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Original Research Article

Study of common dermatoses in school children of rural area of Dakshina Kannada district, India: a cross-sectional study

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ABSTRACT

Background: Prevalence of skin diseases amongst children of a community is an indicator of health and personal hygiene of a society. School children are more prone for skin infections and majority of them are preventable. Present study aimed to find the common dermatoses in school children of rural area.
Methods: This was a cross sectional study conducted among 400 children from three randomly selected schools. Socio-demographic data was collected using a pretested semi structured questionnaire and skin conditions were identified by examination.
Results: Out of the total 400 children, 224 (56%) were boys and 176 (44%) were girls. The overall prevalence of skin conditions was 222 (55.5%). Majority (27.5%) had fungal infection, 15% had bacterial infection, 10% had parasitic infection and 3 % had viral infection.
Conclusions: Prevalence of skin infections is high in present study, hence creating awareness about personal hygiene among parents, children and teachers is the need of the hour.

Keywords: Rural, School children, Skin diseases

INTRODUCTION

Schools provide excellent arenas for public health research and interventions.[1] Previous studies from developing countries have reported high prevalence of skin disorders among school children, the spectrum of which has been highly variable.[2] A World Health Organization (WHO) review of prevalence studies done on skin diseases among children reported an overall prevalence ranging from 21% to 87%.[3]

Status of health, hygiene, and personal cleanliness of a society can be judged from the prevalence of certain skin diseases in the children of the community.[4] School survey is a useful method to screen a large number of children of the particular age group for the presence of diseases at a time. The purpose of studying the prevalence of paediatric dermatoses is to assess the level of health awareness and availability of health-care services which is useful to build child health-care strategies that cope with actual community requirements.[5]

Skin disorders or conditions focussed here are mainly about the infection of the superficial layer of skin and common conditions refers to those which has a prevalence of more than 1% in the community or at a primary healthcare setting. Keeping in mind the above definitions the main disorders encountered here are pyoderma (folliculitis, furuncle, carbuncle), scabies, and other common ectoparasitoses (pediculosis), tinea capitis and other superficial mycoses (dermatophytosis, candidiasis, pityriasis versicolor), benign viral tumours

(verrucae, molluscum contagiosum) and dermatitis.[6] 78% of Indian population stay in rural areas and children below 14 years constitute about 38% of the total population.[7] Therefore, the present study was conducted to find the prevalence and pattern of skin diseases among school-going children of age 5-14 years in present rural service area.

METHODS

This was a school based cross-sectional study conducted in 400 primary school children selected from two government primary schools and 1 private school located in the rural area of Mangalore in Dakshina Kannada district of Karnataka. Children studying from 1st to 7th standard were included in the study. Those who were absent at two consecutive visits and those who had been previously diagnosed with other skin conditions were excluded. Convenient Sampling method was used, and the study was conducted in a period of 4 months (January 2017-April 2017). Written informed consent was taken from the school headmaster and parent of the subjects before the study was conducted.

Study procedure

The three schools were selected purposively for convenience based on the location from rural area of Mangalore. One division of each standard was randomly selected from each school after obtaining the list of total number of divisions from the respective school office. After obtaining permission from the respective school heads data was collected using a pretested semi structured questionnaire which consisted of age, gender, religion, educational status of parents and total number of family members.

A detailed head to toe examination was done in a separate room under sunlight in the presence of teachers. At first whole body skin examination was done by medical professionals who were adequately trained based on operational definitions for common skin conditions based on causative agents like bacterial, viral, parasitic and fungal.[6] Difficult to diagnose lesions were confirmed by the help of dermatologist.

RESULTS

Out of the total 400 children, 224 (56%) were boys and 176(44%) were girls. 230 (57.5%) were Hindus by religion, 120 (30%) were Muslims and 12.5% were Christians.

The overall prevalence of skin conditions in this study was 222 (55.5%). Out of which higher proportion (27.5%) had fungal infection, 15% had bacterial infection, 10% had parasitic infection and 3 % had viral infection.

Table 1: Overall prevalence of skin conditions among school children (n=400).

Type of skin infection	Prevalence (%)
Fungal	110 (27.5)
Bacterial	60 (15)
Parasitic	40 (10)
Viral	12 (3)
Total	222 (55.5)

Two hundred twenty-two (55.5%) of the studied population had skin infections. Out of this, majority (27.5%) had fungal infection, 15% had bacterial infection, 10% parasitic infections and the least (3%) were viral infection.

Table 2: Distribution of bacterial infection in study subjects (n=400).

Bacterial infection	Number (N=400)	Percentage
Folliculitis	10	2.5
Acne	22	5.5
Erythrasma	2	0.5
Furuncle	6	1.5
Pityriasis rosea	2	0.5
Pitted keratolysis	2	0.5
Pyoderma	16	4
Total	60	15

60 out of 400 children (15%) bacterial infections. 22 (38%) had acne followed by pyoderma in 16 (34%) children and folliculitis in 10 (2.5%).

Table 3: Distribution of fungal infection in study subjects (n=400).

Fungal infections	Number (n=615)	Percentage
Tinea cruris	30	7.5
Tinea pedis	10	2.5
Pityriasis versicolor	70	17.5
Total	110	27.5

Out of 110 with fungal infection, 70 (17.5%) had Pityriasis versicolor and 30 (7.5%) had Tinea cruris and 10 (2.5%) had Tinea pedis.

Table 4: Distribution of viral infection in study subjects (n= 400).

Viral infections	Number (n =400)	Percentage
Varicella	1	0.25
Warts	3	0.75
Corns	8	2
Total	12	3

Only 12 (3%) had viral infection with more number of corn cases.

Table 5: Distribution of parasitic infections in study population (n=400).

Infection	Number (n =400)	Percentage
Scabies	30	7.5
Pediculosis	10	2.5
Total	40	10

Among parasitic infections, scabies was the most common (7.5%), followed by pediculosis (2.5%).

DISCUSSION

The overall prevalence of skin infections was 55.5% in the present study. Almost similar prevalence was seen in studies conducted by different researchers in different part of India.

The prevalence rate was 59.3% in a study done by Janaki M et al in Chennai and almost similar prevalence was seen in others studies conducted by Komba EV et al in Dar es Salaam and Valia RA et al[9] in Varanasi where the prevalence was 57.3% and 54% respectively.[2,8,9] This same prevalence can be because of similar sociodemographic characteristics and climatic conditions among the different study population.

In the present study, subjects had more of fungal infections (27.5%) with more preponderance to Pityriasis Versicolor. This finding is almost similar to a study conducted by Ewaldo et al in Nigeria and Inaner et al in Turkey.[2,10] But a study conducted by Villa et al in Telangana showed a low prevalence of superficial infections among school children.[11]

The high prevalence in present study could be due to the humid and hot climatic conditions which directly favours fungal infections. Bacterial infections (15%) were the second common skin condition among present study participants with 5.5% prevalence of acne which is similar to the findings revealed from a study done by Shrestha et al in Nepal.[12]

In the present study, the percentage of parasitic infection was 10%. Most of them (7.5%) had scabies as the main problem. This finding is in accordance with a study done by Rotti SB et al in Karnataka where the prevalence of the same infection was 8%.[13] Pediculosis showed a low prevalence in this study (2.5%) which is similar to a study done by Rao et al in Mangalore.[14] Viral warts and corns were the prevalent viral skin conditions in this study which were similar to findings of studies done by Patel JK et al and Janaki et al in India.[8,15]

Limitations of this study were since present study included only three schools in rural area, the results can't be generalised to all schools in Dakshina Kannada. Authors have only explored the infective skin conditions except acne, so pattern of non-infective skin conditions cannot be assessed.

CONCLUSION

The results of the present study conclude that the prevalence of common skin infections was high among study subjects. Diagnosing skin problems is highly important for performing necessary preventive programs like health education and awareness among school children. Common skin conditions are easily identifiable and curable. So, awareness about early detection has to be encouraged among parents, teachers and even the school children.

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REFERENCES

1. Skin diseases among school children-can research lead to action and policy. Available at: http://www.imakmj.com/ articles/01-Editorial.pdf
2. Komba EV, Mgonda YN. The spectrum of dermatological disorders among primary school children in Dar es Salaam. BMC Public Health. 2010;10:765-70.
3. Epidemiology and management of common skin diseases in children in developing countries. Available at: http://whqlibdoc.who.int/hq/2005/WHO_FCH_CAH_05.12_eng.pdf
4. Balai M, Khare AK, Gupta LK, Mittal A, Kuldeep CM. Pattern of paediatric dermatoses in a tertiary care centre of South West Rajasthan. Indian J Dermatol. 2012;57:275-8.
5. El-Khateeb EA, Lotfi RA, Abd Elaziz KM, El-Shiekh SE. Prevalences of skin diseases among primary schoolchildren in Damietta, Egypt. Int J Dermatol. 2014;53:609-16.
6. Epidemiology and management of Common Skin Diseases in Children in Developing Countries WHO_FCH_CAH_05.12. Available at: http://apps.who.int/iris/bitstream/handle/10665/69229/WHO_FCH_CAH_05.12_eng.pdf;jsessionid=C236A721311B334EB6362656C901F3D1?sequence=1
7. Bhatia V. Extent and pattern of paediatric dermatoses in rural areas of central India. Indian J Dermatol Venereal Leprol. 1997;63:22-5.
8. Janaki M, Jaiganesh DJ, Rajendran AK, Anitha R. Prevalence of skin diseases among government primary school children in Pulianthope zone, Chennai, India. Int J Recent Trends Sci Tech. 2013;9(2):182-5.
9. Valia RG, Valia AR, editors. IADVL Textbook and Atlas of Dermatology. Mumbai: Bhalani Publishing House; 1994;1.
10. Inanir I, Sahin MT, Gunduz K, Dinc G, Turel A, Ozturkcan S. Prevalence of skin conditions in primary school children in Turkey: differences

based on socioeconomic factors. Pediatric Dermatol. 2002;19(4):307-11.
11. Villa LK, Krishna G. Epidemiology and prevalence of dermatological diseases among schoolchildren of Medak district, Telangana-a clinical survey. Int J Med Sci Public Health. 2016;5:1475-8.
12. Shrestha R, Shrestha D, Dhakal AK, Shakya A, Shah SC, Shakya H. Spectrum of paediatric dermatoses in tertiary care centre in Nepal. Nepal Med Coll J. 2012;14(2):146-8.
13. Rotti SB, Prabhu GD, Rao GV. Prevalence of scabies among school children in a rural block of coastal Karnataka. Indian J Dermatol Venereol Leprol. 1985;51(1):35-7.
14. Rao SG, Kumar P, Kuruvilla M. Prevalence of various dermatoses in school children. Indian J Dermatol Venereol Leprol .1999;65:126-7.
15. Patel JK, Vyas AP, Berman B, Vierra M. Incidence of childhood dermatoses in India. Skinmed. 2010;8(3):136-42.

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