

Original article

An audit of dermatoses at Baqai Institute of Skin Diseases, Karachi.

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Abstract *Background* Epidemiology offers one of the most powerful direct methods of evaluating skin diseases in human population. The study comprises an audit of the patients presenting in the outpatient department of *Baqai Institute of Skin Diseases (BISD)*, during the calendar year 2002.

Patients and methods A total of 13105 patients presented in the outpatient department during the said period. Their clinical diagnosis and results of relevant investigations were recorded.

Results Patients belonged to all age groups and both sexes with 6684 (51%) females and 6421 (49%) males. The most common disease as a single entity was found to be scabies (15.4%). However, as a group, eczema accounted for 25% of the patients, followed by fungal infections (12.6%), acne (8.5%) and bacterial infections (6.4%). Other important diseases were melasma (4%), androgenetic alopecia (3.2%), diffuse alopecia (2.7%), urticaria (2.4%), psoriasis (2.1%), viral infections (1.7%), alopecia areata (1.5%), lichen planus (1.3%), and vitiligo (1.1%). Other less frequently reported diseases included drug eruptions, pediculosis, post inflammatory hypo- and hyperpigmentation, generalized pruritus, oral ulcers, miliaria, xanthelasma, milia, striae, palmoplantar keratoderma, leishmaniasis, leprosy, keloid and vasculitis. Some rare diseases were pityriasis rosea, angioedema, ichthyosis, canities, scleroderma, systemic lupus erythematosus and pemphigus. There were occasional case reports of porokeratosis of Mibelli, Bowen's disease, rosacea, mastocytosis and histiocytosis.

Conclusion Pattern of dermatoses at 'BISD' is much the same as in other cities of Pakistan with minor differences.

Key words Epidemiology, skin diseases, hospital-based prevalence, frequency, Karachi, Pakistan.

Introduction

Epidemiology offers one of the most powerful direct methods of evaluating skin diseases in human population.¹ For an epidemiological study, a large sample of population is required so that the nature and size of the health problems can be

adequately gauged. This in turn helps to establish their importance in a community. Not much epidemiological work has been done in this field in our country. Although, a few studies have been carried out at Karachi,² Lahore,³ and Bahawalpur⁴ in the past but still there is a wide gap regarding the national data.

Here we present an audit of dermatoses at 'Baqai Institute of Skin Diseases' (BISD), affiliated with Baqai Medical University,

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Karachi. This institute covers not only the whole of Nazimabad, a thickly populated area, but also the rest of previously called district central of Karachi. Moreover, patients also present here from adjoining areas like Gulshan-e-Iqbal, New Karachi, Banaras Colony, Qasba Colony, Garden and Lasbela. In addition, patients coming from remote areas like Malir and Landhi and virtually the rest of Karachi present here.

This study was aimed to determine the frequency of various skin diseases in patients presenting at BISD and to compare the results with previous data from our country.²⁻⁶

Patients and methods

During the calendar year 2002, a proper record of all the OPD patients was maintained at BISD. After a clinical diagnosis, investigations, if required, were also carried out. These included blood for hematological and biochemical profile, urine examination and X-ray chest. Specific investigations included smears, swabs and scrapings for microscopy and culture from the lesional skin, radiological examination, serology, skin biopsy and rarely immunofluorescence.

Results

A total of 13105 patients attended the OPD, during the said period. Patients belonged to both sexes with 6684 (51%) females and 6421 (49%) males. Of the total patients 1956 (15%) were below 12 years of age. The minimum age of presentation was 7 days and maximum 96 years. Patients belonged to all ethnic groups.

Table 1 enlists the hospital-based prevalence of different disease entities/groups in the descending order of frequency. Scabies as a single entity, with

a frequency of 15.4% remained the most common skin disease. However, as a group of skin disorders, eczema topped the list with a combined frequency of 25%. This group included hand eczema (7.5%), seborrhoeic dermatitis (3.4%), lichen simplex chronicus (3%), atopic dermatitis (2.6%), pityriasis alba (2.3%), xerotic eczema (2.3%), allergic contact dermatitis (2%), photodermatitis (0.7%), pompholyx (0.7%), napkin dermatitis (0.4%) and asteototic eczema (0.1%)

Fungal infections, as a group had a frequency of 12.6%. The break up in the descending order included, pityriasis versicolor (4.2%), tinea capitis (2.9%), tinea corporis (1.5%), onychomycosis (1.1%), chronic paronychia (0.7%), tinea cruris (0.7%), oral candidiasis (0.6%), tinea pedis (0.5%), tinea manuum (0.2%) and vaginal candidiasis (0.1%).

Table 1 Hospital-based prevalence of different dermatoses (n=13105)

Disease	Number	%
Eczemas	3282	25.0
Scabies	2038	15.4
Fungal infections	1640	12.6
Sebaceous gland diseases	1316	10.1
Hair follicle diseases	1029	8.0
Bacterial infections	840	6.4
Pigmentary disorders	809	6.2
Papulosquamous disorders	465	3.5
Vascular disorders	362	2.8
Viral infections	224	1.7
Papular urticaria	147	1.1
Intertrigo	105	0.8
Drug eruptions	90	0.7
Tumours/cysts	69	0.5
Pediculosis	68	0.5
Keratization disorders	64	0.5
Pruritus	55	0.4
Oral ulcers	51	0.4
Nevoid disorders	31	0.2
Leishmaniasis	31	0.2
Connective tissue disorders	27	0.2
Mycobacterial infections	26	0.2
Bullous disorders	18	0.1
Psychocutaneous disorders	14	0.1
Miscellaneous disorders	313	2.4

Table 2 Miscellaneous disorders (n=13105)

Disease	Number	%
Burns	56	0.4
Miliaria	47	0.4
Xanthelasma	42	0.3
Skin tags	37	0.3
Striae	35	0.3
Corns	32	0.2
Keloids	24	0.2
Ingrowing toenails	17	0.1
Postherpetic neuralgia	16	0.1
Pitted keratolysis	7	0.1
Total	313	2.4

Frequency of sebaceous gland disorders was 10.1% and comprised acne (8.5%), dandruff (1.5%) and rosacea (0.1%). The disorders of hair follicles accounted for 8% of all the patients. The combined frequency of alopecia was 7.6% with a breakup of androgenetic alopecia (3.2%), telogen effluvium (2.7%), alopecia areata (1.5%) and drug-induced alopecia (0.2%). Hirsutism (0.16%) and canities (0.1%) were the other hair follicle diseases seen.

Total frequency of bacterial infections was 6.4%. This group included folliculitis (1.8%), impetigo (1.5%), furunculosis (1.3%), ecthyma (1.1%), cellulitis (0.4%) and perioritis (0.3%).

Frequency of disorders of pigmentation (6.2%) included melasma (4%), vitiligo (1.2%), postinflammatory hypopigmentation (0.5%) and postinflammatory hyperpigmentation (0.5%). Papulosquamous disorders i.e. psoriasis vulgaris (2.1%), lichen planus (1.3%) and pityriasis rosea (0.1%) had a combined frequency of 3.5%.

The group of vascular disorders accounted for 2.8% of the patients and included urticaria (2.4%), vasculitis (0.2%), angioedema (0.1%) and Schamberg's disease (0.1%).

Viral infections (1.7%) included common warts (0.4%), molluscum contagiosum (0.4%), chicken pox (0.3%), verruca plana (0.2%), herpes simplex (0.2%), genital warts (0.1%) and herpes zoster (0.1%).

Papular urticaria and intertrigo were reported in 1.1% and 0.8% patients, respectively. The combined frequency of drug eruptions (0.7%) included generalized drug eruption (0.6%) and fixed drug eruption (0.1%). The group of tumors and cysts included milia (0.2%), syringomas (0.1%), pyogenic granulomas (0.05%), mastocytosis (0.05%), histiocytosis (0.05%) and Bowen's disease (0.05%). The frequency of pediculosis capitis was (0.5%).

Frequency of disorders of keratinization (0.5%) had the following break up: palmoplantar keratoderma (0.2%), ichthyosis (0.2%), lichen spinulosus (0.04%), porokeratosis of Mibelli (0.03%) and lichen striatus (0.03%). Generalized pruritus (0.4%), oral ulcers (0.4%) and cutaneous leishmaniasis (0.2%) were a few other disorders seen.

Nevoid disorders (0.3%) included lentigines (0.1%), hemangiomas (0.1%) and adenoma sebaceum (0.1%). Connective tissue diseases (0.2%) included scleroderma (0.1%) and lupus erythematosus (0.1%).

Leprosy (0.2%) and tuberculosis cutis (0.1%) were seen rarely.

Amongst the bullous disorders, pemphigus vulgaris and bullous pemphigoid had a frequency of 0.05% each. Psychocutaneous disorders (0.1%) were again rarely reported.

Some other diseases included in the miscellaneous group are shown in **Table 2**.

Discussion

Karachi is the largest city of Pakistan, a thickly populated metropolis with a population around 15 millions. It is a city with executives working in offices as well as labourers working for long hours in the sunlight. The weather here is hot and humid throughout the year with winter season lasting a few days. Such weather could be responsible for different cutaneous infections. The population of Karachi is a mixed one, with people belonging to different ethnic groups and coming from different areas of our country. This factor accounts for diseases like leishmaniasis being transported from endemic areas. Lack of health education, poverty, illiteracy, poor hygiene and communal living are other contributory factors.

Table 3 compares the hospital-based prevalence of different dermatoses in previous studies with that in the present one. Scabies as a single entity, with a frequency of 15.4% remained the most common skin disease in Karachi, as in other parts of Pakistan. In all the past studies, scabies topped the list.²⁻⁴

As a group of skin disorders, eczema topped the list with a combined frequency of 25%. Hand eczema (7.5%) was the most common, a diagnosis not mentioned as a distinct entity in any of the past studies.²⁻⁴ Seborrhoeic dermatitis (3.4%) had a frequency significantly lower than that reported in previous studies.²⁻⁴ Lichen simplex chronicus was the common type of eczema in our series with a frequency of 3%, not reported from Karachi in the past.² However, this frequency is almost 3

times higher than that reported from Bahawalpur⁴ (1%) and Lahore³ (1%). The frequency of atopic dermatitis (2.6%) was almost double than that reported from Bahawalpur⁴ (1.2%). Muzzafar *et al.*⁵ reported a frequency of 13.3% at Children Hospital, Lahore. The frequency of pityriasis alba (2.4%) was 2.5 times higher than that reported from Bahawalpur⁴ and Karachi.² A higher percentage of children in our series may account for this figure. Xerotic eczema (2.3%) had no comparable figures in the past studies.²⁻⁴ Allergic contact dermatitis seen in 2% of patients, had a frequency significantly lower than in Bahawalpur⁴ (4.8%). Nadeem *et al.*⁶ reported contact dermatitis in 10% of patients, out of which 30-50% were allergy-related. No comparable figures were available for photodermatitis, pompholyx, napkin dermatitis and asteototic eczema.²⁻⁴

The prevalence of fungal infections, as a group, was 12.5%, in agreement to that seen in Karachi² (12.6%) and Bahawalpur⁴ (10.7%). The hot and humid climate of Karachi may be responsible for this high prevalence.

Acne vulgaris had a frequency of 8.5% in our series, much higher than that reported previously from Karachi² (2.8%) and Lahore³ (1.6%) but similar to that reported from Bahawalpur⁴ (7%). Does it show a real increase in the occurrence of acne or patients have become more cosmetic-conscious, needs to be determined.

The disorders of hair accounted for 8% of all patients. Alopecia was seen in 7.6% patients with androgenetic alopecia (3.2%), telogen effluvium (2.7%), and alopecia areata (1.5%) as common causes. Hirsutism (0.2%) and canities (0.1%) were

Table 3 Comparison of prevalence rate of different disease in the present study with previous studies

<i>Disease</i>	<i>Karachi</i> 1985 [2]	<i>Lahore</i> 1961 [3]	<i>Bahawalpur</i> 2000 [4]	<i>Present</i> 2003
Scabies	22.4%	9.6%	14.6%	15.4%
Eczema				
Atopic			1.2%	2.6%
Lichen simplex chronicus	-	1%	1%	3%
Contact dermatitis	-	-	4.8%	2%
Fungal infections	12.6%	4.8%	10.7%	12.5%
Bacterial infections	12.8%	17.5%	5.9%	6.4%
Tuberculosis cutis	0.7%	0.6%	0.4%	0.1%
Viral infections	2.5%	0.7%	3.7%	1.7%
Acne	2.8%	1.6%	7%	8.5%
Disorders of hyperpigmentation	1.3%	1.2%	3.3%	6.2%
Vitiligo	-	1.5%	1.6%	1.2%
Urticaria	3.1%	2%	4.9%	2.4%
Psoriasis	0.7%	2%	1.8%	2.1%
Pityriasis rosea	0.2%	-	0.2%	0.1%
Fixed drug eruption	0.8%	-	0.6%	0.1%
Ichthyosis	0.7%	-	0.5%	0.4%
Lupus erythematosus	0.4%	-	0.6%	0.1%

rare. No comparable data were available for these conditions.

The overall prevalence of bacterial infections (6.4%) was significantly lower than that previously reported from Karachi² (12.8%) and Lahore³ (17.5%) but comparable to figure from Bahawalpur.⁴ The most common bacterial infection in this series was folliculitis as reported by Kanjee *et al.*⁷ in 2001 at Jinnah Postgraduate Medical Centre, Karachi. Folliculitis remains the most common bacterial infection in Karachi. Hot weather, poor hygiene, communal living leading to frequent physical contact and lack of proper and timely advice are a few factors accounting for a high frequency of bacterial infections.

Among the disorders of pigmentation, melasma was the commonest, as reported all over the country.²⁻⁴ We found a frequency of 4%. It may be due to a higher percentage of female patients in our series. Vitiligo (1.2%) had a frequency similar to that from Bahawalpur⁴ (1.6%) and Lahore³ (1.5%).

The prevalence of psoriasis vulgaris (2.1%) was higher than that from Karachi²

(0.7%), but similar to that from Lahore³ (2%) and Bahawalpur⁴ (1.8%). Pityriasis rosea had a comparable figure to that from Karachi² (0.2%) and Bahawalpur⁴ (0.2%).

In the group of vascular disorders urticaria (2.4%) was the major disorder. Its prevalence was significantly less than that from Bahawalpur⁴ (4.9%) but almost similar to that from Karachi² (3.1%) and Lahore³ (2%).

The combined frequency of viral infections (1.7%) was less than that seen in Bahawalpur⁴ (3.7%) and Karachi² (2.5%) but higher than that from Lahore³ (0.7%).

Cutaneous leishmaniasis is an endemic disease in various areas of Pakistan and of late there been an increase in case reports from different areas of Sindh.⁸⁻¹⁰ In the current series, the frequency of cutaneous leishmaniasis was 0.2%. All these patients presented from Gaddap town.

Amongst mycobacterial infections, leprosy was seen in 0.2% patients. Karachi is one of the endemic area for leprosy and according to an estimate Karachi is believed to harbor around 20,000 infected

persons who will develop leprosy in the next 10-20 years.¹¹ Tuberculosis cutis, (0.1%) was less frequent than that reported by all the compared studies; Karachi² (0.7%), Lahore³ (0.6%), and Bahawalpur⁴ (0.4%). All the cases in our series suffered from lupus vulgaris, although Khan *et al.*¹² reported scrofuloderma to be the most common type of tuberculosis cutis in Pakistan.

For drug eruptions, tumours, the disorders of keratinization, bullous disorders, connective diseases, and psychocutaneous diseases, the prevalence rate was less than 1%, similar to that from other cities.²⁻⁴

Conclusion

It can be concluded from the above study that the pattern of skin diseases is same in various cities of Pakistan with minor differences in frequency. Scabies being the most common disease necessitates a need for better health education, improved hygiene and better living standards.

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