Original Article

Pattern of skin diseases among patients attending a tertiary care hospital in Lahore, Pakistan

Shahbaz Aman, FCPS

Department of Dermatology, King Edward Medical University/Mayo Hospital, Lahore, Pakistan

Muhammad Nadeem, FCPS, Khalid Mahmood, MD and Muhammad B. Ghafoor, MD

Department of Dermatology, Services Institute of Medical Sciences/Services Hospital, Lahore, Pakistan

Objective: There has been a rise in the magnitude of dermatological diseases in the South East Asian region. This study aimed to determine the pattern of various skin disorders appearing in the Dermatology Department of a tertiary care hospital, which will help people to understand the scale of the rising incidence and possible preventive measures that can be undertaken to curtail it.

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

Results: A total of 95,983 patients presented in the outpatient Department of Dermatology, King Edward Medical University Mayo Hospital Pakistan. Out of this sample, 24,302 patients repeatedly came to the hospital for a follow up visit related to their diseases, while 71,681 were enrolled as new cases. This group comprised 58% females and 42% males; most patients were in the 20–40 years age group. Out of 71,681, eczema was diagnosed in 22,275 (31.07%), infections including bacterial, viral, fungal, sexually transmitted infections (STIs) in 22,275 (31.07%), infections including bacterial, viral, fungal, sexually transmitted infections (STIs) in 20,178 (28.32%), and acne in 19,103 (25.82%).

Discussion: The results of this study show that dermatological diseases are major health problems in the South East Asian region. The commonest dermatological diseases seen in our study were eczema, infections, and acne. Therefore, it is very important to have proper diagnostic measures that can be undertaken to curtail it.

Conclusion: A large number of patients are being treated for skin diseases every year. It is very important to have proper diagnostic measures to control the increasing incidence of dermatological diseases in this region.

Keywords: Dermatological diseases, eczema, infections, acne.

Abstract

Objective: There has been a rise in the magnitude of dermatological diseases in the South East Asian region. This study aimed to determine the pattern of various skin disorders appearing in the Dermatology Department of a tertiary care hospital, which will help people to understand the scale of the rising incidence and possible preventive measures that can be undertaken to curtail it.

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

Results: A total of 95,983 patients presented in the outpatient Department of Dermatology, King Edward Medical University Mayo Hospital Pakistan. Out of this sample, 24,302 patients repeatedly came to the hospital for a follow up visit related to their diseases, while 71,681 were enrolled as new cases. This group comprised 58% females and 42% males; most patients were in the 20–40 years age group. Out of 71,681, eczema was diagnosed in 22,275 (31.07%), infections including bacterial, viral, fungal, sexually transmitted infections (STIs) in 22,275 (31.07%), infections including bacterial, viral, fungal, sexually transmitted infections (STIs) in 20,178 (28.32%), and acne in 19,103 (25.82%).

Discussion: The results of this study show that dermatological diseases are major health problems in the South East Asian region. The commonest dermatological diseases seen in our study were eczema, infections, and acne. Therefore, it is very important to have proper diagnostic measures that can be undertaken to curtail it.

Conclusion: A large number of patients are being treated for skin diseases every year. It is very important to have proper diagnostic measures to control the increasing incidence of dermatological diseases in this region.
Skin diseases are very much prevalent in the developing countries. These diseases range from simple acne and scabies to various serious disorders such as Stevens-Johnson syndrome, toxic epidermal necrolysis and purpura fulminans. The pattern of skin diseases present varies from country to country and even from region to region within a country due to different ecological factors, genetics, nutritional status and social customs. Skin diseases can cause high morbidity but apparently less mortality. It is very important to remember that skin manifestations may be a clue as to the patient’s internal disease, but literature on the pattern of skin diseases is deficient. Early identification of skin disease is important not only for treating patients but for preventing the spread of communicable diseases.

Although there have been some studies on the pattern of skin diseases in the general global population, there is a paucity of such work in developing countries. The present study was planned to have insight into the frequency and types of skin disorders in that appear a tertiary care hospital to determine the burden of these diseases in our set up.

Materials and Methods

This was an observational study carried out after approval of the Institutional Ethical Committee from 1st January, 2014 to 31st December, 2014 in the Department of Dermatology, King Edward Medical University/Mayo Hospital, Lahore, Pakistan. All patients attending the in- and outpatient department (OPD) for skin problems, during this period, were included in this study. A thorough medical history and detailed cutaneous examination was performed on each patient; diagnoses were made on clinical examination. Laboratory investigations, skin scraping for fungus, Tzanck smear, smear for LD bodies, slit skin smear and skin biopsies were also carried out, if required, for confirmation of the initial diagnoses. Individuals less than 12 years of age were considered as children while those above 12 years were considered as adults. Different patterns of skin disorders were noted and compared using the data from different countries.

The data were entered into SPSS version 11 for analysis. Study variables included age, gender and skin problems. Mean and standard deviation were calculated for quantitative variables such as age, while the frequency and percentages were used to report qualitative variables such as gender and diagnoses of various skin problems. The statistical analysis was performed, and a p-value of <0.05 was considered significant.

Results

A total of 95,983 patients presented in the outpatient Department of Dermatology. Out of them, 24,302 patients repeatedly came to the hospital for a follow-up visit related to their disease, while 71,681 were enrolled as new cases. This group comprised 42% males and 58% females, with a male to female ratio of 1:1.4 — the difference was statistically insignificant (p value > 0.05). The age range noted was 2 months to 86 years with a mean of 30.4 ± 9.2 years. The majority of patients belonged to the 20–40 years of age range.

The pattern of skin diseases observed in our study has been shown in Figure 1. Out of 71,681 new cases, eczema was the most common skin disease seen, affecting 31.07% (22,275) of patients. Among these patients, contact dermatitis (mainly hand eczema) accounted for the majority of cases 72.4% (16,136), followed by seborrhoeic eczema 9.41% (2097), pityriasis alba 4.65% (1036), atopic eczema 3.69% (824), pompholyx 1.60% (357), lichen simplex chronicus 1.43% (320), stasis eczema 1.33% (297) and xerotic eczema 1.09% (243). Hand eczema was found to be more common in females. Seborrhoeic eczema, pityriasis alba and atopic eczema were seen mostly in children, while discoid eczema, pompholyx, lichen simplex chronicus, stasis eczema and xerotic eczema were noted in adults and the old age group.

Skin infections were seen in 28.16% (20,178) of patients. Among this group, fungal infections were the most commonly seen variety, accounting for 34.80% (7023) of cases, including tinea cruris, tinea corporis, tinea pedis, tinea capitis, tinea versicolor and candida infections. Fungal infections were also seen in the adult age group with a male preponderance. Viral infections in 29.61% of patients (5974) included herpes simplex, viral warts, herpes zoster, molluscum contagiosum, varicella and other viral exanthems. There were 0.22% (13) human immune deficiency virus (HIV)-positive patients. Bacterial infections among 27.28% of students (5504) included folliculitis, furunculosis, sycosis,
cellulitis, ulcers and impetigo. Cutaneous tuberculosis was seen in 4.93% (310) of patients, with scrofuloderma, lupus vulgaris and tuberculosis verrucosa cutis and leprosy were present in 21 patients (0.38%) including both tuberculoid and lepromatous leprosy. Sexually transmitted infections (STIs) such as syphilis, gonorrhoea and lymphogranuloma venereum were noted in 1.93% (390) of patients. Cutaneous leishmaniasis was seen in 0.90% (182) of cases. Diabetes mellitus was found in 93 patients with fungal, bacterial and viral infections. Bacterial and viral infections were mostly seen in children while fungal, STIs and protozoal infections were commonly found in the adult age group.

Acne was seen in 11.03% (7910) of the adolescent age group. The types seen were acne vulgaris, steroid-induced acne and nodulocystic acne. Drug reactions were seen in 6.74% (4830) of patients. Drugs commonly incriminated were sulphonamides, antimalarials, antibiotics and anticonvulsants such as phenytoin and carbamazepine. The types of drug eruptions noted were erythema multiforme, Stevens-Johnson syndrome, fixed drug eruptions, lichenoid eruptions and exfoliative dermatitis. Urticaria was found in 4.06% (2910) of patients. Pigmentary disorders were seen in 3.82% (2739) of patients including melasma, vitiligo, photosensitivity and lichen planus. Psoriasis was found in 3.80% (2724) of patients. Different types of psoriasis were seen, such as psoriasis vulgaris, pustular psoriasis, psoriatic arthritis and psoriatic erythroderma. Infestations were seen in 3.66% (2626) of patients with diseases such as scabies (2082) and pediculosis (544). Bullous disorders were noted in 1.66% (1187) of patients. The most common variety seen was pemphigus vulgaris followed by pemphigus foliaceous, epidermolysis bullosa, bullous pemphigoid, chronic bullous disease of childhood, pemphigus vegetans, dermatitis herpetiformis and linear IgA disease. Connective tissue disorders were seen in 0.90% (645) of patients; these diseases included systemic lupus erythematosus, systemic sclerosis, dermatomyositis, localized morphea and lichen sclerosis et atrophicus. Various vasculitides were noted in 0.66% (472) of patients which were leukocytoclastic vasculitis, erythema nodosum, pyoderma gangrenosum, Henoch Schonlein purpura and Sweet’s syndrome.

Our miscellaneous group comprised 4.44% (3185) of patients and included hair and nail diseases in 1240 patients followed by dermatological manifestations of systemic diseases in 922 patients and ichthyoses in 398, naevi in 313, genodermatoses in 205, sarcoidosis in 32, cutaneous malignancies in 25, metabolic dermatological disorders in 25 and few other skin disorders in 25 cases.

Discussion

Mayo Hospital is a tertiary care hospital situated in the central area of Lahore, the capital of Punjab Province. Patients attending the Outpatient Department of this hospital come mainly from the city itself, neighbouring districts and even from all over the country. The mean temperature of Lahore is 24.3 °C (75.7 °F), and the annual rainfall is 628.8 mm. The population of the Lahore district is approximately 100, 52,000. In every community ecology plays a definite role in the causation of skin diseases. In dermatology, a good medical history and a detailed physical examination are essential for creating a clinical diagnosis. Laboratory investigations and skin biopsy are helpful tools for confirmation of an initial diagnosis.

The present study indicated that female patients outnumbered their male counterparts. This trend is similar to those observed in other studies; it may be attributed to the high sensitivity of females to health-related issues or consciousness about their body image at a younger age, as most of our patients presented between ages 20 and 40 years. In the present study, eczema was found to be the most frequently observed disorder, accounting for 31.07% of the total number of patients; this finding was in accordance with other studies. Contact dermatitis (CD) was the most common entity seen (accounting for 72.4% of patients) and was seen in most of the adult females in our sample (49.7%), similar to other studies. The reason for high
incidence of CD in our community may be that people are exposed to many occupational allergens and chemicals and do not indulge in protective measures. Moreover, use of artificial jewellery in females and footwear allergy owing to the hot and humid climate are other contributing factors.

Infections were the second largest group of observed disorders. The warm and highly humid climate of the country, overcrowding, and poor environmental hygiene may account for the high incidence of this disorder—similar to other studies.10,14,15 Fungal infections, mainly found in adults, were the most common type of infection in our study, and they appeared at a rate comparable with previous studies.3,6,10,11 The incidence of viral infections was relatively high in our study, which is in contrast to the studies performed in Kashmir (14.0%), Imphal (3.78%) and Trivandrum (5.10%).11 Herpes simplex (38.16%) was the most common viral infection among our sample group. HIV was seen in 0.02% of patients in our study during this period; this figure is low compared to the study performed in Nigeria by Altraide et al. (2.3%).10 New cases of Hansen’s disease accounted for 0.03% (21) of the total number of patients seen in a year’s time; this is in accordance with the results of the study from Imphal, India (0.04%).11 The number of new cases is decreasing every year due to regular held Leprosy medical camps with awareness programmes in Lahore and neighbouring cities, and the fact that patients seek treatment in the disease’s early stage. The low incidence of STIs (1.93%) noted in the present study is comparable with previous studies;12,14 this may be because such patients prefer to attend the private clinics due to the social stigma associated with these diseases.

Acne is a common skin disease that affects pilosebaceous follicles mainly among adolescents. In this study, acne was found in 11.03% of cases, mostly in females (similar to other studies).1,2,12,13 In our opinion, excessive use of cosmetics, steroid preparations, psychological aspects and emotional stress may be the key factors that cause this skin condition especially in females, which is in accordance to other studies.1,2,12,13

Drug eruptions accounted for 6.74% of cutaneous disorders in this study. The figure is higher than noted in studies from Africa (5.8%)10 and Greece (2.3%).3 The high percentage of drug reactions in our study can be explained by high outright rates of drug abuse, quackery and poor drug use policy in our country, while the low figure from the abovementioned study in Greece was due to the likelihood of most of patients to present to the emergency and medical OPD rather than the skin department.

Urticaria is a skin disease with significant morbidity and a wide spectrum of causes. In this study, urticaria affected 4.06% of the subjects, which is also comparable with previous studies.2,14 Both acute and chronic urticaria were found to be mainly associated with food and drugs.15 Pigmentary disorders were the sixth most common skin disorder and accounted for 3.82% of all cases, among which melasma was the most frequent presentation. The figure noted in the present study was because of psychosocial stigma and negative impact on patients’ quality of life, especially in adult females with regard to hormonal changes and sun exposure.17

Scabies is caused by the mite Sarcoptes scabiei and transmitted by person-to-person contact; it was mostly seen in children in this study and was present in 79.3% (202) of patients. The preponderance of scabies may be explained by overcrowding, close contact and poor socioeconomic status of patients. The low prevalence (0.03%) of skin malignancies in the present study is comparable to other studies, while it is in contrast to the study performed in Greece (2.7%).5 The increased incidence of malignancy in the Western world is due to more sun exposure, changes in clothing styles, ozone depletion and genetics.5,18 The low incidence of this disease in our study may also be explained by the fact that most of our patients have dark complexion (hyperpigmentation), which provides sufficient protection from sun light.18

There are many other skin disorders noted in our study, but the numbers of patients presenting with these diseases were few. We suggest further studies to determine the burden of skin diseases in various regions of our country that will help in the prevention and control of such cutaneous disorders.

Conclusion

The frequency of skin disorders is increasing day by day. Eczema is the most frequently seen skin disorder followed by skin infections. The pattern of skin disorders is an index of community development and the quality of available health care. There should be training programmes for diagnosing and managing common skin disorders for general practitioners and primary health care physicians to reduce referrals to tertiary care hospitals.

Authors’ contribution

SA designed the study, conducted research, provided research materials, collected and organized data. MN analyzed and interpreted data. KM & MBG had done drafting of article. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

Conflict of interest

The authors have no conflict of interest to declare.

References

1. Al-Zoman AY, Al-Asmari AK. Pattern of skin disease at Riyadh Military Hospital. Egypt Dermatol Online J 2008; 4(2): 4–14.
2. Noorbala MT, Kafaie P. Pattern of skin diseases in the Central Iran, Yazd Province. J Pak Assoc Dermatol 2010; 20: 137–141.
3. Sarkar SK, Islam AKMS, Sen KG, Ahmed ARS. Pattern of skin diseases in patients attending OPD of Dermatology Department at Faridpur Medical College Hospital, Bangladesh. Faridpur Med Coll J 2010; 5(1): 14–16.
4. Najdawi F, Fa’ouri M. Frequency and types of skin disorders and associated diabetes mellitus in elderly Jordanians. La Rev St Mediterr Orient 2002; 8: 574–578.
5. Symvoulakis EK, Krasagakis K, Komninos ID, Kastrinakis I, Lyronis I, Philalithis A, et al. Primary care and pattern of skin diseases in a mediterranean island. BMC Fam Pract 2006; 7: 6. http://www.biomedcentral.com/1471-2296/7/6.

6. Rao GS, Kumar SS, Sandhya. Pattern of skin diseases in an Indian village. Indian J Med Sci 2003; 57: 108–110.

7. Narwane SP, Patil TC, Shetty YC, Chikhalkar SB. Drug utilization and cost analysis for common skin diseases in dermatology OPD of an Indian Tertiary Care Hospital-A prescription survey. Br J Pharma Res 2011; 1(1): 9–18.

8. Walker SL, Shah M, Hubbard VG, Pradhan HM, Ghimire M. Skin disease is common in rural Nepal: results of a point prevalence study. Br J Dermatol 2008; 158: 334–338.

9. Wikipedia contributors. “Lahore.” Wikipedia, The Free Encyclopedia. Wikipedia, 1 Aug. 2016. https://en.wikipedia.org/w/index.php?title=Lahore&oldid=731411520.

10. Altraide DD, Akpa MR, George IO. The pattern of skin disorders in a Nigerian tertiary hospital. J Public Health Epidemiol 2011; 3(4): 177–181.

11. Devi TB, Zamzachin G. Pattern of skin diseases in Imphal. Indian J Dermatol 2006; 51: 149–150.

12. Agarwal S, Sharma P, Gupta S, Ojha A. Pattern of skin diseases in Kumaon region of Uttarakhand. Ind J Dermatol Venereol Leprol 2011; 77(5): 603–604.

13. Al Shobaili HA. The pattern of skin diseases in the Qassim region of Saudi Arabia: what the primary care physician should know. Ann Saudi Med 2010; 30(6): 448–453.

14. Das S, Chatterjee T. Pattern of skin diseases in a peripheral hospital’s skin OPD: a study of 2550 patients. Indian J Dermatol 2007; 52: 93–95.

15. Asokan N, Prathap P, Ajithkumar K, Ambooken B, Binesh VG, George S. Pattern of skin diseases among patients attending a tertiary care teaching hospital in Kerala. Ind J Dermatol Venereol Leprol 2009; 75: 517–518.

16. Grattan CEH, Marsland AM. Urticaria. In: Griffiths CEM, Barker J, Bleiker T, Chalmers R, Creamer D, editors. Rook’s text book of Dermatology. 9th ed., vol. 2. Oxford: Wiley-Blackwell; 2016. p 42.1–42.18.

17. Mehmood K, Nadeem M, Aman S, Hameed A, Kazmi AH. Role of Estrogen, Progesterone & Prolactin hormones in the etiopathogenesis of Melasma in females. J Pak Assoc Dermatol 2011; 21(4): 241–247.

18. Vahid S, Jafar AT, Setareh S, Mirmohammad T. Epidemiologic pattern of skin malignancies in Semnan, Iran between 1999 and 2007 and comparing it with meta-analysis of published papers in world between 2000 and 2008. Res J Bio Sci 2009; 4(6): 743–751.

How to cite this article: Aman S, Nadeem M, Mahmood K, Ghafoor MB. Pattern of skin diseases among patients attending a tertiary care hospital in Lahore, Pakistan. J Taibah Univ Med Sc 2017;12(5):392–396.