Epidemiological Pattern of Skin Diseases Among Patients Attending Dermatological Outpatient Department at a Tertiary Care Centre, North Chennai

N.S Jayanthi[1], V. Anandan[2,*], Stacy Ann Marbaniang[3]

[1]Assistant Professor, [2]Professor, [3]Junior Resident, Dept. of Dermatovenereoleprology, Govt. Stanley Medical College, Chennai

***Corresponding Author:**
Email: dermanandan@gmail.com

Abstract

Introduction: The occurrence of various skin diseases is linked to certain geographical, racial, environmental and socioeconomic factors. There are also seasonal skin disorders that are regularly observed for many centuries. A change in temperature, humidity, ultraviolet rays, wind and atmospheric pollen allergens also influences the pattern of skin diseases.(1)

Aim:

1. To determine the pattern of skin diseases.
2. To determine the association of gender with the common skin diseases.

Methods: A retrospective study was conducted on all the patients who attended the outpatient Department of Dermatology during a span of one year. A thorough medical history with detailed cutaneous examination was carried out on every patient. Investigations and skin biopsies were performed, when required, for confirmation of diagnosis.

Results: A total of 163201 patients presented to our outpatient Department of Dermatology from 1st January 2016 to 31st December 2016. Out of this sample, 81274 were enrolled as new cases while 81927 were patients who came for follow up visits. This study comprised of 44.3% (72299) males, 44.7% (72950) females and children-11% (17952). Most patients belonged to the age group of 20-50 years.

Out of the 163201 cases, fungal infections were the most common skin diseases seen, affecting 14.65% (23901) patients, followed by Eczema 7.40% (12080), Miliaria Rubra 6.88% (11222) Scabies 5.99% (9780), Psoriasis 4.26% (6948), Hansen's disease 3.37% (5506), Acne 2.85% (4652), Vitiligo 2.43% (3968), Bullous disorders 1.43% (2334), others 50.73% (82796).

Conclusion: Fungal infections were the most common skin diseases seen in our study. This may be attributed to the upsurge of cases recalcitrant to the available anti-fungal drugs and also due to the application of topical steroids. Eczema was the second most prevalent skin disease observed. In the present scenario, dermatologists are facing challenges to combat these diseases which are a burden not only to the individual but to the nation as a whole.

Keywords: Epidemiology-Disease pattern-Seasonal pattern.

Introduction

Skin diseases are very much prevalent in the developing countries. Cases are varied from simple acne and scabies to serious disorders such as Stevens-Johnson syndrome, toxic epidermal necrolysis and purpura fulminans.(14)

We do not have adequate information about the incidence and prevalence of various skin diseases in our country and we mostly rely on data obtained from western countries. Data collection would be vital for effective planning and proper management of these diseases. Epidemiological study is a herculean task by itself since it requires a good amount of funding and trained manpower for door-to-door survey. Sometimes in countries like India ground situation may be difficult: while conducting house-to-house survey, residents may be out for work during day time and those in the house might be reluctant to reveal anything. Hence, hospital based study is more convenient.(3)

The plan of this study was to get an insight into the frequency and the types of skin diseases that are common at a tertiary care centre and the implication of these diseases in our system. This pattern (of skin diseases) serves as an index of community development and quality of care provision.

Materials and Methods

This was a retrospective study reviewing all outpatients of the Department of Dermatology at a tertiary care centre of North Chennai from 1st January 2016 to 31st December 2016. Out of this sample, 81274 were enrolled as new cases while 81927 were patients who came for follow up visits. This study comprised of 44.3% (72299) males, 44.7% (72950) females and children-11% (17952). Most patients belonged to the age group of 20-50 years.

All new and old patients attending the dermatology clinic during this period were included in this study. Individuals less than 12 years of age were categorized as children while those above 12 years were categorized as adults.

Outpatient registers of the department were analysed and the total number of males, females and children according to the common skin diseases were tabulated. Biopsy register, skin scraping, nail clipping and hair root examination registers were consulted to confirm the diagnosis when they were inconclusive. Different patterns of skin disorders were noted and compared using the data from other studies.

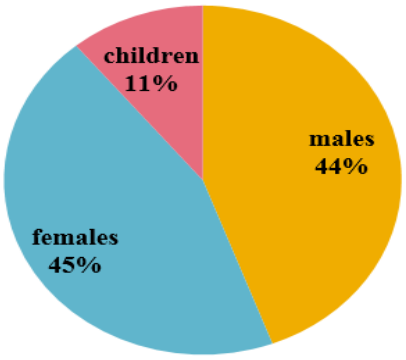

Fig. 1

Results

A total of 1,63,201 patients presented in the outpatient Department of Dermatology during the period of 1 year, from 1st January 2016 to 31st December 2016.

The pattern of skin diseases observed in our study has been shown in Fig. 2.

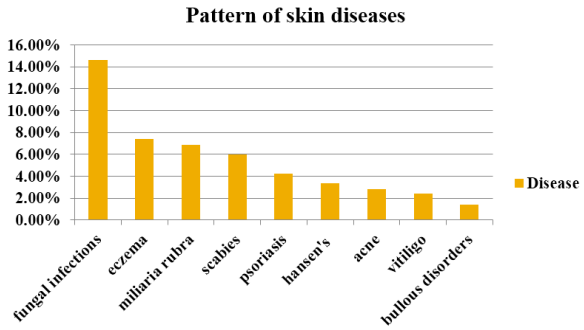

Fig. 2

Out of the 163201 cases, fungal infections were the most common skin diseases seen, affecting 14.65% (23901) patients. Fungal infections included tinea cruris, tinea corporis, tinea pedis, tinea capitis, tinea versicolour, deep mycoses and candidal infections. Fungal infections showed a female preponderance of 52.39%.

Eczema was found to be the second commonest 7.40% (12080) which included contact dermatitis, seborrhoeic eczema, atopic eczema, discoid eczema, pompholyx, lichen simplex chronicus, stasis eczema and xerotic eczema. Eczema was found to be more common in males (59.32%).

Miliaria Rubra was the third commonest disease, seen in 6.88% (11222) of the patients, out of which 51.53% were females and 48.47% were males.

Scabies was the fourth commonest, prevalent among 5.99% (9780) of the patients, with males accounting for 51.04% and females accounting for 48.96% of the cases.

Psoriasis was found in 4.25% (6948) of the patients. Different types of psoriasis were seen, such as psoriasis vulgaris, pustular psoriasis, psoriatic arthritis and psoriatic erythroderma. It was more common in males (53.90%).

Hansen's disease was the 6th commonest with 3.37% (5506) of the cases; with a male predominance (65.9%).

Acne was seen in 2.85% (4642) of patients: 50.43% were males and 49.57% were females.

Vitiligo cases contributed to about 2.43% (3968) of the total no. of cases of which 51.11% were males and 48.89% were females.

Bullous disorders were noted in 1.43% (2334) of the cases, of which 50.64% were females and 49.36% were males. This included pemphigus vulgaris, pemphigus foliaceous, epidermolysis bullosa, bullous pemphigoid, dermatitis herpetiformis and linear IgA disease.

Our miscellaneous group comprised 50.73% (82796) of the cases and included pyoderma, viral infections, icthyoses, naevi, genodermatoses, sarcoidosis, cutaneous malignancies, connective tissue disorders, various vasculitides, metabolic disorders, drug reactions, urticaria, pigmentary disorders, cutaneous tuberculosis and HIV patients.

Pattern of skin diseases according to sex in Fig. 3.

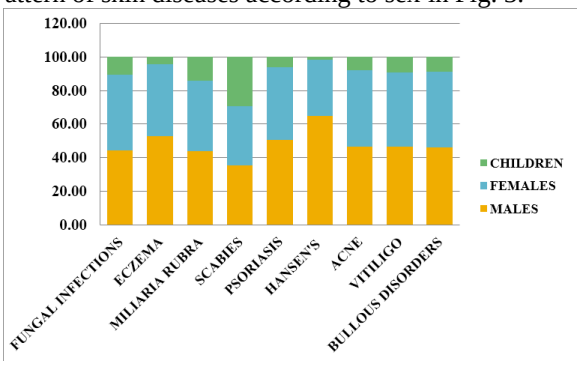

Fig. 3

Pattern of skin diseases in children in Fig. 4.

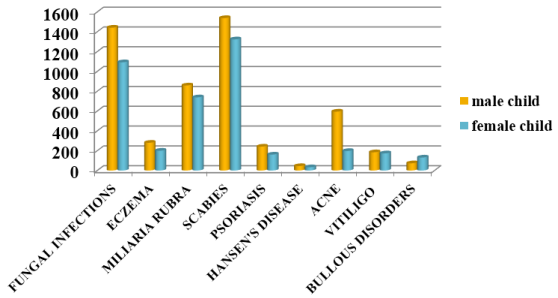

Fig. 4

Discussion

Having proper knowledge about the incidences and prevalence of diseases found most common among the population helps to initiate proper planning and preparation of appropriate national healthcare measures according to the requirements of the people. As a result,

we have evaluated the skin diseases for a specific time period.

In the present study, the prevalence of fungal infections was found to be 14.65% with a male to female ratio of 0.9:1; in a study by Sonia Jain et al the prevalence of fungal infections was found to be 13.0% with a male to female ratio of 1.3:1.[12] A study by Ali Tariq Abd Al Hassan et al the prevalence of fungal infections was found to be 16.22% with a male to female ratio of 1.05:1.[2]

In our study, eczema was found to be the second commonest skin disease with a prevalence of 7.40% and male to female ratio of 1.2:1. In a study by Sorna Kumar et al the prevalence was found to be 6.75%.[3] The male to female ratio was found to be 1:1.25. In a study by Juno J. Joel et al the prevalence was found to be 16.5%. The male to female ratio was 0.94:1.[13]

In our study, Miliaria Rubra was found to be the third commonest disease with prevalence of 6.88% and a male to female ratio of 1.1:1. There are not many studies in adults. Many studies were conducted for children.

Scabies was the fourth commonest 5.99%, with male to female ratio of 1.04:1. In a study by Malak Majid Al- Musawi et al the prevalence was found to be 6.54%. The male to female ratio was found to be 1.27:1.[6] In a study by Juno J. Joel et al the prevalence was found to be 5.75%. The male to female ratio was found to be 1.5:1.[13]

Psoriasis was found in 4.25% of patients, with male to female ratio of 1.16:1. In a study by Bedi et al the prevalence was found to be 2.8%. The male to female ratio was 2.4:1.[9] In a study by Kaur et al the prevalence was found to be 2.3%. The male to female ratio was 2.03:1.[10]

Hansen's disease was the 6th commonest, 3.37% of the cases with male to female ratio 1.9:1. In a study by D.D. Atraide et al the prevalence was found to be 1.1%. The male to female ratio was 0.66:1.[11] In a study by Pratistha Shrestha et al the prevalence was 7.81%. The male to female ratio was found to be 0.77:1.[5]

Acne was seen in 2.85% of which male to female ratio is 1.02:1. In a study by Juno Joel et al, the prevalence was found to be 5.5%. The male to female ratio was 1.4:1,[13] In a study by Ibrahim A.Al-Hoqail, the prevalence was 14.71% and male to female ratio was found to be 0.81:1.[1]

Vitiligo cases were about 2.43% of the total no. of cases with male to female ratio of 1.06:1. In a study by Juno Joel et al, the prevalence was found to be 1.25%. The male to female ratio was 0.6:1.[13] In a study by Mohd Hafizur Rahman et al, the prevalence was found to be 1.25%. The male to female ratio was 0.6:1.[7]

Bullous disorders were noted in 1.43% of the cases, with male to female ratio of 1.02:1. In a study by D.D. Atraide et al the prevalence was found to be 0.30%. The male to female ratio was found to be1:1.[11] In a study by Binamra Basnet et al the prevalence was found to be 0.3%.[8]

Conclusion

The frequency of skin diseases is increasing day by day. Fungal infections were the most frequently seen skin disorder followed by eczema. Fungal infections were found to be more common in females probably because of clothing, hot and humid environment of the kitchen. Eczema and Miliaria Rubra were observed more in males. Maximum number of Miliaria Rubra cases was reported during the summer months.

It is very important to note that skin manifestations may be a clue to the patient's internal disease, but literature on the pattern of skin diseases is deficient.

Since the pattern of skin diseases is an index of community development and the quality of available health care, we must therefore spend some time to educate our patients and the public at large about proper hygiene standards, the role of ecological and genetical factors, etc. in the pathogenesis of skin diseases and their possible preventive methods.

References

1. Epidemiological spectrum of common dermatological conditions of patients attending dermatological consultations in Al-Majmaah Region (Kingdom of Saudi Arabia) Ibrahim A. Al-Hoqail, MD. 1658-3612ª 2013 Taibah University.
2. The pattern of skin diseases in Karbala city: A retrospective study by Ali Tariq Abd Al Hassan. QMJ VOL.7 No.12,2011.
3. Epidemiological Pattern of psoriasis, vitiligo and atopic dermatitis in India: Hospital – Based point prevalence. Sorna Kumar, Chitra S. Nayak,[1] Tanmay Padhi,[2] Gnaneshwar Rao,[3] Ashwin Rao,[4] V. K. Sharma,[4] and C. R. Srinivas. Indian Dermatol Online J. 2014 Nov; 5(Suppl 1): S6–S8.
4. Kumar S, Nayak CS, Padhi T, Rao G, Rao A, Sharma VK, *et al*. Epidemiological pattern of psoriasis, vitiligo and atopic dermatitis in India: Hospital-based point prevalence. Indian Dermatol Online J 2014;5:68.
5. Shrestha P, Mikrani JA. Pattern of dermatological disease and its relation to gender in Lumbini Medical College Teaching Hospital. Journal of Lumbini Medical College, 2015;3(1):16-8.
6. Prevalence of Scabies among Patients Attending the Dermatology Outpatient Clinic in Najaf governorate, Iraq .Malak Majid Al-Musawi¹ Hadi Rasool Hasan² Azar Hadi Maluki³ Journal of Advanced Medical Research Vol.3 No.4, December 2013,63-70.
7. Demographic study on vitiligo (sheti) in Bangladesh Mohd. Hafizur Rahman1, Md. Ziaul Amin2*, Matiar Rahman3, Mohd. Abdus Satter4 *Rahman MH et al. Int J Res Med Sci. 2013 May; 1(2):123-128.* International Journal of Research in Medical Sciences | April-June 2013 | Vol 1 | Issue 2 Page 123.
8. Binamra Basnet, Saraswoti Neupane, Shristi Shrestha, and Sujan Gautam, "Burden of Skin Diseases in Western Nepal: A Hospital Based Study." *American Journal of Public Health Research*, vol. 3, no. 5A (2015):64-66.
9. Bedi T R. Clinical profile of psoriasis in North India. Indian J Dermatology Venereol Leprol 1995;61:202-5.

10. Kaur, I., Handa, S. and Kumar, B. (1997), Natural History of Psoriasis: A Study from the Indian Subcontinent. The Journal of Dermatology, 24:230–234.
11. The pattern of skin disorders in a Nigerian tertiary hospital by D.D Atraide, M.R. Akpa and I.O George. Journal of Public Health and Epidemiology Vol. 3(4), pp. 177-181, April 2011' Available online at http://www.academicjournals.org/jphe ISSN 2141-2316 ©2011 Academic Journals.
12. Jain S, Barambhe M S, Jain J, Jajoo U N, Pandey N. Prevalence of skin diseases in rural Central India: A community-based, cross-sectional, observational study. J Mahatma Gandhi Inst Med Sci [serial online] 2016 [cited 2017 Aug 22];21:111-5. Available from: http://www.jmgims.co.in/text.asp?2016/21/2/111/189537.
13. Pattern of skin diseases and prescribing trends in rural India by Juno j Joel, Neethu Jose, Shastry C.S: Scholars Academic Journal of Pharmacy (SAJP); 2013;2(4):304-309.
14. Aman S, et al., Pattern of skin diseases among patients attending a tertiary care hospital in Lahore, Pakistan, Journal of Taibah University Medical Sciences (2017), http://dx.doi.org/10.1016/j.jtumed.2017.04.007.