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Prevalence of skin diseases treated at public referral hospitals in KwaZulu-Natal, South Africa

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Sir,

In South Africa(S.A), a country of about 50.6 million inhabitants, approximately 85% of the population is dependent on the public health sector. A total of 220 dermatologists practise in South Africa, with a ratio of 1 dermatologist: 216 000 people and most practising in the private urban areas. The importance and the need to quantify the burden of disease led us to describe prospectively the epidemiology of skin conditions in five public referral hospitals in the second most populous province of South Africa (S.A), KwaZulu Natal (KZN).

To our knowledge, there is no local published or recent data in S.A on the epidemiology of skin diseases seen at public health facilities. The study was conducted between 01 January and 31 March 2013.

We collected data related to age, gender, ethnic group, based on patients self identification, and skin diagnosis. The diagnosis was made on clinical grounds, supported by relevant laboratory investigations or histopathology where necessary. Skin diseases were categorized using the International Classification of Diseases (ICD 10) into acne, eczemas and papulosquamous eruptions, dyschromias, infections, connective tissue disorders, autoimmune bullous skin diseases, hair disorders, skin neoplasms, adverse cutaneous drug eruptions, genodermatoses, cosmetic and other dermatoses. Only data relating to patient's first visits were recorded and captured using Microsoft Excel spreadsheet and subsequently analysed using SAS (v 9.1.3, SAS institute Inc, Cary, NC, USA).

A total of 4424 diagnoses were made in 3814 patients, of whom 77,6% were adults and 22.4% were children under 18 years, with 65% females and 35% males. Africans made up 69 % followed by Indians at 24.7% and the rest were either White or Mixed (Coloured). Of the total diagnoses, 4242 were categorized. Eczemas and papulosquamous eruptions accounted for 41.0%, followed by infections (16.5%), acne and rosacea (9%), dyschromias (7.5%), and connective tissue disorders at 4.2 %, Table 2 shows the synopsis of the spectrum of skin conditions for each ethnic group.

We believe that we are seeing a changing trend in which pellagra, once a common skin disease, is no longer observed, thus suggesting better nutritional practices of the population.

Dyschromias which have never been reported as a common skin disease in South Africa were observed in this study.

Atopic eczema was the most common type of eczema seen (43.7%) followed by psoriasis (24.8%) and seborrhoeic dermatitis (13.4%). Studies conducted in black patients at public institutions in Pretoria (1982) and Johannesburg (2004) [1] have shown similar trends. Previously we reported eczemas to be the second most common skin condition in black patients attending a private health care facility in KZN[2] . Increased seborrheic dermatitis may be a contribution of HIV which occurs in 20-40% of HIV infected patients.[3] Psoriasis was most prevalent in the Indian population, an observation shared by others[1, 4]

Infections were the second most common, with dermatophytosis being the most prevalent (29.8%) (Table 1). Infections were also reported to be common in several other African studies [1, 5] .

Human papilloma (HPV) viral infections (9.1%) were the most frequent viral infections, consistent with other findings.[1] Bacterial and parasitic infestations (0.43%) were less frequently encountered suggesting an improvement in the socio-economic conditions of the population.

Acne and rosacea were the third most common category (9%). Acne vulgaris was the most common (71.5%) followed by steroid induced acne, then rosacea. A high prevalance of steroid induced acne (16%) amongst black patients[1], has been reported, and attributed to widespread use of corticosteroids, similarly, in our study, steroid induced acne accounted for 12% of the study population. Yahya *et al*, found acne to be second to atopic dermatitis in most studies conducted in Nigeria with a prevalence of 7.1% in Kaduna, North central Nigeria.[6] Studies by Halder and Mendenhall in the United States and Child[7] in a black population in London found acne to be the most common dermatosis both in the white and black adult populations.

In this study dyschromias ranked fourth (7.5%). Vitiligo was the most common pigmentary disorder seen in 39.5% of the study population whilst post inflammatory hyperpigmentation (20.3%) was the second most frequently encountered dyschromia. Dyschromias have ranked in the top five skin conditions in darker skin races in studies in the US, and the Afrocaribbean[8] population. It is worth noting that thirty years ago, ochronosis used to be a significant problem in South Africa [9] but in this study it was only found in 3.2% of the population. This may be a reflection of the successful campaign and legislation prohibiting the use and easily available hydroquinone containing compounds.

SLE (55.4%) and DLE (16.9%) were the most frequent autoimmune connective tissue diseases encountered. Studies outside Africa suggest that it may be more frequent in people of African descent with a prevalence of 19.5 per 100,000 in black Americans. Pemphigus vulgaris (65.4%), bullous pemphigoid (14.4%), pemphigus foliaceous (11.1%) were the most common autoimmune bullous diseases seen. Pemphigus foliaceous was seen mainly in Africans (76%) while pemphigus vulgaris was most common in Indians (82%) in a previous report[10] Table 2.

We noted a low prevalence of alopecia and hair diseases. This is in contrast to a study in the private health sector, where they were the fifth most prevalent skin disorders in the black population studied.[2]

We acknowledge that the duration of the study was short as it covered only one season and this may impact on the spectrum of dermatoses seen. In addition studies which are based on specialized centers data, are biased as they do not reflect the situation in the general population. However, even with these limitations, we believe that the prevalence data generated will assist in drawing intervention programmes to improve the dermatological services in KZN and South Africa at large.

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Table 1: Prevalance of skin conditions in 5 public hospitals in the KwaZulu Natal Province of South Africa.

VARIABLE	NUMBER	PERCENTAGE
Ethnic groups (n=4071)		
Blacks	2810	69,0
Indian	1005	24,7
Whites	173	4,2
Mixed	83	2,0
Eczemas and papulosquamous eruptions (n=1700)		
Atopic eczema	743	43,7
Psoriasis	422	24,8
Seborrhoeic eczema	227	13,4
Other	103	5,9

Stasis eczema	75	4,4
Lichen planus	62	3,6
Pruritus	22	1,3
Erythroderma	20	1,2
Sebopsoriasis	12	0,7
Pityriasis rosea	8	0,5
Contact dermatitis	6	0,4
Infections (n=689)		
Tinea corporis/ cruris/pedis	208	30.2
Other Viral infections	70	10.2
Viral warts	63	9.1
Onychomycosis	59	8.6
Other infections	58	8,4
Molluscum contagiosum	46	6,7
Other superficial fungal infection	27	3,9
Pityriasis versicolor	26	3,8
Intertrigo	22	3,2
Folliculitis	21	3,0
Impetigo	21	3,0
HSV infections	17	2,5
Tinea capitis	15	2,2
Ecthyma	13	1,9
Scabies	12	1,7
Cellulitis	11	1,6
Acne & Rosacea subtype (n=382)		
Acne vulgaris	273	71,5
Steroid induced acne	46	12,0

Other	34	8,9
Rosacea	21	5,5
Middle age acne	6	1,6
Acne Excorie'e	2	0,5
Dyschromia subtype (n=311)		
Vitiligo	123	39,5
PIH	63	20.3
Other	31	10.0
Lichen Planus pigmentosus	28	9.0
Melasma	25	8.0
Unspecified hyperpigmentation	16	5,1
Ashy dermatosis	15	4,8
Ochronosis	10	3,2
Connective tissue disorders (n=177)		
SLE	98	55,4
DLE	30	16,9
Other	17	9,6
Scleroderma	12	6,8
Bullous SLE	10	5,6
Dermatomyositis	8	4,5
MCTD	2	1,1
Autoimmune Bullous skin diseases (n= 153)		
Pemphigus vulgaris	100	65,4
Bullous pemphigoid	22	14,4
Pemphigus foliaceous	17	11,1
Other	12	7,8
Circatricial pemphigoid	2	1,3

Figure Legends

Table 1: Prevalance of skin conditions in public hospitals in the Kwa-Zulu Natal Province of South Africa

Table 2 : Common skin conditions by ethnic group, in public hospitals in the Kwa-Zulu Natal Province of South Africa