E-ISSN:2349-3267
P-ISSN:2349-5499
Research Article
Disease

Pediatric Review - International Journal of Pediatric Research
2021 Volume 8 Number 2 March-April

Publisher
MEDRESEARCH
www.medresearch.in

Prevalence of skin disease among adolescent girls and their impact on quality of life

Gurram D.[1], Kumar K.[2*], Pavan I.[3], Chary E.[4]

DOI: https://doi.org/10.17511/ijpr.2021.i02.08

[1] Deepika Gurram, Assistant Professor, Department of Pediatrics, Mallareddy Medical College, Hyderabad, Telangana, India.

[2*] K. Pavan Kumar, Associate Professor, Department of Pediatrics, MNR Medical College, Sangareddy, Telangana, India.

[3] Indira Pavan, Consultant Dermatologist, Omega Clinics, Hyderabad, Telangana, India.

[4] Eshwara Chary, Professor and Head, Department of Pediatrics, MNR Medical College, Sangareddy, Telangana, India.

Introduction: Skin diseases can adversely affect the quality of life of an individual. Adolescence is a critical time in biophysical development and adverse skin conditions during this period can alter the growth in self-confidence and self-esteem and social engagement. **Purpose:** The present study was designed to assess the burden, the pattern of skin diseases and their impact on their quality of life in adolescent students. **Materials and Methods:** A total of 23 schools having 3581 students between 10-16 years of age were visited, out of which 3367 students were covered and screened. Skin characteristics such as the severity of skin disease were recorded by the attended physician. A dermatology life quality index (DLQI) questionnaire was used to assess the effect of skin diseases on their quality of life. **Results:** Among the total cases 2,783 (82%) had skin diseases, of the 651(19%) had two or more 2 skin diseases. Prevalence of infectious skin diseases was more in (10-12) young age groups 78.5% as compared to (13-16) later age groups of 55.2% ($p<0.01$). Pediculosis (52%) has a high point of prevalence, followed by scabies (25%), Pityriasis alba (6.6%), Seborrheic dermatitis (5%), Pyoderma (3.3%), Acne (2.6%) and Tinea (2%). Pediculosis and scabies together constitute 77% of all skin diseases. **Conclusion:** Good hygiene practices like regular bathing, regular head wash, and hand wash should be taught to children. Hence training of school teachers and PHC doctors regarding the management of common skin diseases and Health education to parents or guardians of children about Hygienic measures, sexual behaviour and need of seeking medical advice.

Keywords: Pattern of skin diseases, Dermatology life quality index (DLQI) questionnaire, Quality of life

Corresponding Author

K. Pavan Kumar, Associate Professor, Department of Pediatrics, MNR Medical College, Sangareddy, Telangana, India.
Email: drpavan4u@gmail.com

How to Cite this Article

Gurram D, Kumar KP, Pavan I, Chary E. Prevalence of skin disease among adolescent girls and their impact on quality of life. Pediatric Rev Int J Pediatr Res. 2021;8(2):116-120.
Available From https://pediatrics.medresearch.in/index.php/ijpr/article/view/668

To Browse

Manuscript Received	Review Round 1	Review Round 2	Review Round 3	Accepted
2021-04-06	2021-04-16	2021-04-25		2021-04-30

Conflict of Interest	Funding	Ethical Approval	Plagiarism X-checker	Note
No	Nil	Yes	6%	

Introduction

Skin diseases in the pediatric population are common health concerns globally including in rural and urban areas. Skin diseases can affect social, psychological and physical aspects and have an insignificant impact on the quality of life of the affected individual [1]. There is variation in pattern and presentation of dermatoses, with eczemas being the most common skin disorder in developed countries and infections and infestations in developing countries [2].

The incidence of pediatric dermatological conditions is on a gradual increase day by day but still attention is not paid to it as compared to systemic disorders in children. The prevalence of pediatric dermatoses is higher in rural areas as compared to urban areas attributed to several factors. The prevalence and pattern of skin diseases have been seen to vary depending on the socio-economic and cultural factors related to hygiene and treatment-seeking behaviour [3]. Adolescence is a transitional phase of growth and development between childhood and adulthood.

The world health organization (WHO) defines an adolescent as any person between ages 10-19. Adolescent self-esteem is easily threatened when a highly visible skin disorder becomes a focus for unwelcome peer attention. Since they constitute one-fifth of the Indian population, adolescent's health-related quality of life leading to considerable physical and psychological morbidity. The present study was designed to assess the burden, pattern of skin diseases and their impact on their quality of life in adolescent students.

Material and Methods

The present was conducted in the Department of Pediatrics, MNR Medical College & Hospital, Sangareddy, Telangana, India. Informed consent was obtained from the parent or guardian or class teacher and the study protocol was approved by the institutional ethics committee.

Study design: Cross-sectional study

Study duration: August 2019 to February 2020.

Study setting: For this study, we recruited Adolescent girls studying at government residential schools in Medak district surrounding Sangareddy, Telangana.

Study population: A total of 23 schools having 3581 students were visited, out of which 3367 students were covered and screened.

Inclusion criteria:

01. Adolescent students between 10-16 years of age,
02. who could understand
03. Adolescent girls who are willing to participate in the study.

Exclusion criteria:

01. Students who were not available for screening on the day of visit
02. Adolescent girls not willing to participate were excluded.

Data collection and scoring system: A brief history of skin symptoms and examination of skin, hair and nails were done in privacy under proper light. A clinical diagnosis based on history, physical examination was reached. Skin characteristics such as the severity of skin disease were recorded by the attended physician. A dermatology life quality index (DLQI) questionnaire was used to assess the effect of skin diseases on their quality of life [4]. The translated DLQI questionnaire was used for interviewing only 100 students who had skin diseases with significant lesions and who can answer the questionnaire. The questionnaire with only 9 questions was used as the 9th question was removed in the questionnaire as asks for effect on sexual life.

Statistical analysis: The SPSS version 23 software was used to carry out statistical analysis relevant to the study. Descriptive statistics were used to represent demographic and clinical characteristics in the form of frequency and percentages. The distribution of skin diseases was analyzed by the chi-square test. A p-value of < 0.05 was considered statistically significant.

Results

In 23 schools 3367 students between 10-16 years of age were covered and screened. Among the total cases 2,783 (82%) had skin diseases, of the 651(19%) had two or more than 2 skin diseases.

Table 1: Status of dermatoses in adolescent girls.

Status	Frequency	Percentage
With dermatoses	2783	82%

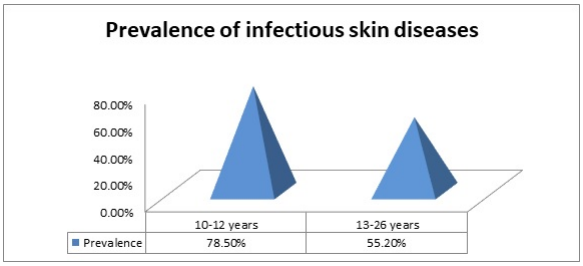
Without dermatoses	584	18%

Table 2: Skin diseases and their point of prevalence

Skin disease	Number of affected	Point prevalence
Pediculosis	1771	52%
Scabies	851	25%
Pityriasis alba	230	6.6%
Seborrheic dermatitis	170	5%
Pyoderma	113	3.3%
Acne	92	2.6%
Tinea	69	2%
Papular dermatitis	67	1.9%
Icthyosis	46	1.3%
Phyrnoderma	11	0.3%
Burns	9	0.2%
Vitiligo	3	0.08%
Hemangioma	2	0.05%

Out of which pediculosis has a high point of the prevalence of 52%, followed by scabies (25%), Pityriasis alba (6.6%), Seborrheic dermatitis (5%), Pyoderma (3.3%), Acne (2.6%) and Tinea (2%). Pediculosis and scabies together constituting 77% of all skin diseases (Table 2).

Figure 1: Prevalence of infectious skin disease between different age groups.



Infections and infestations are the commonest cause of skin infections them followed by dermatitis. Prevalence of infectious skin diseases was more in (10-12) young age groups 78.5% as compared to (13-16) later age groups of 55.2% ($p<0.01$) could be due to fewer hygiene practices of younger children like regular washing of hair and bathing (Figure 1). Seborrheic dermatitis and acne were found more prevalent in later age groups (74.2%) than younger (50%) with $p<0.05$ could be due to hormonal changes in this age group. DLQI used in 100 students showed a mean score of 12.2±3.2 indicating a Large Impact on life. Scoring in symptoms was the mean value of 2 and in feelings mean of 1.5. Higher scores were seen in children with scabies, acne as scabies cause intense itching and acne causes decreased self-esteem.

Discussion

Skin diseases did not affect their work and school. Skin diseases in children may lead to considerable discomfort and embarrassment and unnecessary absence from school and workplace which delivers notable impact on psychosocial behaviour and quality of life [5]. The Present was designed to assess the burden, the pattern of skin diseases and their impact on their quality of life in adolescent school children. The results of this study showed that the most common skin diseases in these children are infections and infestations constituting 80% of all skin diseases. Staying in residential schools risk of transmission of skin infestations is more. Girls having long hair and infrequent hair wash could because increased incidence of pediculosis. As children have close contact with each other and share many things with other children scabies was even found to be very prevalent. Good hygienic practices by children reduce the transmission of scabies and pediculosis. Risk of recurrence even if treated due to lack of hygienic practices. A study by Sreedevi L et al. on the prevalence of infective dermatoses in the genital region in children of 1-18 years of age was noticed that 86.6% of cases had infective dermatoses. Among them 50.2% cases had parasitic infections, 26.5% had fungal infections and 19% had bacterial infections and 4% had viral infections [5]. A cross-sectional study by Suman Saurabh et al., to find the prevalence and pattern of skin infections among primary school children between 5-10 years of age included a total of 393 students and screened 306 students. Among the screened students 176 students had a single skin condition, 27 had two, 7 had three and 1 had four skin conditions with a prevalence of 69% cumulatively. Pediculosis (56.5%) was the commonest skin condition followed by pyoderma (7.1%) and scabies (3.9%) [6]. In the present study scabies was the second commonest cause could be due to close contact between students in residential schools. A cross-sectional study by Ruth Leekassa et al., estimate the prevalence of skin diseases in rural community Zeway in Ethiopia using a dermatological screening questionnaire (DSQ), where 4697 people were included, of these 992 (20%) were screened positive on DSQ. Out of 620 cases examined by the dermatologists, 611 cases (98.6%) were found to have more than one skin infection. Scabies was the commonest skin condition, followed by fungal infections [7].

The findings of Jose L Figueroa et al., on 112 schoolchildren revealed that 80.4% of children had one or more skin disease. The infestation was the most prevalent pathology (81.2%) followed by fungal infections (13.4%) [8]. A study by Isnil Inanir et al., on the assessment of skin conditions in 785 primary school children of Turkey noticed pediculosis capitis in 74 children (9.4%), scabies in 17 (2.2%), viral skin diseases in 30 (3.8%), and fungal infections in 6 (0.7%). The other common conditions were melanocytic nevi (14.4%), keratosis pilaris (12.5%), pityriasis alba (12%), xerosis (11.8%), and atopic dermatitis (6.8%).

Pediculosis capitis, acne, and dandruff were more common in girl students [9]. A study by Sunil Dogra and Bhushan Kumar measured the prevalence of skin conditions in 12586 Indian school children between 6-14 years of age. Around 30% of cases had one skin condition, 6% had two skin conditions and 2.7% had three skin conditions.

The most prevalent conditions are skin infections (11.4%) followed by pityriasis alba (8.4%), dermatitis/nonspecific eczemas (5.2%), infestations (5.0%), disorders of pigmentation (2.6%), keratinization disorders (mostly keratosis pilaris) (1.3%), and nevi/hamartomas (1.1%) [10].

A study by WK Fung and KK Lo measured the prevalence of skin diseases among 1006 school children and adolescents in SHSC, Hong Kong. A total of 314 had one or more skin disease, most common of which is acne vulgaris (9.9%), eczema (6.8%), café au lait spots (4.4%), congenital melanocytic nevus (3.6%), superficial fungal infections (2.2%), keratosis pilaris (1.3%), and pityriasis alba (1.0%). Acne vulgaris and tinea cruris were common in secondary school students, while atopic eczema and congenital melanocytic nevi were commonly seen in primary school students.

When compared to the present study infestations or infections were not so significant in this study indicating that no crowding and good hygienic condition could be the reason [11]. A study by Sangameshwara GM and U Venkatesh on 100 children found fungal infection in 57% cases, viral infections in 23% cases and bacterial infections in 20% cases [12]. A retrospective epidemiological study by Anil K Gupta et al., on childhood demises screened 3000 patients between 5-14 years.

Infectious diseases (49%) were the most common followed by Eczematous disorders (18%).

Dermatophytosis, Verruca Vulgaris and pityriasis Alba were the commonest bacterial, viral and Eczema respectively [13]. A school-based survey in Uttar Pradesh, India to check the association between dermatological disorders and socioeconomic status found that Skin diseases in 42.3% of children. Among them 32.9% had only one skin condition, 11.3% had at least one transmissible skin disorder. Commonest skin disorder was p.alba (14.3%) followed pediculosis (6.5%). The prevalence of skin diseases especially transmissible increased significantly with decreased socioeconomic status. In this study all children socially backward class belonging to low socioeconomic status and associated with less hygienic practices. Dermatological conditions can result in psychological effects that seriously affect an individual lifestyle. More than a cosmetic nuisance, skin disease can produce anxiety, depression and other psychological problems that affect patients' lives in ways comparable to arthritis or other disabling illnesses. The high visibility of skin diseases increases the likely hood of stigmatization. Skin diseases should be measured not only by symptoms, but also by physical, psychological and social parameters. The effect of skin diseases is considerable and unappreciated. Knowledge of mind-body interactions and interventions can help to improve patient's skin conditions and ultimately their quality of life.

Conclusion

Skin diseases are common in children. Infections and infestations are very common in residential schools due to their poor hygenic practices. Reporting to hospital and taking treatment for skin conditions is less in those with poor socioeconomic status. Hence training of school teachers and PHC doctors regarding the management of common skin diseases and Health education to parents or guardians of children about Hygienic measures, sexual behaviour and need of seeking medical advice. Good hygiene practices like regular bathing, regular head wash, hand wash should be taught to children. All children should be treated for scabies at a time to avoid reinfection from others. Adolescence is the critical phase of life representing a transformation from childhood to uncertainties of adulthood. Hence these dermatological conditions are to be managed properly to prevent the adverse impact of visible dermatological manifestations and help them from losing their self-esteem.

What does this study add to existing knowledge?

Medical professionals need to incorporate QOL measurements in their routine practice while treating adolescent cases with dermatological diseases.

Authors Contribution

DG, KPV: Topic selection, Study design, data collection & entry. **DG, IP:** Study design, data analysis. **KPV, EC:** Data Analysis

Reference

01. Kassab Y W, Muhamad S A, Aldahoul H K, Mohammed I K, Paneerselvam G S, Ayad M S. The impact of skin disorders on patients' quality of life in Malaysia. J Clin intensive care Med. 2019;4;001-9. *[Crossref][PubMed][Google Scholar]*

02. Dogra S, Kumar B. Epidemiology of skin diseases in school children- a study from northern India. Pediatr Dermatol. 2003 Nov-Dec;20(6)470-3. *doi: 10.1111/j.1525-1470.2003.20602.x [Crossref] [PubMed][Google Scholar]*

03. Inanir I, Sahin MT, Gündüz K, Dinç G, Türel A, Oztürkcan S. Prevalence of skin conditions in primary school children in Turkey- differences based on socioeconomic factors. Pediatr Dermatol. 2002 Jul-Aug;19(4)307-11. *doi: 10.1046/j.1525-1470.2002.00087.x [Crossref][PubMed][Google Scholar]*

04. Shrestha D P, Gurung D, Rosdahl I. Prevalence of skin diseases and impact on quality of life in hilly region of Nepal. Institute of Medicine Journal. 2012;34(3)44-49. *[Crossref][PubMed][Google Scholar]*

05. Sreedevi L, Rajasekhar P, Rayudu T, Balachandrudu B. Infective Dermatoses in Genital Region - Prevalence in Children of 1-18 Years Age. Ann Int Med Den Res. 2016;2(4)207-12. *[Crossref] [PubMed][Google Scholar]*

06. Saurabh S, Sahu SK, Sadishkumar A, Kakkanattu JC, Prapath I, Ralte IL, Kar V. Screening for skin diseases among primary school children in a rural area of Puducherry. Indian J Dermatol Venereol Leprol. 2013 Mar-Apr;79(2)268. *doi: 10.4103/0378-6323.107664 [Crossref][PubMed][Google Scholar]*

07. Leekassa R, Bizuneh E, Alem A, Fekadu A, Shibre T. Community diagnosis of common skin diseases in the Zay community of the Zeway Islands, Ethiopia. Ethiop Med J. 2005 Jul;43(3)189-95. *[Crossref][PubMed][Google Scholar]*

08. Figueroa JI, Fuller LC, Abraha A, Hay RJ. The prevalence of skin disease among school children in rural Ethiopia-a preliminary assessment of dermatologic needs. Pediatr Dermatol. 1996 Sep-Oct;13(5)378-81. *doi: 10.1111/j.1525-1470.1996.tb00704.x [Crossref][PubMed][Google Scholar]*

09. Inanir I, Sahin MT, Gündüz K, Dinç G, Türel A, Oztürkcan S. Prevalence of skin conditions in primary school children in Turkey- differences based on socioeconomic factors. Pediatr Dermatol. 2002 Jul-Aug;19(4)307-11. *doi: 10.1046/j.1525-1470.2002.00087.x [Crossref][PubMed][Google Scholar]*

10. Dogra S, Kumar B. Epidemiology of skin diseases in school children: a study from northern India. Pediatr Dermatol. 2003 Nov-Dec;20(6)470-3. *doi: 10.1111/j.1525-1470.2003.20602.x [Crossref] [PubMed][Google Scholar]*

11. Fung WK, Lo KK. Prevalence of skin disease among school children and adolescents in a Student Health Service Center in Hong Kong. Pediatr Dermatol. 2000 Nov-Dec;17(6)440-6. *doi: 10.1046/j.1525-1470.2000.01841.x [Crossref] [PubMed][Google Scholar]*

12. Sangameshwara G M, Venkatesh U. Clinical study of cutaneous infection in children: Changing trends. Indian Journal of Paediatric Dermatology. 2015;16(3)136. *[Crossref][PubMed][Google Scholar]*

13. Gupta AK, Mohammad A, Mohan L, Singh SK, Snehlata, Soni AK, Sushantika, Kumar N. Epidemiological Study of Childhood Dermatosis in Eastern Uttar Pradesh. Int J Sci Stud. 2018;6(5)35-38. *[Crossref][PubMed][Google Scholar]*