

Original Research Article

PREVALENCE OF COMMON SKIN DISEASES AMONG GOVERNMENT PRIMARY SCHOOL CHILDREN IN RURAL FIELD PRACTICE AREA OF GUNTUR MEDICAL COLLEGE, GUNTUR

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Received : 17/05/2026
Received in revised form : 05/07/2026
Accepted : 20/07/2026

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DOI: 10.70034/ijmedph.2026.3.256

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2026; 16 (3); 1604-1611

ABSTRACT

Background: Skin disorders in children may stem from primary dermatological conditions or be manifestations of underlying systemic diseases. Early diagnosis and prompt treatment are crucial in minimizing childhood morbidity and preventing complications. Skin diseases are a significant concern in developing countries, influenced by various environmental, socio-economic, and cultural factors like Poor sanitation and widespread poverty, High population density, often leading to overcrowded households, Malnutrition and limited awareness of personal hygiene, Low literacy levels and inadequate public consciousness regarding cleanliness. These factors combine to create a high prevalence of skin diseases, affecting a substantial portion of the population.

Materials and Methods: Cross - Sectional study conducted at Government primary schools in rural field practice area of Guntur medical college, Guntur from June 2023 to November 2024.

Results: Among the study group 20% of them were in the age group of 5-6 years. 51% were male children and 49% were female children. 91% resided in overcrowded houses, whereas only 9% lived in non-overcrowded house. 56% of children had skin diseases and 44% found to be normal. Among the study population the prevalence of skin diseases decreased with increased mother's education. This was found to be statistically significant.

Conclusion: This study highlights the strong link between poor hygiene, overcrowding, low parental education, and skin disease prevalence. Addressing these factors through better sanitation, health education, and hygiene awareness could significantly reduce the burden of skin diseases among schoolchildren in similar socio-economic settings.

Keywords: Skin disorders, Malnutrition, Overcrowding etc.

INTRODUCTION

Skin is the largest organ of the body, serves as a protective covering for underlying structures. In children, the skin is thinner and more delicate, making them more susceptible to various dermatological conditions. Skin diseases are a prevalent health concern among school-aged children, with studies in India showing prevalence rates ranging from 8.7% to 35% in school-based surveys.^[1,2]

Skin disorders in children may stem from primary dermatological conditions or be manifestations of

underlying systemic diseases. Early diagnosis and prompt treatment are crucial in minimizing childhood morbidity and preventing complications.

In this context, skin diseases refer primarily to conditions affecting the superficial layers of the skin. Common disorders are defined as those frequently occurring within the general population (prevalence >1%) or at the primary healthcare level. It's essential to note that conditions considered rare in some regions may be common in others.^[3]

Prevalent Skin Diseases in Children

1. Bacterial Infections (Pyoderma): Pyoderma encompasses various superficial bacterial infections, including:

- Impetigo and Impetigo Contagiosa, Folliculitis, Furuncle & Carbuncle
- Tropical Ulcers

2. Parasitic Infections:

- Scabies, Ectoparasitoses such as Pediculosis capitis (head lice) and Pediculosis corporis.

3. Fungal Infections (Mycoses):

- Tinea capitis, Dermatophytosis, Candidiasis, and Pityriasis versicolor.

4. Viral Infections:

- Benign viral tumors like Verrucae (warts) and Molluscum contagiosum.

5. Dermatitis:

- Includes irritative, allergic, and atopic dermatitis. Skin diseases significantly impact children's health and well-being. Given their high prevalence and potential complications, awareness and early intervention are essential. Equipping primary healthcare providers and caregivers with knowledge about common skin disorders can help ensure timely and effective management.

Skin Diseases in Developing Countries: A Public Health Perspective

Skin diseases are a significant concern in developing countries, influenced by various environmental, socio-economic, and cultural factors. The primary etiological factors contributing to the high prevalence of skin diseases include:

- A hot and humid climate, Low standards of hygiene and limited access to clean water, High interpersonal contact and overcrowded living conditions.
- Reactions to insect bites and other underlying skin conditions.^[1]

India: A Unique Context for Skin Diseases

India, with its predominantly hot and humid climate, faces unique challenges that exacerbate the burden of skin diseases:

Poor sanitation and widespread poverty, High population density often leading to overcrowded households, Malnutrition and limited awareness of personal hygiene, Low literacy levels and inadequate public consciousness regarding cleanliness. The situation is particularly dire in rural areas, where more than 75% of the population resides, often in overcrowded, unhygienic conditions with limited access to medical facilities.

Neglect of Skin Diseases in Public Health

Despite their prevalence, skin diseases in children are often overlooked in public health initiatives. This is partly due to the perception that skin conditions are benign, not life threatening, and merely a minor inconvenience.^[3]

The Importance of School Surveys

School-based surveys provide an effective method for identifying the prevalence and patterns of skin diseases among children in a specific age group. These studies also help uncover factors contributing to the development of skin conditions.

The present study aimed to determine the prevalence of common skin diseases and identify associated factors among primary school children in government schools within Rural field practice area of Guntur medical college, Guntur. By understanding these patterns, targeted interventions can be designed to improve child health outcomes and address this pressing public health concern.

Objectives

1. To find the Prevalence of Common Skin diseases among the Primary School Children in Government Schools of Rural field practice area of Guntur medical college, Guntur.
2. To identify and assess the various factors associated with Skin diseases in the study population.

MATERIALS AND METHODS

Study Design: Cross - Sectional study.

Study Area: Government primary schools in rural field practice area of Guntur medical college, Guntur.

Study Period: 18 months (from June 2023 to November 2024).

Study Population: All Children studying from I standard to V standard In Government primary schools in rural field practice area of Guntur medical college, Guntur.

Exclusion Criteria

1. Children absent on two repeated visits in a week's interval to the school.
2. Parents not willing to give consent for the study.

Sample Size: A study done by Dr. Libu G.K et al,^[4] on Prevalence and socio-demographic determinants of skin disease among lower primary school children in Calicut, Kerala reported that the prevalence of transmissible skin diseases was 61%.

This was taken as a basis for the calculation of the sample size for this study as transmissible skin diseases are of public health importance.

At 95% confidence interval, $Z_{\alpha} = 1.96$, $p = 61\%$, $q = 39\%$, d allowable error of 8% of 61% = 4.88 26

Sample size $N = Z^2 P \times Q / d^2$

Assuming 10% of non-responsiveness, the sample size was calculated to be 422 and it was rounded off to 450

Sampling Procedure

- All the 22 government primary schools in rural field practice area of Guntur medical college, Tadikonda were listed in an alphabetical order.
- 7 Schools were selected by simple random sampling method.
- From the selected schools, list of the primary school children were taken and the study participants were selected by simple random sampling method.

Data Collection: Data collection started after obtaining permission from Institutional Ethical Committee (IEC)

The complete address of each child was obtained from the school records.

The informed consent was obtained from the parents in the following way.

1. The parent who comes to receive their children after the school hours, gathered in a class room with the help of the school teachers.
2. The parents who were not contacted in the schools were approached by home visits to get informed consent after a brief introduction of the study.
3. The working parents were contacted at their homes to get informed consent
 - Children are examined in the school campus in a separated room allotted by the school Headmaster/Headmistress. The personal hygiene of the child was noted by head to foot examination followed by examination of the skin in the sunlight after removal of the dress by the child in the presence of female school teacher and ANM.
 - The investigator was accompanied by a dermatologist for confirmation of skin diseases. After examination of the child, the data was obtained from the parents or available family

members at the time of home visit by the investigator with help of ANM.

- The data was collected by using semi-structured, standardized, pre-tested questionnaire in Telugu and English language from the parents or available family members.
- Questionnaire constructed for this study contains questions on Socio demographic characteristics, occupation of the parents, socio economic class, overcrowding, sanitation, source of water supply and personal hygiene etc...
- Children who had skin diseases were noted separately and the medicines are given to their parents during home visits.
- Health education regarding personal hygiene of the child and prevention of skin diseases was given to the parents or the available family members at the time of home visits.
- Data entered into MS Excel and analysed using SPSS software 25
- Statistical tests like Chi-square was used to know the significance of results wherever they are appropriate.

RESULTS

Table 1: Socio-demographic details of study population

Socio demographic details	proportion
AGE	
5-6 Years	20%
7-8 Years	39%
9-11 Years	41%
SEX	
Male	51%
Female	49%
Religion	
Hindu	62%
Muslim	31%
Christian	7%
Education of the father	
Illiterate	4%
Primary school	21%
High School	42%
Intermediate	31%
Graduate	2%
Education of the mother	
Illiterate	5%
Primary school	32%
High school	41%
Intermediate	22%
Socio-economic status (modified BG prasad scale)	
Lower middle	58%
Middle	42%
Type of house	
Pucca	76%
Semi-pucca	24%
Overcrowding	
Yes	91%
No	9%
Sharing the same room for sleeping	
Yes	91%
No	9%
Source of water for washing, bathing purpose	
Panchayathi lorry	30%
Panchayathi pipeline	65%
Bore well	5%
Toilet facility in the house	
Yes	95%

No	5%
Bath to child	
Daily	93%
Not daily	7%
Wearing washed clothes	
Daily	62%
Not daily	38%
Nail cutting	
Yes	10%
No	90%
Skin diseases in the family	
Yes	2%
No	84%
Don't know	14%

In the present study 51% were males and 49% were females. 58% belong to lower middle class.76% of

study population living in pucca houses. 2% of study population has family history of skin diseases.

Table 2: Personal hygiene details of study population

Cleanliness of school dress	
Clean	26%
Unclean	74%
HAIR	
Dandruff	59%
Clean	41%
Cleanliness of nose	
Nasal discharge	28%
Clean	72%
Cleanliness of ear	
Wax accumulation	64%
Clean	36%
Teeth	
Clean	20%
Unclean	80%
Dental caries	
Present	61%
Absent	39%
Nails	
Clean	28%
Unclean	72%
Bad body odour	
Present	21%
Absent	79%
Bare foot	
Present	9%
Absent	91%

In the present study 26% of study population has cleanliness of school dress. 61% of study population has dental caries. 28% of study population has nasal discharge. Dandruff is seen in 59% of study population.



Figure 1: Prevalence of Skin Diseases

56% (252) of children had skin diseases and 44% (198) found to be normal.

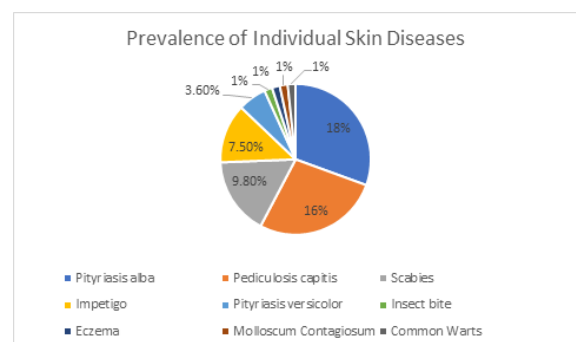


Figure 2: Prevalence of Individual Skin Diseases

Pityriasis alba was the commonest one which contributed 18%, other diseases were Pediculosis capitis 16%, Scabies 9.8%, Impetigo 7.5% Pityriasis Versicolor 3.6%, Insect bite allergy 1%, Eczema 1%, Molluscum Contagiosum 1%, Common Warts 1%.

Table 3: Mother's education and Skin diseases

Mother's education	Skin diseases	
	Present	Absent
Illiterate	20 (90%)	2 (10%)
Primary school	118 (82%)	26(18%)
High school	96 (52%)	89(48%)
Intermediate	18 (18%)	81(82%)

Fisher's Exact test, $P = .000$ (Significant)

Among the study population the prevalence of skin diseases decreased with increased mother's education. This was found to be statistically significant.

Table 4: Socio Economic status and Skin diseases

Socio Economic Status	Skin diseases	
	Present	Absent
Middle class	86(33%)	175(67%)
Lower Middle class	166(88%)	23(12%)

Chi-Square =131.28, $df=1$, $P = 0.0001$ (Significant)

The prevalence of skin diseases was found to be high among the children belongs to lower middle class than children belong to middle class. This difference was significant.

Table 5: Number of persons in the family and Skin diseases

Number Of Persons In House	Skin Diseases	
	Present	Absent
< 4	14(34%)	26(66%)
> 4	238(58%)	172(42%)

Chi-Square =7.86, $d f =1$, $P = .00510$ (Significant)

Family members more than 4 showed high prevalence than families with less than 4 members. The difference was statistically significance.

Table 6: Number of rooms in the house and Skin diseases

No of Rooms	Skin diseases	
	Present	Absent
One room	27 (89%)	3 (11%)
Two rooms	221 (57%)	167 (43%)
>2 rooms	4 (12%)	28 (88%)

Fisher's Exact test, $P=.00019$ (Significant)

The prevalence of skin diseases and the number of living rooms in the family found to be statistically significant.

Table 7: Overcrowding and Skin diseases

Over Crowding	Skin diseases	
	Present	Absent
Yes	241(59%)	169(41%)
No	11 (27%)	29 (73%)

Chi-Square =14.47, $d f =1$, $P =.00014$ (Significant)

The prevalence of skin diseases was 59% among overcrowded and 27% among non- overcrowded houses. This difference was statistically significant.

Table 8: Sleeping in the same room and Skin diseases

Same Room	Skin Diseases	
	Present	Absent
Yes	238(59%)	167(41%)
No	14(31%)	31(69%)

Chi-Square=12.6, $df =1$, $P =.0004$ (Significant)

The prevalence was high among the people who shared the same room and it was statistically significant

Table 9: Toilet facility in houses and skin diseases

Toilet Facility	Skin Diseases	
	Present	Absent
Yes	232(54%)	195(46%)
No	20(89%)	3(11%)

Fisher's Exact test, $P = .0021$ (Significant)

The prevalence was 89% among children who do not have toilet facility in their Houses compared to those who have (54%). The difference was statistically significant.

Table 10: Source of water and Skin diseases

Source Of Water	Skin Diseases	
	Present	Absent
Panchayathi Lorry	89(66%)	46(34%)
Panchayathi Pipe	155(53%)	137(47%)
Bhore well	8 (34%)	15(66%)

Chi-Square=10. 61, df =2, P =.00497 (Significant)

The prevalence of skin diseases and the source of water for washing, bathing purposes were found to be significant. The prevalence was 66%, 53%, 34% for

panchayathi lorry water, pipe water and bhore well water respectively.

Table 11: Daily bathing and Skin diseases

Bathing	Skin Diseases	
	Present	Absent
Daily	228(54%)	190(46%)
Not Daily	24(75%)	8(25%)

Chi-Square =4.25, df =1, P = .039 (Significant)

Children who bathe daily had a low prevalence of skin diseases (54%) compared to those who do not bathe daily (75%), and difference was statistically significant.

Table 12: Wearing washed clothes daily and Skin diseases

Washed Clothes	Skin Diseases	
	Present	Absent
Yes	128(46%)	151(54%)
No	124(73%)	47(27%)

Chi-Square= 29.46, df =1, P = .000 (Significant)

The association between the prevalence of skin diseases and the practice of wearing daily washed clothes among children was found to be highly significant. Among children who wore daily washed

clothes, the prevalence of skin diseases was 46%, compared to 73% among those who did not wore daily washed clothes.

Table 13: Cleanliness of School dress and Skin diseases

School Dress	Skin Diseases	
	Present	Absent
Clean	39(33%)	78(67%)
Unclean	213(64%)	120(36%)

Chi-Square =32.97, df =1, P = .00000 (Significant)

Skin diseases were more prevalent among children wearing unclean school dresses (64%) compared to those wearing clean school dresses (33%) and this shows statistical significance.

Table 14: Dandruff and Skin diseases

Dandruff	Skin Diseases	
	Present	Absent
Present	172(65%)	93(35%)
Absent	80(43%)	105(57%)

Chi-Square =1 9.88, df =1, P = .00000 (Significant) (0.05)

Children with dandruff showed a higher prevalence of skin diseases (65%) compared to children not having dandruff (43%), this difference was statistically significant.

Table 15: Teeth and Skin diseases

Teeth	Skin Diseases	
	Present	Absent
Clean	77(42%)	103(58%)
Unclean	175(65%)	95(35%)

Chi-Square =20.40, df= 1, P = .0000062 (Significant)

Children with unclean teeth had the high prevalence of skin diseases compared with children who had clean teeth. This was statistically significant.

Table 16. Nails and Skin diseases

Nails	Skin Diseases	
	Present	Absent
Clean	51(40%)	75(60%)
Unclean	201(62%)	123(38%)

Chi-Square=16.25, df= 1, P = .0000555 (Significant)

Prevalence of skin diseases among children who had unclean nails was 62% it was 40% among children with clean nails. This was found to be significant.

Table 17: Unpleasant body odour and Skin diseases

Bad Body Odour	Skin Diseases	
	Present	Absent
Present	78(83%)	16(17%)
Absent	174(49%)	182(51%)

Chi-Square =33.73, df= 1, P = .00000 (Significant)

Prevalence of skin diseases among children with bad body odour was 83% without bad odour the

prevalence was 49%. The difference was statistically Significant.

Table 18: Barefoot and Skin diseases

Bare Foot	Skin Diseases	
	Present	Absent
Yes	32(78%)	9(22%)
No	220(54%)	189(46%)

Chi-Square =7.910, df= 1, P = .00483 (Significant)

The prevalence of skin diseases among the children those who are with bare foot was 78% where as it was 54% among children those who come with slippers and this shows statistical significance.

DISCUSSION

The pattern of dermatological conditions varies across different countries and even within various regions of single country. Skin diseases in children are significantly influenced by climatic conditions, environmental factors, socioeconomic status, and personal hygiene. This study was conducted among children attending Government Primary Schools in Rural Field Practice area of Guntur medical college, Guntur to determine the prevalence of common dermatological conditions and the associated risk factors.

Prevalence of Skin Diseases: Among the 450 study participants, 252 children were diagnosed with skin diseases, yielding a prevalence rate of 56% (95% confidence interval: 50%–62%). This finding is comparable to studies conducted by Ewaldo V. Komba et al,^[5] in Dar es Salaam and R.A. Valia et al,^[6] in Varanasi, as well as Vikas Bhatia,^[7] in Chandigarh, where prevalence rates were 57.3%, 54%, and 51%, respectively.

In this study, 4% of children were affected by more than one dermatological condition. The most prevalent disorder was pityriasis alba (18%), followed by Pediculosis (16%), scabies (9.8%), impetigo (7.5%), and pityriasis versicolor (3.6%). Other conditions observed included insect bite hypersensitivity (1%), eczema (1%), molluscum contagiosum (1%), common warts (1%). The World Health Organization (WHO) has extensively reviewed common paediatric dermatological conditions in developing countries. The predominant disorders identified include pyoderma, ectoparasitic infestations, superficial fungal infections, viral dermatoses, and various forms of dermatitis.

Parental education played a crucial role, with a stark contrast in prevalence—90% among children of illiterate mothers compared to just 18% in those with highly educated mothers, similar to Khalifa KA et al,^[8] findings. Socioeconomic status also impacted prevalence, with higher rates among children from lower-middle-class backgrounds, consistent with studies by Inanir I et al,^[9] and RA Valia et al.^[6] Hygiene habits were strongly associated with skin disease occurrence. Irregular bathing, wearing unwashed clothes, and poor personal hygiene—such as dirty nails, dandruff, unclean teeth, bad body odour, and walking barefoot—were all significant factors, reinforcing findings by Amin TT et al.^[10]

CONCLUSION

This study, conducted among primary school children in government schools of Rural Field Practice Area of Guntur Medical College, Guntur aimed to determine the prevalence of common skin diseases and the factors contributing to their occurrence.

Key Findings:

- The overall prevalence of skin diseases was 56% (95% confidence interval: 50%–62%).
- The most common conditions included pityriasis alba (18%) Pediculosis capitis (16%), Scabies (9.8%), Impetigo (7.5%), Pityriasis versicolor (3.6%), and less common conditions included Eczema, Molluscum contagiosum, common warts, insect bite allergies, and various forms of tinea infections (ranging from 0.8%–1%).

Demographic Insights:

- Age Distribution: 20% of children were 5-6 years, 39% were 7-8 years, and 41% were 9-11 years.
- Gender Ratio: 51% boys and 49% girls.
- Religious Composition: 62% Hindus, 31% Muslims, and 7% Christians.
- Parental Education: 42% of fathers had completed high school, while 21% of mothers had only primary school education.

Environmental and Hygiene Factors:

- Overcrowding was present in 91% of homes.
- 95% of families have toilet facilities.
- Majority used Panchayathi pipe water for bathing and washing.
- Only 93% of children bathed daily, and 62% wore clean clothes regularly.
- Only 10% of mothers regularly trimmed their children's nails.

Personal Hygiene Observations:

- 74% of children wore unclean school uniforms.
- 28% had nasal discharge from respiratory infections.
- 64% had earwax accumulation, and 60% had unclean teeth.
- 61% had dental caries, while 21% exhibited bad body odour.
- 9% walked barefoot to school.

Statistical Associations:

- Significant associations were found between skin diseases and:
 - Parental education level
 - Socioeconomic status
 - Large family size (>4 members per household)
 - Overcrowding and shared sleeping spaces
 - Lack of toilet facilities
 - Poor hygiene habits (irregular bathing, unwashed clothes, unclean nails, and barefoot walking)

This study highlights the strong link between poor hygiene, overcrowding, low parental education, and skin disease prevalence. Addressing these factors through better sanitation, health education, and hygiene awareness could significantly reduce the burden of skin diseases among schoolchildren in similar socio-economic settings.

The main limitation of the study is the study has been carried out among Rural Government primary school children and not from the private schools. Only lower strata of children going to the Government schools hence the results cannot be generalized to all the Primary school children.

REFERENCES

1. SR Banerjee Textbook of Community and Social Paediatrics Jaypee brothers medical publishers (P) Ltd second edition 2008.
2. Sharma NK, Garg N. Pattern of skin diseases in urban school children. Indian J Dermatol Venerol Leprol
3. Epidemiology and management of Common Skin Diseases in Children In Developing Countries WHO_FCH_CAH_05.12.pdf.
4. Dr. Libu G.K., Dr. Thomas Bina, Dr. Lucy Raphael, Dr. Shyam E. Balakrishnan, Dr. Biju George, Dr. Joan Felicita Samson, Dr. Bindu V Prevalence and socio-demographic determinants of skin disease among lower primary school children in Calicut, Kerala. www.imakmj.com185originalarticle
5. Ewaldo V Komba, Yassin M Mgonda The spectrum of dermatological disorders among primary school children in Dar es Salaam BMC Public Health 2010, 10:765
6. RA Valia, SS Pandey, Paramjeet Kaur, Gurm Singh prevalence of skin 67 diseases in Varanasi school children Year : 1991 Volume : 57 Issue : 3 Page : 141-143
7. Vikas Bhatia Extent and pattern of paediatric dermatoses in rural areas of central India Indian J Dermatol Venereol Leprol.
8. Khalifa KA, Al-Hadithi TS, Al-Lami FH, Al-Diwan JK. Prevalence of skin disorders among primary-school children in Baghdad governorate, Iraq. East Mediterr Health J. 2010 Feb;16(2):209-13.
9. Inanir I, Sahin MT, Gündüz K, Dinç G, Türel A, Öztürkcan S. Prevalence of skin conditions in primary school children in Turkey: differences based on socioeconomic factors. Paediatr Dermatol. 2002 Jul-Aug;19(4):307-11.
10. Amin TT, Ali A, Kaliyadan F. Skin disorders among male primary school children in Al Hassa, Saudi Arabia: prevalence and socio-demographic correlates--a comparison of urban and rural populations. Rural Remote Health. 2011 Jan-Mar; 11(1):1517. Epub 2011 Feb 28.