

# A SPECTRUM OF SKIN DISEASES IN DAMMAM CENTRAL HOSPITAL (DCH) EASTERN PROVINCE (EP) KINGDOM OF SAUDI ARABIA (K.S.A.) Part Two

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## ABSTRACT:

*In a prospective study to find out the incidence of various dermatoses in Damman Central Hospital, Eastern Province, Kingdom of Saudi Arabia a total of 4223 new patients were seen in the years 1992 and 1993 and the commonest diseases found were acne 9%, warts 8.21%, scabies 7.2%, atopic dermatitis 6.8%, urticaria 5%, pityriasis versicolor 4.5%, contact dermatitis 4.3%, pyoderma 3.9%, psoriasis 3.91%, chronic eczema 3.9%, seborrhoeic dermatitis 3.5%, vitiligo 2.3%.(1)*

## PATIENT, METHOD AND RESULTS

A great number of skin diseases are caused by infections which may be directly acquired in the skin or may de-

velop in the course of a systemic infection.

In the prospective study done in Dammam Central Hospital - Eastern Province - Kingdom of Saudi Arabia in the years 1992-1993(1) out of 4223 new patients the group of specific skin infections had the highest incidence 34.9%. The viral infections constituted 10.6% (T-1) and included varicella, German measles, Orf, herpes zoster, molluscum contagiosum and human papilloma virus. Most of the skin viral infections were caused by human papilloma viruses (T-2) and represented 8.21% and the verruca vulgaris were the most frequent forms 3.51%. They usually occur in multiple numbers and are more frequently seen among atopics. Plantar warts occurred on the soles in 3.3% of patients and some were either single or multiple or mosaic. Some of the plantar warts were very painful and surrounded by reactive callus. Palmar warts occurred in 1.2% of patients.

The second commonest infection in the skin was caused by fungi 10.4% (T-3) the varieties of superficial dermatomycosis seen were pityriasis versicolor, Tinea(T) capitis, T. pedes, T. corporis, onychomycosis, trichomycosis, piedra and candidiasis. Pityriasis versicolor (PVC) had the

Table - 1  
Viral Infections = 447 = 10.6%

Disease	Saudies	Other Arabs	Non-Arabs	Total	Percentage to Grand Total
Varicella	7	2	-	9	0.17%
German Measles	1	-	-	1	0.02%
Orf	1	-	-	1	0.02%
Herpes simplex	20	5	-	25	0.60%
Herpes progenitalis	4	-	-	4	0.09%
Herpes zoster	16	3	4	23	0.54%
Moluscum contagiosum	29	7	4	40	0.95%
Human papilloma virus	236	79	29	344	8.21%
<b>Total</b>	<b>314</b>	<b>96</b>	<b>37</b>	<b>447</b>	<b>10.6%</b>
Percentage to Grand total	7.5%	2.3%	0.8%	10.6%	

Table - 2  
Human Papilloma Virus  
344 = 8.21% of Grand Total

Disease	Saudies	Other Arabs	Non-Arabs	Total	Percentage to Grand total
Verruca Vulgaris	106	28	14	148	3.51
Plantar warts	91	37	10	138	3.3
Palmar warts	34	12	4	50	1.2
Plain warts	2	-	-	2	
Paronychial warts	1	1	-	2	
Subungual warts	2	-	-	2	0.2
Filiform warts	-	1	-	1	
Condyloma accuminata	-	-	1	1	
<b>Total</b>	<b>236</b>	<b>79</b>	<b>29</b>	<b>344</b>	<b>8.21</b>
<b>% to Grand Total</b>	<b>5.6</b>	<b>1.9</b>	<b>0.71</b>		

Table - 3  
Fungal Infections = 438 = 10.4% of Grand total

Disease	Saudies	Other Arabs	Non Arabs	Total	Percentage to Grand total
Pityriasis vesicolor	131	35	22	188	4.5
Tinea capitis	35	10	3	48	1.2
T. Barbae	-	-	1	1	0.02
T. Manum	-	1	-	1	0.02
T. Cruris	26	13	6	45	1.07
T. Pedes	22	13	3	38	0.9
T. Corporis	15	5	2	22	0.5
Onychia	2	1	-	3	0.06
Trichomycosis	1	1	-	2	0.04
Piedra	3	-	-	3	0.07
Candidiasis	51	29	7	87	2.02
<b>Total</b>	<b>286</b>	<b>108</b>	<b>44</b>	<b>438</b>	<b>10.4</b>
<b>Percentage to Grand total</b>	<b>6.8</b>	<b>2.56</b>	<b>1.04</b>	<b>10.4</b>	

incidence of 4.5% and represented 43% of all dermatomycoses. Ninety four point two (94.2%) of PVC occurred in the age groups between 11 and 50 years. (T-4) while only 2.1% occurred below age of 10 and 3.7% above age of 51. The male to female ratio among PVC patients was 4.5:1 (T-4).

Tinea capitis occurred in 1.2% of patients. The male to female ratio was 1.7%:1 in Tinea capitis, 4:1 in tinea cruris, 2.2:1 in tinea pedes and all cases of piedra were in females and all trichomycosis infections were among males (T-5).

The overall dermatomycoses were twice as common in males than females (T-5). The group of candidiasis represented 2.02% of the grand total (T-6) with a female to male ratio of 2.6:1

Parasitic diseases represented 8.9% out of which 7.2% were scabies and 1.08% due to cutaneous leishmaniasis (T-7). Thirty nine point four percent (39.4%) of scabies occurred below age of 10 and 58.4% occurred between age 11 and 50 while 2.2% occurred above age of 51 (T-8). Out of all scabies patients 34.1% occurred among Saudis and 57.1% affected other Arabs and 8.8% in non Arabs (T-9).

Bacterial infections of the skin were diagnosed among

ing for acid fast bacilli because every expatriate leprotic has to be deported according to health regulations, a policy that is adopted by most Gulf States.

Sexually transmitted diseases represented 0.6% of the grand total (T-12) and the main disease in this group was urethritis (0.5% and primary syphilis 0.1%. Cases of acquired immune deficiency (AIDS) were recorded in the infectious diseases department. All the patients who presented with sexually transmitted diseases were routinely tested for HIV.

The eczema dermatitis was 20.3% of the grand total (1). Contact dermatitis represented 4.3% and the commonest allergens detected by patch testing were detergents, cosmetics, hair dyes, foot wear, clothes and nickel (T-13).

In this prospective study the incidence of urticaria was 5% (T14). In the same study the pigmentary disorders had the incidence of 3.9% and the main disorder was vitiligo (2.3%) (T 15), skin hypertrophies represented 2.1% (T 16), drug reactions 1.3% (T 17), genodermatoses 1.4% (T 18) ; nevi 1% (T 19) and auto immune disorders 0.5% and included scleroderma, systemic LE, discoid LE, dermatomyositis and panarteritis nodosa (T 20).

Table - 4  
Pityriasis versicolor and age incidence

Age Group	0-10	11-20	21-30	31-40	41-50	Above 51	Total
Number of patients	4	46	75	38	18	7	188
Percentage to group total	2.1	24.5	39.9	20.2	9.6	3.7	100
Percentage to grand total	0.1	1.1	1.8	0.9	0.43	0.17	4.5

Total 188  
Males 154  
Females 34  
Male : Female ratio 4.5 : 1

4.4% of patients seen (T-10). The skin infections seen were pyodermas, erythrasma, leprosy, lupus vulgaris, pyoderma gangrenosum and anthrax. Pyodermas represented 3.9% and included impetigo, boils, folliculitis, folliculitis nuchae, ecthyma and oozena in a descending order of frequency (T-11). Erythrasma was seen among diabetic and prediabetic patients. The diagnosis of leprosy was always confirmed by histopathology, slit smear and nasal scrap-

#### Discussion:

The group of skin infection is important because it is preventable and is easily diagnosed and is curable in the majority of cases if properly managed.

This study showed that PVC affects males more than females in the ratio of 4.5 to 1 and is seen mainly in the age group 11 - 50 years (94.2%) while its incidence was be-

Table -5  
Fungal infections and sex distribution

Disease	Males	Females	Total
Pityriasis versicolor	154	34	188
Tinea capitis	30	18	48
Tinea cruris	36	9	45
Tinea pedes	26	12	38
Tinea corporis	14	8	22
Candidiasis	24	63	87
Piedra	-	3	3
Onychia	2	1	3
Tinea barbae	1	-	1
Tinea manum	-	1	1
Trichomycosis	2	-	2
<b>Total</b>	<b>289</b>	<b>140</b>	<b>438</b>
% to Grand Total	6.8	3.6	10.4

Male to Female ratio - 1.9 : 1

Table - 6  
Candidiasis

Disease	Number of Patients	Percentage to Grand total
Paronychia	32	
Intertrigo	23	
Onychia	21	
Oral	5	
Toewebs	4	
Balanitis	1	
Peri-anal	1	
<b>Total</b>	<b>87</b>	<b>2.02</b>

Total 87  
Females 63  
Males 24  
Female to Male ratio 2.6 : 1

low age of 10 and above the age of 50 (2.1% - 23.7% respectively). Piedra was exclusively in females.

The incidence of scabies was unexpectedly high 7.2%.

It seems that conditions created by prolonged war between Iraq and Iran favoured the spread of the disease. It is suspected that workers from Egypt, Palestine and Jordan who immigrated to Iraq were similarly infested. During the Gulf war most of these workers went back to their home land. It is probable that the diagnosis in such a

group was missed or proper management was lacking or resistance to treatments was acquired by the parasite or mass family treatment was not fulfilled thus creating a nucleus for spread of the disease when such workers reimmigrated to work in other Arab oil producing states or countries. Co-operative efforts between Arab countries may be undertaken to effectively eradicate such parasitic disease.

Contact dermatitis had the incidence of 4.3%.

Table - 7  
Parasitic Disease = 379 = 8.9% of Grand Total

Disease	Saudies	Other Arabs	Non Arabs	Total	Percentage to Grand total
Scabies	104	174	27	305	7.2
Cutaneous leishmaniasis	37	5	4	46	1.08
Pediculosis	24	2	1	27	0.60
Creeping eruption	1	-	-	1	0.02
Total	166	181	32	379	8.9

Table - 8  
Scabies = 305 Patients = 7.2%  
Age distribution

Age	0-10	11-20	21-30	31-40	41-50	Above 51	Total
Number of Patients	120	48	51	56	22	8	305
Percentage to the total Number of scabies patients	39.4	15.8	16.8	18.5	7.3	2.2	100

Table - 9  
Number of scabies patients according to nationality

Nationality	Saudies	Other Arabs	Non Arabs	Total	Percentage to grand total
Total No. surveyed	2850	966	407	4223	
No. of patients with scabies	104	174	27	305	7.2
Percentage of scabies to grand total	2.4	4.2	0.6	7.2	
Percentage of scabies patients related to total No. surveyed of each Nationality	3.6	18	6.6		
Percentage of scabies in each Nationality to total of scabies cases	34.1	57.1	8.8	100%	

Table - 10  
Bacterial Infections  
Number of Patients 185  
Percentage to Grand total 4.4%

Disease	Saudies	Other Arabs	Non Arabs	Total	Percentage to grand total
Pyodermas	116	39	9	164	3.90%
Erythrasma	4	5		9	0.21%
Leprosy	3		5	8	0.20%
Lupus vulgaris	1			1	0.02
Pyoderma gangrenosum	2			2	0.05
Anthrax	1			1	0.02
Total	127	44	14	185	4.4

Table - 11  
Pyodermas 3.9%

Disease	Saudies	Other Arabs	Non Arabs	Total	Percentage to grand total
Impetigo	46	21	3	70	1.7
Boils	41	11	5	57	1.35
Folliculitis	15	3	-	18	0.40
Folliculitis nuchae	4	3	-	7	0.165
Ecthyma	7	-	-	7	0.165
Oozena	3	1	1	5	0.12
Total	116	39	9	164	3.9%

Total Pyodermas among Saudies patients surveyed = 4.1%

Table - 12  
Sexually Transmitted Diseases = 24  
= 0.6% of grand total

Disease	Saudies	Other Arabs	Non Arabs	Total	Percentage to grand total
Primary syphilis	5	-	1	6	0.1
Urethritis	16	2	-	18	0.5
Total	21	2	1	24	0.6

Table - 13  
 Contact Dermatitis 182 = 4.3%  
 Allergic Contact Dermatitis 172 = 4.1%  
 Irritant contact Dermatitis 10 = 0.2%  
 Number of Patients and Nationality

Contactant	Saudies	Other Arabs	Non Arabs	Total	Percentage to grand total
Detergents	51	21	10	82	47.6
Cosmetics	20	6	2	28	16.3
Hair dye	6	-	1	7	4.1
Foot Wear	16	3	2	21	12.2
Clothes	5	4	2	11	6.4
Nickel	5	2	2	9	5.2
Air Borne	2	1	1	4	2.3
Cement	1	2	-	3	1.7
Medicament	5	-	-	5	2.9
Adhesive plaster	1	1	-	2	1.3
Total	112	40	20	172	100

Table - 14  
 The Urticarias and insect bites = 211 = 5% of grand total

Disease	Saudies	Other Arabs	Non-Arabs	Total	% to group total	% to group total
Acute urticaria	22	18	10	50	23.7	1.2
Papular urticaria and Insect bites	65	16	8	89	42.2	2.11
Cholinergic urticaria	28	3	2	33	15.6	0.8
Chronic urticaria	16	3	3	22	10.5	0.5
Dermogra-phism	6	2	-	8	3.8	0.19
Angio-oedema	4	2	-	6	2.8	0.04
Urticaria pigmentosa	1	1	-	2	0.9	0.04
Cold urticaia	-	1	-	1	0.5	0.02
Total	142	46	23	211	100	5

Table - 15  
Pigmentary disorders  
164 = 3.9%

Disease	Number of patients	Percentage
Vitiligo	96	2.3%
Melasma	29	0.68%
Post inflammatory pigmentation	21	0.5%
Freckles	14	0.3%
Macular amyloidosis	3	0.1%
Leukonychia	1	0.02%
<b>Total</b>	<b>164</b>	<b>3.9%</b>

Table - 16  
Skin Hypertrophies

Disease	Number	Percentage to grand total
Skin Tags	26	
Acanthosis nigricans	12	
Plantar hyperkeratosis	17	
Corns	10	
Callosities	4	
Sitting tyloma	2	
Palmar hyperkeratosis	3	
Seborrhoeic keratosis	7	
Solar keratosis	1	
Keloid	5	
Dermatitis		
populosa nigra	2	
<b>Total</b>	<b>89</b>	<b>2.1%</b>

The prevalence of contact dermatitis in general population is not known. It was reported that contact dermatitis accounts for 4 - 7% of all dermatologic consultations (2). Patch testing to 1200 persons showed positive results to nickel in 5.8% with a female to male ratio of 10:1 because women are more exposed to nickel jewelry(3). In Kuwait nickel sensitivity was common in women and chromate in men(4) Chronic hand eczema in the present study was 1.8%. The prevalence of hand eczema was reported in one study to

be 2% in males and 3% in females (5). Prevalence of a disease is defined as the proportion of a defined population affected by it at a particular point in time(6). The incidence rate is defined as the proportion of a defined population experiencing a particular event within a specific period of time such as hospital attendance(6). From this study we found no malignant melanoma and only 2 cases of basal cell carcinoma were diagnosed. It is well known that basal cell carcinoma is the most common malignant disease that affects human beings and 99% are in white persons(7).



Table - 17  
Erythemas and Drug Reactions = 56

Disease	Number	Percentage to grand total
Generalized drug reaction	16	0.38
Fixed drug reactions	16	0.38
Erythema multiformi	12	0.28
Toxic erythema	5	0.11
Erythema nodosum	3	0.07
Erythema annulare centrifugum	1	0.02
Erythema migrans	1	0.02
Erythema ab-igne	1	0.02
Erythromelalgia	1	0.02
Total	56	1.3

Table - 18  
Genodermatoses = 48

Percentage to grand total	0.88	0.14	0.12	1.14
Disease	Saudies	Other Arabs	Non-Arabs	Total
Epidermolysis bullosa	7	-	-	7
Icthyosis vulgares	3	-	4	7
Icthyosis x linked	3	-	1	4
Icthyosis lamellar	3	-	-	3
Epidermolytic hyper-keratosis	2	-	-	2
Neurofibromatosis	5	-	-	5
Ehlers Danlos	3	2	-	5
Cornela de Lange	2	1	-	3
Pachyonychia congenita	1	1	-	2
Albinism	1	1	-	2
Incontinentia pigmenti	1	-	-	1
Tylosis	1	-	-	1
Familial continual peeling	1	-	-	1
Focal dermal hypoplasia	1	-	-	1
Ectodermal dysplasia anhydrotic	1	-	-	1
Ectodermal dysplasia hydrotic	-	1	-	1
Tuberous sclerosis	1	-	-	1
Preauricular sinus	1	-	-	1
Total	37	6	5	48

Table - 19  
Nevi = 42 = 1% of grand total

Disease	Number	Disease	Number
Hypo pigmented	5	Beckers nevus	1
Pigmented nevi	12	Comedo nevus	2
Epidemal verrucous	5	Inflammatory verrucous	2
Capillary angioma	5	Nevus sebaceous	1
Cavernous hemangioma	2	Nervus spilus	1
Blue rubber bleb nevus	1	-	-
Angio keratoma	5	-	-
		Total	42

Table - 20  
Autoimmune Disorders = 20

Disease	Saudies	Other Arabs	Non-Arabs	Total	Percentage to grand total
Dermatomyositis	2	-	-	2	
Discoid LE	2	1	3		
Systemic LE	2	1	1	4	
Scleroderma	6	3	1	10	
Panarteritis nodosa	-	1	-	1	
Total	12	6	2	20	0.5

**References**

1 Selim-M.M. ; Al-Soghair-SM ; Kamel-M et al : a spectrum of skin diseases in Damman Central Hospital (DCH) Eastern Province (EP) Kingdom of Saudi Arabia (KSA) Part one. *The Gulf J. of Dermatol. and Venereol.* 1997 ; 4(1) : 17 - 23.

2 Mendenhall-RG ; Ramsay DL ; Gurard-RA et al : a study of practice of dermatology in United States-*Arch-Dermatol* 1978 ; 114 : 1456-62

3 Prystowsky-SD ; Allen-AM ; Smith-RW et al : Allergic contact hypersensitivity to nickel, neomycin, ethylene diamine and benzocaine. *Arch-Dermatol* 1979 ; 115 : 959

4 Kanan-MW : Cement dermatitis and atmospheric parameters in Kuwait - *Br. J. Dermatol.* 1972 ; 86 : 155 - 8

5 Agrub G : Hand eczema and other hand dermatoses in South Sweeden. *Acta DermatVenereol* 1969 ; 49 (Suppl 61)

6 Burton-J.L ; Savin-JA and Champion RH. Introduction : epidemiology and historical bibliography in *Rook A, Wilkinson-DJ ; Ebling-FjG Eds. Text book of dermatology - Oxford Blackwell* 1992 P1 - 9

7 - Miller-SJ : Biology of basal cell carcinoma - Part (1) *J. Am. Acad-Dermatol* 1991 ; 24 : 1 - 13