

THE PATTERN OF SKIN DISEASES IN HAIL REGION, SAUDI ARABIA

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The prevalence of skin diseases in any community depends upon various factors, namely the genetic and racial constitution, the social and hygienic standards, customs and occupations, the nutritional status and age structure of the community, climatic factors, state of industrialization, etc. In addition, the diagnostic competence of doctors, special interest and expertise of dermatologists, the availability of expert diagnostic facilities and new methods of therapy contribute to the higher incidence of certain skin diseases in a particular country or community.¹

The literature concerning the patterns of both general and specific skin diseases is rather scanty, and only a few published reports are available from the Kingdom. Though community-based studies are the best to determine the incidence of a particular disease, they are difficult to carry out. As such, most of the studies to determine the incidence or prevalence of the dermatological diseases are based upon hospital attendance. The present study, aimed at analyzing the pattern of various dermatoses, was carried out over a two-year period from July 1995 to June 1997 at the Dermatology Unit of King Khalid Hospital (KKH), Hail, and was based on the hospital attendance of the patients.

Patients and Methods

A register of all the new patients seen by the Specialists in the Dermatology Unit of KKH over the two-year period was maintained, and the age, sex, nationality and the diagnosis of each patient recorded. Clinical diagnoses made by the dermatologists were corroborated with skin biopsies and other laboratory reports wherever necessary, and the diseases were classified into different groups in accordance with the International Classification of Diseases (ICD-9, 1975). The data thus obtained from the records was compared with studies from other parts of the world and from other regions of Saudi Arabia.

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TABLE 1. Various common dermatoses seen at King Khalid Hospital, Hail, from July 1995-June 1997.

Disease group (ICD-9) in order of frequency	# of cases (%)
Eczemas (ICD 690-692)	538 (16.31)
Viral infections (ICD 051.2, 052-054, 078, 078.1)	422 (12.8)
Acne and related conditions (ICD 706, 695.3)	410 (12.43)
Parasitic diseases (ICD 085.2, 132.0, 133.0)	242 (7.34)
Alopecias and related conditions (ICD 704)	242 (7.34)
Pigmentary disorders (ICD 709)	233 (7.06)
Superficial mycoses (ICD 110-112)	205 (6.22)
Papulosquamous disorders (ICD 696.1, 696.3, 697.0)	204 (6.18)
Pyodermas (ICD 680, 682, 684)	91 (2.76)
Prurigo and related conditions (ICD 698)	90 (2.73)
Urticaria (ICD 708)	74 (2.24)
STDs, impotence and infertility (ICD 097.1, 098, 099, 099.4, 054.1, 078, 132.2, 302.7, 606)	55 (1.67)
Drug rash	35 (1.06)
Miscellaneous	457 (13.86)

Results

The different skin diseases seen at King Khalid Hospital, Hail, were classified into 14 groups in order of their frequency of occurrence, as shown in Table 1. A total of 3389 dermatoses were diagnosed in 3298 patients seen over the two-year study period. Saudi nationals comprised 84.05% of the patients and non-Saudis 15.95%. There were 2535 adults above 13 years, and 763 children below 13 years. The male to female ratio was 1.23:1.

Overall, 13 groups of diseases accounted for 86% of all the dermatoses, and when these groups of diseases were analyzed according to age, sex and frequency of occurrence (Table 2), eczema topped the list (16.31%), followed by viral infections (12.80%), acne (12.43%), parasitic diseases (7.34%), alopecias (7.34%), pigmentary disorders (7.06%), and others. Noninfective dermatoses, namely eczema, acne, alopecia, pigmentary disorders and papulosquamous disorders, accounted for nearly 50% of all the dermatoses, whereas dermatoses primarily due to infective etiology (viral, bacterial, fungal and parasitic), accounted for nearly 30% of all the skin diseases. Five groups of diseases (acne, eczema, alopecias, pigmentary disorders, viral infections) accounted for 50% of the female and 38% of male attendance to the clinic. Eczema, viral

infections, parasitic diseases, and fungal infections accounted for 62% of all the dermatoses seen in children. Viral warts, alopecia areata, vitiligo psoriasis, superficial mycoses and pyodermas were more prevalent in male patients compared to females.

In the eczema/dermatitis group, atopic eczema was the most common (50.56%), and children accounted for almost 60% of the total number of cases. Contact dermatitis was seen more frequently in adults. Among the infective dermatoses group, primary pyogenic infections (2.76%) were the least common, with viral infections (12.80%) being the most common. Viral warts accounted for 65.64% of the viral infections, followed by herpes zoster (14.93%) and chickenpox (12.80%). All three of these viral infections were seen more commonly in male than in female adults. Herpes zoster was recorded in an 80-year-old male and also in a two-year-old boy. We recorded four cases of orf (ecthyma contagiosum) in Saudi patients (3 male and 1 female), all of whom were engaged in sheep rearing.

Superficial mycosis constituted 6.22% of all dermatoses, and tinea capitis and candidial intertrigo were the most common mycosis seen in children. Cutaneous leishmaniasis was the most common parasitic disease, accounting for 82.4% of cases in children. It also constituted 6.58% of all skin diseases, and was more commonly seen in Saudi children and in non-Saudi adult males. Cases of scabies were seen mainly in expatriate Asians and Egyptians. Vitiligo and melasma accounted for 90% of the pigmentary disorders, and alopecia areata accounted for 52.48% of all the alopecic disorders. Vitiligo and alopecia areata were more common in Saudi males, whereas melasma and diffuse thinning of hair were more prevalent in Saudi females. Psoriasis was the most common papulosquamous disorder, accounting for 57.35% of the cases in that group, followed by pityriasis rosea (24%), which was three times more common in females than in males. Prurigo, urticaria and drug rash, which together accounted for 6% of all the dermatoses, were seen more commonly in young adults. Only 27 cases of sexually transmitted diseases (0.82%) were recorded and gonococcal urethritis (7 cases) was the most common, followed by non-gonococcal urethritis, *Phthirus pubis*, genital warts (four cases each), genital herpes, molluscum contagiosum (two cases each), three cases of TPHA- and VDRL-positivity (test for syphilis) in significant titers without any clinical evidence of syphilis, and one case of chancroid (Bangladeshi male). All these patients tested negative for HIV serology. Bullous disorders, which were included in the miscellaneous group, were relatively uncommon (0.24%), and only four cases of epidermolysis bullosa (simplex, dystrophic and junctional types), two cases of herpes gestationis, one case each of bullous pemphigoid and subcorneal pustular dermatosis (all Saudi patients), were recorded during the study period. Similarly, among the connective tissue diseases there were 10 cases

TABLE 2. Hospital attendance for some common dermatoses at King Khalid Hospital, Hail, according to age, sex, and frequency of occurrence.

Disease groups	Adults (M/F)	Children M/F	Total #	% in group	% of total cases
Eczemas					
Atopic dermatitis	60/53	108/51	272	50.56	8.25
Contact dermatitis	81/101	11/7	200	37.17	6.06
Seborrheic and related	22/11	6/1	40	7.44	1.21
Other	14/7	3/2	26	4.83	0.79
Total	177/172	128/61	538	100	16.31
Viral infections					
Warts	127/66	50/34	277	65.64	8.4
Herpes zoster	38/13	5/7	63	14.93	1.91
Chickenpox	37/11	2/4	54	12.8	1.64
Herpes simplex	2/5	3/3	13	3.08	0.39
Molluscum bodies	3/1	3/4	11	2.6	0.33
Orf	3/1	0/0	4	0.95	0.12
Total	210/97	63/52	422	100	12.8
Acne and related					
Acne vulgaris	152/245	3/4	404	98.54	12.25
Rosacea	1/5	0/0	6	1.46	0.18
Total	153/250	3/4	410	100	12.43
Parasitic diseases					
Cutaneous leishmaniasis	105/23	51/38	217	89.67	6.58
Scabies	2/2	5/9	18	7.44	0.55
<i>P. capitis</i>	0/2	0/5	7	2.89	0.21
Total	107/27	56/52	242	100	7.34
Alopecia and related					
Alopecia areata	66/28	16/17	127	52.48	3.85
Diffuse thinning of hair	3/90	0/2	95	39.26	2.88
Other	12/6	0/2	2	8.26	0.61
Total	81/124	16/21	242	100	7.34
Pigmentary disorders					
Vitiligo	58/37	22/19	136	58.37	3.85
Melasma	10/65	0/0	75	32.19	2.88
Other	6/13	3/0	22	9.44	0.67
Total	74/115	25/19	233	100	7.06
Superficial mycosis					
Dermatophytes	39/24	20/13	96	46.83	2.91
Tinea versicolor	30/17	0/0	47	22.93	1.43
Candidiasis	2/20	17/13	62	30.24	1.88
Other	81/61	37/26	205	100	6.22
Papulosquamous disorders					
Psoriasis	59/35	14/9	117	57.35	3.55
Lichen planus	16/18	1/3	38	18.63	1.15
Pityriasis rosea	9/24	4/12	49	24.0	1.49
Total	84/77	19/24	204	100	6.18
Pyodermas					
Furuncles	18/5	2/1	26	28.57	0.79
Impetigo	0/0	9/5	14	15.39	0.42
Folliculitis and others	30/14	5/2	51	56.04	1.55
Total	48/19	16/8	91	100	2.76
STD and others transmitted diseases					
Sexually transmitted diseases	24/3	0/0	27	49.09	0.82
Impotence, infertility, etc.	28/0	0/0	28	50.91	0.85
Total	52/3	0/0	55	100	1.67

of discoid lupus erythematosus (8 Saudis and 2 non-Saudi), two cases of systemic lupus, and one case each of systemic scleroderma, morphea and dermatomyositis. A single case

TABLE 3. Comparative prevalence (%) of a few common skin diseases in different countries.

Disease groups	Calcutta	Kenya	Leeds	Abu Dhabi	Hail
Eczemas	15-20	28.1	22.7	20.98	16.31
Pyodermas	30-40	6.4	1.1	2.55	2.76
Superficial mycoses	15-20	9.5	3	5.47	6.22
Viral warts	2	2	19.5	5.47	8.4
Acne	3.5	3.9	13.8*	9.07	12.25
Vitiligo	4	2.9	NR	3.18	4.12
Psoriasis	0.5-1.5	3.2	4.8	4.49	3.55
Lichen planus	0.5-1.5	1.6	0.8	0.95	1.15

*Special study center; NR=not recorded.

TABLE 4. Pattern of certain common skin diseases (%) in different parts of Saudi Arabia.

Disease groups	Al-Jouf ³	Asir Region ²	Hail Region
Atopic eczema	14.27	13.77	8.25
Contact dermatitis	9.57	5.99	6.06
Viral infections	8.27	10.12	12.8
Superficial mycoses	7.81	6.15	6.22
Primary pyodermas	7.3	3.19	2.76
Papulosquamous disorders	7.47	4.82	6.18
Alopecia and related	3.98	6	7.34
Acne	9.57	5.45	12.25
Cutaneous leishmaniasis	NA	1.87	6.58
Urticaria	4.95	5.91	2.24

NA=not available.

of squamous cell carcinoma and two cases of basal cell carcinoma—all in Saudi patients and proved histologically—were the only skin malignancies recorded in our study.

Discussion

The city of Hail lies in the northern region of Saudi Arabia and has a pleasant climate. King Khalid Hospital (KKH) is one of the two regional referral hospitals in the city. There are three dermatologists, two of them working at KKH and the other working at Hail General Hospital. As this study was limited to KKH, Hail, it may not entirely reflect the true prevalence of skin diseases in this region, but because of the larger number of patients and longer period of study involved, it probably provides a rough index to what can be found in this area.

When the present study is compared with data available from other countries⁵⁻⁷ (Table 3), the striking feature is that the eczema group dominated the list (except for Calcutta, India), irrespective of geographical location or climatic conditions, and pyogenic infections showed up far less in Abu Dhabi, Saudi Arabia and Leeds (U.K), reflecting better socioeconomic conditions in these countries. Superficial mycosis constituted 6.22% of all

dermatoses in our study, compared to 15%-20% in Calcutta and 9.5% in Kenya, and a low of 3% in Leeds. The high incidence of pyogenic and fungal infections recorded at Calcutta and in Kenya could be due to the poor socioeconomic status (and overcrowding) prevailing in these areas. However, the wide variations seen while comparing the data with these countries could also be due to the fact that some of these studies were done at much earlier periods (late 1960s and early 1970s) when compared to the studies at Leeds (1980-82), Abu Dhabi (1991) and Hail (1995-97).

Acne showed a higher prevalence rate in our study (12.80%), similar to that of Abu Dhabi (9.07%) and Leeds (13.8%), and this may be due to an increased health consciousness in these affluent societies, where minor disorders are increasingly getting reported, and there is easy access to medical services. Similarly, viral warts showed up much more in Abu Dhabi, Saudi Arabia and Leeds, probably reflecting the sophistication of the community, where a minor disability becomes significant. Vitiligo had similar prevalence rates in Calcutta and Hail (4% and 4.12%, respectively), whereas psoriasis and lichen planus occurred more or less in similar frequencies in Leeds, Abu Dhabi and Hail. It is interesting to note that our findings were similar to the pattern of skin diseases seen in Abu Dhabi, the neighboring Gulf state.

The low prevalence of venereal diseases recorded in our study may not reflect the true prevalence, as most patients with sexually transmitted diseases prefer to go to private practitioners. As well, tracing such patients is difficult as they generally hide the facts of the disease, but does reflect the general trend seen in other industrialized countries, where gonococcal and non-gonococcal urethritis, genital warts and genital herpes lesions predominate. We did not record any HIV-positive case, which is in accordance with the low prevalence of reported HIV infection in the Kingdom.

On comparing the data obtained from the present study with other studies from within the Kingdom (Table 4), Hail region showed a low prevalence of atopic eczema (8.25%), when compared to a high of 14.27% in Al-Jouf and 13.77% in Asir region. Hail and Asir region recorded similar prevalence rates for contact dermatitis, superficial mycosis and primary pyoderma. Pigmentary disorders, alopecias, acne and viral infections showed higher prevalence rates in Hail region, probably because of the availability of an active female dermatologist, as well as topical and systemic medications in the hospital. The prevalence of papulosquamous disorders was higher in Al-Jouf (7.47%) and Hail (6.18%) when compared to Asir (4.82%) region. Urticaria was more commonly seen in Al-Jouf (4.95%) and Asir regions (5.91%) when compared to Hail (2.24%) region. Hail is one of the known endemic areas for cutaneous leishmaniasis and has a higher incidence (6.58%) of this disease (6.58%) than the Asir region (1.87%).

With increasing affluence, well-organized medical services, rapid industrialization and new methods of therapy, the pattern of skin diseases is changing in many regions of the world, and well-conducted studies could contribute greatly to our knowledge of many skin diseases.

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