



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>

INTERNATIONAL JOURNAL
OF ADVANCED RESEARCH

RESEARCH ARTICLE

A CROSS SECTIONAL OBSERVATIONAL EPIDEMIOLOGICAL STUDY ON THE INCIDENCE OF SKIN DISEASES AMONG SCHOOL CHILDREN OF URBAN AREA OF SOUTHERN INDIA

*Arun Raj GR¹, Divyasri RA², Shailaja U³ and Rao Prasanna N⁴

1. Post graduate Scholar, Department of PG Studies in Kaumarabhritya, Shri DharmasthalaManjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India.
2. Assistant Professor, Department of Kaumarabhritya, Sri Sri College of AAyurvedic Science and Research Hospital, Bangalore, Karnataka, India.
3. Professor and Head, Department of PG Studies in Kaumarabhritya, Shri DharmasthalaManjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India.
4. Principal and CMO, Shri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, India.

Manuscript Info

Manuscript History:

Received: 11 November 2013
Final Accepted: 28 December 2013
Published Online: January 2014

Key words:

Skin diseases in school children, ill health, mortality, morbidity, survey study.

Abstract

Skin disease forms a substantial part of the total spectrum of ill health. Since most of skin disorders are not disabling and have a negligible mortality, they are treated mainly at the general practice or out-patient level of care, and self-medication is very common. Survey helps in the systematic and planned gathering of specific information by interrogation, inspection and examination of the sample. The major objective of this research is "To determine the quantum of skin diseases in the school community of urban area of Southern India." 1089 school children were selected from eight different schools inurban area of Hassan district of Karnataka state of India. It is observed that the skin diseases account for a major part of ill health in children.

Copy Right, IJAR, 2014.. All rights reserved.

Introduction

Skin disorders stand among the most frequent diseases of school children in both developing and developed countries. In addition, skin diseases not only cause depression by psychological stress, stress from added cause can exacerbate or even be involved in causation of some skin diseases. Very often, skin diseases offer diagnostic hints to major systemic conditions. Dermatological problems constitute at least 30% of all outpatient appointments to a paediatrician and 30% of all visits to a dermatologist comprise children[1-2].The prevalence and array of skin diseases has been seen to differ depending on the socio-economic and cultural factors connected to hygiene and treatment-seeking behaviour [3].The incidence of skin diseases amongst children in various parts of India has ranged from 8.7% to 35% in school-based surveys [4].Schools from rural areas showed relatively greater prevalence of skin diseases.Studies of paediatric population, which constitutes the keystone of the community, can play an important role in shaping the policies of protective medicine and public health [5].Skin disorders affect 20-30% of the over-all population at any one time [6].Epidemiological studies can provide information about the prevalence, the age and sex predilections, and the regional distribution of skin diseases [7]. It also offers the most useful way of evaluating the causes of skin diseases in human populations.

Method of Study

Aim of the study

To determine the quantum of skin diseases in the school community of urban area of Southern India.The study was a non-interventional randomized morbidity survey conducted among school children of Hassan district of Karnataka

state. This two staged morbidity survey was designed as morbidity survey is one of the tools for community diagnosis.

Method of Selection

Seven schools of Hassan urban area were selected randomly for the study such that it would represent the whole population. It included two government schools and five private schools so as to cover the whole population belonging to various socio-economic groups. One among them is a girl's school. The schools chosen for the study is shown in table 1 [8]. The children from these schools were selected based on the inclusion and exclusion criteria.

Inclusion criteria

1. Children of the age group of 5-10 years studying in class 1st to class 5th were included.
2. Apparently visible skin lesions were taken for consideration.

Exclusion criteria

1. Children below 5 years and above 10 years are excluded.

Children satisfying the inclusion criteria were selected for next phase of study. The specific diagnosis was arrived by using the diagnostic criteria.

Diagnostic criteria

Diagnosis is done based on three principles:-

1. Morphology:- Primary and secondary skin lesions, colour, number.
2. Distribution:- Site of involvement.
3. Configuration:- pattern of arrangement of multiple skin lesions.

Method of visit

Initially the school authorities were approached to explain them the purpose and need of the study and transportation facilities were provided to them. The study setting was the Kaumarabhritya out-patient department of Shri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka. The children were divided into batches based on the class they were studying in, for making the study easier.

Method of collection of data

The required data was collected using the proforma designed for the purpose of the study. A questionnaire was prepared for the screening purpose. The vital data of name, age, sex, religion, school etc and questions pertaining to personal hygiene like bathing, clothing, contact with pet animals, cosmetics used, presence of skin rashes and pruritis. The screened individuals with skin disorder were further interviewed by using the proforma containing details of history, aggravating factors, duration, type, arrangement and distribution of lesions, Doshajalakshana. Personal examination of each such case was done and photographs were taken.

Duration of study

The data was collected for a period of four months from these seven schools.

Method of sampling

The study was conducted in two phases. In the first phase, the screening test was applied and those found positive alone were subjected to the conclusive diagnostic test in the second stage.

Phase 1: It was a screening process to identify individuals with skin disorders by means of a questionnaire. 1089 students from the above mentioned seven schools belonging to the said age group were screened. 179 students of 1089 were found to have a skin problem and were selected for the phase 2 of the study.

Phase 2

In this phase, the 179 individuals with skin disorder were subjected to further clinical examination to confirm the type of skin disease with the help of the proforma prepared. No laboratory investigations were done and photographs of each such case were taken to aid in the diagnosis. Thorough general health checks and assessment of skin conditions were done in these children. Certain skin health care tips were given to them and were educated regarding the importance of hygiene in the maintenance of general as well as skin health. They were also advised to have a proper medical care for such conditions. This morbidity survey done is the initial step taken to plan strategy for the control and prevention of skin diseases among school children.

Observations and Results

Phase 1 (general observations): The demographic data of 1089 students of 7 schools of Hassan is shown in table 2. Class wise distribution showed that 26.63% (n=290) of children were in first standard, 26.63% (n=290) were in second standard, 18.92% (n=206) were in third standard, 13.50% (n=147) were in fourth standard and 14.42% (n=157) were in fifth standard. Sex wise distribution showed that 46.74% (n=506) were boys and 53.26% (n=583) were girls. Government Higher Primary School, DM Halli had the highest number of children of children with skin diseases (23.60%-38) while St. Philomina Convent, Holenarasipura had the least number of children (11.17%-23) with skin diseases.

Phase 2 (specific observations): The distribution of 179 children with skin diseases according to school is shown in table 3. Class wise distribution showed that 26.82% (n=40) of children were in first standard, 27.37% (n=49) were in second standard, 17.32% (n=31) were in third standard, 11.73% (n=21) were in fourth standard and 16.76% (n=30) were in fifth standard. Sex wise distribution showed that 53.63% (n=96) were boys and 46.36% (n=83) were girls. Religion wise distribution showed that 86.60% (n=155) were Hindus, 12.29% (n=22) were Muslims and 1.12% (n=2) were Christians. Observation on hygiene showed that 70.30% (n=126) children did not bath daily and 59.78% (n=107) children did not wear clean clothes. Observation on food habit showed that 63.13% (n=113) were having the habit of taking more quantity of sweets. Observation on contact with pet animals showed that 27.83% (n=50) were having contact with pet animals. Aggravating factors for skin diseases were noticed only in 11.73% (n=21) of children with skin diseases. Majority of the children 25.81% (n=56) presented with patchy type of lesions. Observation on colour of lesions showed that, majority of the children presented with hypo-pigmentation (46.35%/n=89) [9]. Observation on number of lesions showed that multiple lesions were more (86.46%/n=166). Maximum number of skin lesions were seen on face, head and neck region (45.66%/n=100) and minimum over back of the trunk (4.11%/n=9). Observation on colour of lesions showed that 36.98% (n=71) had symmetrical distribution and 8.33% (n=16) were generalised. The arrangement of lesions were discrete in majority of cases (45.31%/n=87) and linear in very few cases (1.56%/n=3). Observation on the duration showed that majority of the skin diseases (32.29%/n=62) fall under the category of 1-6 months duration and least of them (4.69%/n=9) had a chronic course of more than one year. Distribution on the different type of skin diseases showed that *Pityriasisalba* accounted for maximum number of skin cases (22.92%/n=44) detected. Distribution of groups of skin diseases showed that Eczematous diseases formed major portion (33.85%/n=65) of skin disease among children. Distribution of groups of skin diseases according to sex showed that eczema (59.38/n=38), viral infections (56.25%/n=9) and pigmentary disorders (61.11%/n=11) were more in boys while pyoderma (66.67%/n=6), lichen infections (68.75%/n=11) and bite induced disorders (64.29%/n=9) were more among girls. Infectious skin diseases formed one third part (33.33%/n=64) and non-infectious conditions formed the remaining two third parts (66.67%/n=128). Boys and girls were equally affected with infectious diseases. Distribution according to Dosha showed that Vataja characteristics were found in majority of skin cases (34.38/n=66). Distribution according to Ayurvedic diagnosis showed that majority of cases found were that of Vaivarnya with TwakRukshata (23.96%/n=46).

Table 1: showing the name of the seven schools selected for the study

Sl. No:	Name of the school
1.	Government Higher Primary School, Santepete
2.	NiveditaVidyalaya, Aralipete
3.	Siddeshwara Convent, Tannerhalla
4.	Hoysala School, Tannerhalla
5.	Government Higher Primary School, DM Halli
6.	SVM English School, Vijaynagar
7.	St. Philomina Convent, Holenarasipura (Girl's school)

Table 2: showing the demographic data of 1089 students of 7 schools

Name of the school	Place	No. of students	Percentage
Government Higher Primary School	Santepete	139	12.76
Siddeshwara Convent	Tannerhalla	172	15.79
NiveditaVidyalaya	Aralipete	92	8.45
Government Higher Primary School	DM Halli	161	14.78
SVM English School	Vijaynagar	232	21.3
Hoysala School	Tannerhalla	87	7.99
St. Philomina Convent	Holenarasipura	206	18.92
Total		1089	100

Table 3: showing distribution of 179 children with skin diseases according to school

Name of the school	Place	Total no. of students with skin disease	Percentage
Government Higher Primary School	Santepete	25	13.97
Siddeshwara Convent	Tannerhalla	36	20.11
NiveditaVidyalaya	Aralipete	12	6.7
Government Higher Primary School	DM Halli	38	21.22
SVM English School	Vijaynagar	34	18.99
Hoysala School	Tannerhalla	11	6.15
St. Philomina Convent	Holenarasipura	23	12.85
Total		179	100

Discussion

A two phased survey was carried out by proper interviewing methods. Modern clinical diagnostic methods and the Doshajalakshanas mentioned in Ayurveda were used for diagnosis of skin diseases. This gave a comprehensive idea of the dermatological morbidity in children encountered and enabled to estimate the current status of skin diseases. On the basis of the results of this study it can be said that among the school children of Hassan;

- Out of every 100 children, 16 will be with skin diseases
- Skin diseases are more common among boys
- The students of first and second standard are more affected with skin diseases
- Hygiene has a positive impact on skin diseases
- Eczemas are the most common skin diseases
- Infectious disorders constitute a good percentage of skin diseases
- Vataja skin diseases are more common
- Vaivarnya with rukshata was the most common finding

Conclusion

On the basis of this study, it can be concluded that the skin diseases account for a major part of ill health in children. Health education also plays an important role in the prevention of these diseases. It will be interesting to follow the influence of changing living conditions and industrialization on different types of eczema. This report would help to reveal the actual epidemiological situation regarding skin diseases among primary school children of Hassan. The information collected in this study will hopefully help in the setting of priorities for future health interventions.

References

1. Thappa DM. (2002). Common skin problems in children. *Indian J Pediatr.* 69:701-706.
2. Federman DG, Reid MC, Feldman SR, Greenhoe J and Kirsner RS. (2001). The primary care provider and the care of skin disease. *Arch Dermatol.* 137:25-29.
3. Inanir I, Sahin MT, Gündüz K, Dinç G, Türel A and Oztürkcan S. (2002). Prevalence of skin conditions in primary school children in Turkey: differences based on socioeconomic factors. *Pediatr Dermatol.* 19:307-11.
4. Sharma NK, Garg BK and Goel M. (1986). Pattern of skin diseases in urban school children. *Indian J Dermatol Venereol Leprol.* 52:330-331.
5. Tamer E, Ilhan MN and Polat M. (2008). Prevalence of skin diseases among pediatric patients in Turkey. *J Dermatol.* 35:413-418
6. Rea JN, Newhouse ML and Halil T. (1976). Skin disease in Lambeth: a community study of prevalence and use of medical care. *Br J Prev Soc Med.* 30:107-14.
7. Dogra S and Kumar B. (2008). Epidemiology of skin diseases in school children: A study from Northern India. *Pediatr Dermatol.* 20:470-3.
8. Mallannavar V, Shailaja U, Arun Raj GR and Rao Prasanna N. (2013). Bharati AKS. A cross sectional observational health survey on nutritional status of first standard students of urban area of Hassan district of Karnataka state. *UJMDS.* 01(02):26-31.
9. Arun Raj GR, Shailaja U, Rao PN, Sharanesh T and Gokul J. (2013). Review on the contribution of dashapushpa, a traditional medicine in the management of cancer, *Global J Res. Med. Plants & Indigen. Med.* 2(9):656-663.