/10.1046/j.1525-1470.2002.00087.x>
- Dayani AS, Ferrieri P and Wannamaker LW. Endemic superficial pyoderma in children. Arch Dermatol. 1973;108(4):517-522.
- Verma KC, Chug DT and Bhatia KK. Streptococci in pyoderma. Indian J Dermatol Venereol Leprol. 1981;47(4):202-207.
- Marriete SM, Garg BR and Kanungo R. A clinico-bacteriological study of primary pyodermas of children in Pondicherry. Ind J Dermatol Venereol Leprol. 1992;58:183-187.
- Ochoa TJ, Mohr J, Wanger A, Morphy JR and Heresi GP. Community-associated methicillin-resistant *Staphylococcus aureus* in pediatric patients. Emerg Infect Dis. 2005;11(6):966-968.  
<https://doi.org/10.3201/eid1106.050142>
- Ghosh SK, Saha DK and Roy AK. A clinic-aetiological study of dermatoses in paediatric age group. In J Dermatol. 1995;40:29-30.
- Kar PK, Sharma NP and Shah BH. Bacteriological study of pyoderma in children. Indian J Dermatol Venereol Leprol. 1985;51(6):325-327.
- Findlay GH, Vismer HF and Sophianos T. The spectrum of paediatric dermatology. Analysis of 10,000 cases. Br J Dermatol. 1974;91(4):379-387.  
<https://doi.org/10.1111/j.1365-2133.1974.tb13075.x>
- Sharma NL and Sharma RC. Prevalence of dermatological disease in school children of a high altitude tribal area of Himachal Pradesh. Indian J Dermatol Venereol Leprol. 1999;56:375-376.
- Parikh D. Paediatric dermatology. Indian J Dermatol Venereol Leprol. 2010;76(4):327.  
<https://doi.org/10.4103/0378-6323.66574>
- Vashisht P, Sahoo B, Khurana N and Reddy BS. Cutaneous tuberculosis in children and adolescent: A clinicohistological study. J Eur Acad Dermatol Venereol. 2007;21(1):40-47.  
<https://doi.org/10.1111/j.1468-3083.2006.01858.x>
- Kumar V, Garg BR and Baruah MC. Prevalence of dermatological diseases in school children in a Semi-urban area in Pondicherry. Indian J Dermatol Venereol Leprol. 1988;54(6):300-302.

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**SG**- Concept and design of the study; **SM**- Data collection, interpreted the results; **BS**- Preparation and revision of the manuscript; **NPC**- Statistical analysis and interpretation.

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**Source of Support:** Nil, **Conflicts of Interest:** None declared.