

Pattern of dermatoses in tertiary care hospital at Sahiwal, Pakistan

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ABSTRACT

Background: This study was carried out to assess the pattern of various dermatoses which will help in recognition of preventive measures to reduce their number in a tertiary care hospital.

Patients and methods: An observational study was conducted on patients, irrespective of age and gender, who attended the Dermatology Department DHQ Teaching Hospital Sahiwal/Sahiwal Medical College from Jan 2017 to June 2017. Patients were diagnosed clinically on the basis of history and clinical examination. Laboratory investigations and skin biopsies were performed in doubtful cases.

Results: A total of 6367 patients presented in the outpatient department of Dermatology, DHQ Teaching Hospital Sahiwal, Pakistan. Out of these 3322 (52%) were females and 3045 (48%) were males. The majority (62.8%) of patients were in the 14–49 years age group. Infestations (scabies) and cutaneous infections were the most common skin conditions in 2845 (44.7%) patients followed by eczema in 1301 (20.4%). A large number of patients including 753 (11.8%) were reported with fungal infections as compared to 250 (3.9%) with bacterial and 223 (3.5%) with viral infections. Acne was observed in 725 (11.4%) patients, urticaria in 370 (5.8%) patients, pigmentary dermatoses in 314 (4.9%) patients, papulosquamous disorders in 255 (4.0%) patients and xerosis in 191 (2.9%) patients. Rest of patients belonged to miscellaneous dermatoses 296 (4.6%) and hair diseases 70 (1.0%).

Conclusion: Major burden of skin diseases especially scabies and infections in tertiary care health facilities need to be curtailed by improving primary healthcare in developing countries.

Keywords:

Dermatoses, Tertiary, Scabies, Eczema

INTRODUCTION

Skin diseases can affect any age group of population from neonate to the elderly. Skin diseases are considered to be common health problem among patients presenting to hospitals and many systemic diseases can be recognized by their cutaneous manifestations.¹ Skin diseases share a major burden of diseases globally and cause morbidity in the form of disfigurement, disability and symptoms like itching and also affect social and psychological life of an individual. It was estimated that it contributed 1.79% to the global burden of disease measured in DALYs (disability-adjusted life years). Skin and subcutaneous diseases were the 18th leading cause of global DALYs in Global Burden of Disease 2013.²

The pattern of skin diseases varies from one country to another as well as this variation exists within cities and towns of same country.³ Multiple factors affect the pattern of various dermatological disorders e.g. ethnicity, genetics, nutritional, personal habits,

socio-economic status and occupation. Geographical factors like season and climate are also considered contributing factors affecting pattern of skin diseases. Overcrowding, low literacy rate, financial constraints and poor hygienic conditions are important factors determining the distribution of skin diseases in developing countries.^{1,4-8}

In spite of the high occurrence of skin diseases in developing countries, concerned authorities have so far not been able to give priority during formulation and development of public health strategy.⁹ Various studies regarding the prevalence and frequency of skin diseases have been conducted in all age groups. Similar multiple studies have also been carried out in different regions of our country in the last three decades. Current study was of its first kind that was carried out in Sahiwal Division of Punjab province of Pakistan.

The main objective of this study was to determine the pattern of skin diseases in a tertiary care hospital in Sahiwal and to compare the results with local as well as international studies. It will also help in identifying the increase in the incidence of skin diseases in catchments or neighboring areas and adaptation of preventive measures to reduce them.

Competing interests: The authors declared no competing interests exist
Citation: Rafiq Z, Shafi U. Pattern of dermatoses in tertiary care hospital at Sahiwal, Pakistan. J Fatima Jinnah Med Univ. 2019; 13(2):71-75.

PATIENTS AND METHODS

An observational study was conducted on all the patients, irrespective of age and gender, who presented in the outpatient department of Dermatology, DHQ Teaching Hospital Sahiwal/Sahiwal Medical College from Jan 2017 to June 2017 over a span of six months. The study was approved by institutional ethical review committee. An informed consent was taken from each patient and all data regarding patients was recorded on predesigned proforma. After a detailed history, cutaneous and systemic examination was performed. Laboratory investigations including routine tests (complete blood picture, urinalysis, liver function test and X-ray), biochemical profile, skin smears for fungus, mite and acid-fast bacterial (AFB) staining were done where required. Skin biopsy and histopathology were performed in doubtful cases. Diseases and their types were recorded and analyzed by SPSS.

RESULTS

A total of 6367 patients presented in the outpatient Department of Dermatology, DHQ Teaching Hospital Sahiwal, Pakistan. Among total, 3322 (52%) were females and 3045 (48%) were males. A total of 3999 (62.8%) were 14–49 years old (Figure 1). Nearly one fourth ($n=1583$) (24.8%) of patients were children (≤ 14 years), while 785 (12.3%) were elderly (>49 years) patients. Infestations (scabies) and cutaneous infections were the most common skin conditions observed in 2845 (44.7%) patients in the study followed by eczema 1301 (20.4%) as shown in Figure 2. Scabies was most commonly reported in 1570 (24.6%) patients among infestations and infections. Both male and female gender proportion was equal among scabies patients but majority of patients (54%) were within adult age group. Eczema was the most common among non-infectious skin disorders and more commonly seen in male gender. Among these patients, chronic eczema accounted for more than one third (38.2%) of total eczema patients followed by atopic dermatitis, seborrheic dermatitis, allergic contact dermatitis, hand eczema and photocontact dermatitis.

Fungal infections was most commonly seen in 753 (11.8%) patients as compared to bacterial infections in 250 (3.9%) and viral infections in 223 (3.5%) patients. Among fungal infections *Tinea corporis*, *T. capitis*, *T. versicolor*, *T. curis*, *T. faciei* and *T. pedis* cases were recorded in decreasing order and female patients outnumbered male patients. Bacterial and viral infections were observed more in male population. Folliculitis, frunculosis, impetigo and ecthyma were

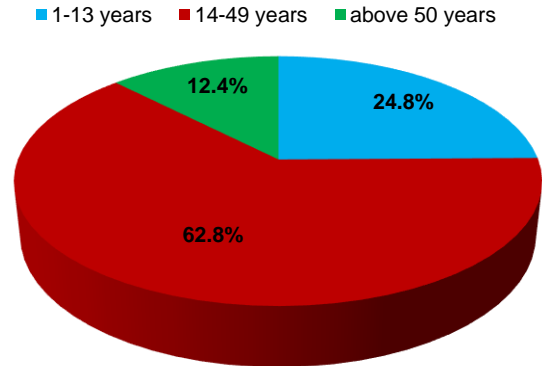


Figure 1. Distribution of study population into different age groups

common bacterial infection seen. Viral infections included warts, herpes zoster, chickenpox, molluscum contagiosum, herpes simplex and other viral exanthems.

Acne was observed in 725 (11.4%) patients, urticaria in 370 (5.8%) patients, pigmentary dermatoses in 314 (4.9%) patients and papulosquamous disorders in 255 (4.0%) patients. Xerosis was recorded in 191 (3.0%) patients while rest of the patients belonged to miscellaneous dermatoses 296 (4.6%) and hair disorders 70 (1%). Among miscellaneous group, skin diseases which included were connective tissue disorders like lupus erythematosis, systemic sclerosis, vasculitis like leukocytoclastic vasculitis, tuberculides, drug reactions, bullous disorders like pemphigus vulgaris, pemphigus foliaceus, epidermolysis bullosa, ichthyosis, naevi and genodermatoses.

DISCUSSION

Sahiwal city is the capital of both Sahiwal District and Sahiwal Division. The population of the Sahiwal District is 2517560 and temperature during summer season increases to 40-50 °C while during winters it decreases to 5-10 °C. Sahiwal is considered to be a fertile zone of Punjab province because of nearby rivers and canal irrigation system. Due to this reason, economy of Sahiwal Division depends mainly on agriculture and related industries.¹⁰ The patients attending this hospital not only come from Sahiwal District but also from other Districts (Okara, Pakpattan) of Sahiwal Division and neighboring Faisalabad District.

In each country, different epidemiological factors help in evaluation of pattern of skin diseases. Comparison in frequency of skin diseases of various previous studies with the current study shown is in Table 1. In this study, number of female patients were

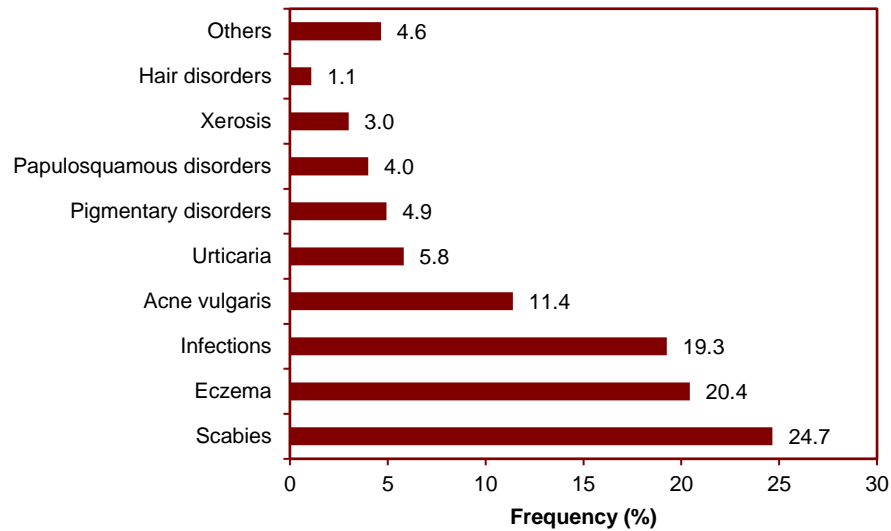


Figure 2: Pattern of skin diseases among patients

more than male patients as recorded in various studies.^{1,4,5,11,12} In the current study, scabies was the most frequent skin disease (24%). Similar pattern with variable frequency has been observed in previous studies carried out in different cities of India and Pakistan.^{1,4,5} Among them, highest frequency (45.5%) was observed by Memon *et al* from Hyderabad.⁵ Both national and international studies have also recorded a lower frequency trend (less than 5%).^{6,7,11} The reason for more scabies in female gender in developing countries can be due to close contact with children and parents, poor hygienic conditions and shared rooms.

In this study, among non-infective dermatoses, eczema (20.4%) was at the top of list which is comparable with results recorded in most of studies. However, high frequency (32.1% and 31%) of eczema patients was observed in study performed by Renuka *et al*³ and Aman *et al*,⁶ respectively. Contact dermatitis, atopic dermatitis and seborrheic dermatitis were most common forms of eczema seen in various studies.^{4,7} Allergic contact dermatitis was recorded more in female patients in most of the studies. This may be due to frequent application of cream or lotion or homemade remedies for beauty purpose by females. Majority of atopic dermatitis cases were recorded in children below 14 years of age, this finding was in concordance with other studies.^{4,6}

In the current study, all infections collectively had a frequency of 19%. Similar values of frequency of infections have been reported in most of the previous

studies.^{1,5,6,7,13} Lowest frequency of infections was recorded by Maryam *et al*.⁴ Various factors may be contributing in spread of infections including hot and humid weather, overcrowding, poor sanitation facilities, and accessibility to clean water. Fungal infections were the leading cause of infections observed in most of the studies carried out within Pakistan and other regions of world.^{1,4,5,6,13} This fact was lacking (4.9%) in study conducted in Qassim region of Saudi Arabia.⁷ In past, reported frequency of bacterial infections was quite high as compared to values recorded in this study.^{1,6,9} The frequency of viral infections was relatively low as compared to studies performed in Qassim and Lahore.^{6,7} Few cases ($n = 4$) of STIs (sexually transmitted infections) were noted in the present study as compared to finding observed in previous studies.^{4,6} Patients with these infections may have reported to private clinics due to social stress or being referred to major public hospitals of Lahore.

In this study, acne was observed in 11.4% of the enrolled patients, mostly among females which is nearer to frequency recorded in previous studies in different countries.^{1,4,6,7,13} Such pattern of acne patients was lacking in the study conducted by Memon *et al*.⁵ The predominance of female population may be due to frequent application of cosmetic products, topical steroids and psychosocial stresses. The frequency of urticaria (5.8%) observed in the current study was in agreement with the past studies findings.^{4,7} Both acute and chronic forms of urticaria were found in patients.

Table1: Comparison of percentages of frequency of skin diseases in various past studies

Disease	Qassim (Saudi) 2010	Hyderabad (Pakistan) 2011	Kolkata (India) 2013	Karachi (Pakistan) 2014	Sangli (India) 2016	Lahore Pakistan) 2017
Scabies	3	45.5	20.3	21	5	3.7
Eczema	19.5	18	23	18	32.2	31
Fungal infection	4.9	13	12.0	10	18	9.8
Bacterial infection	3.9	7.8	11.6	3	nm	8.9
Viral infection	16.6	3.4	0.9	2	3	8.3
Acne vulgaris	13.5	3.9	12.4	13	14	11
Urticaria	5	xx	3.1	6	nm	4
Pigmentary disorders	11.2	nm	nm	2.5	7.8	3.8
Papulosquamous disorders	5.1	nm	4	3	6	3.8
Others	7.2	3.2	12	16	8.3	13
Hair disorders	7.6	nm	2	4	2.5	4.4

Abbreviations: nm: not mentioned; xx: included in eczema

The frequency of common pigmentary disorders observed in this study (4.9%) less than half as compared to frequency recorded by Shobaili (2010) from Saudi Arabia.⁷ The proportion of melasma among pigmentary diseases was quite large which was seen in different studies carried out by Aman *et al* and Maryam *et al*. Pigmentary disorders affect quality of life, especially in female gender.^{4,6} It may be caused by multiple factors including hormonal changes or unprotected sunlight exposure especially working in fields. In papulosquamous disorder group (4%), psoriasis was seen in 3.3%, while lichen planus and pityriasis rosea were recorded only in 0.7% of patients. Similar pattern of frequency was observed in the previous studies.^{1,6} However, Shobaili (2010) from Saudi Arabia and Renuka *et al* from India recorded a slightly higher frequency (5% and 6% respectively) as compared to the current study.^{7,13}

Drug reactions were reported in very few patients as compared to other studies. This is due to the fact that most of the patients report to the emergency and medical OPD than being presented or referred to the skin department. There were many skin conditions with few numbers like STIs observed in our study. Further studies are required to determine the cause of very few numbers of cases among these skin disorders.

This study highlights the need of health education to public as well as health authorities in developing countries especially Pakistan to address the causes of skin diseases, thereby reducing the disease burden. This could be achieved by enhancing health finances, equal opportunities for scientific research, introducing compulsory short refresher courses for primary healthcare physicians, health education programs for public and centralized referral system at public hospitals.^{2,14,15} Community as well as government support is required for implementation of above targets. This will help in prevention and control of skin

disorders especially infections, thus reducing the burden of major skin diseases in developing countries.

CONCLUSION

Major burden of skin diseases especially scabies and infections in tertiary care hospitals need to be curtailed by improving primary healthcare, health education and increasing health budget in developing countries.

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