

# Pattern of cutaneous disorders in the South Eastern Iran, Kerman

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**Abstract** *Objective* To identify the pattern of common cutaneous disorders in the region of South Eastern Iran, Kerman Province.

*Methods* In this study, 1000 patients who had been referred to the Afzalipour hospital clinic during a three months period in the autumn of 2013 were included. Excluding those who had repeat visits, 900 new cases were detected including multiple diagnoses in some patients. Dermatology residents analyzed the medical records of the patients (history, physical examination and laboratory investigations). The diagnoses were classified according to WHO International Classification of Diseases, revision (ICD 10). Descriptive statistics were used to analyze the data.

*Results* There were 500 male (55.5%) and 400 female (44.5%) patients and the mean age of the patients was  $30.7 \pm 6$  years. Among the non-infective diseases, dermatitis and urticaria (31%) were the most common cutaneous disorders for attendance, followed by infectious diseases (19%), pigmentary diseases (15%), acne vulgaris (14%), papulosquamous diseases (10%), out of which psoriasis contributed to 45 (5%) cases. Hair diseases (3%), skin tumors (2.2%), nail diseases (2%), adverse drug reactions (2%), vesiculobullous diseases (1%) and cutaneous manifestations of systemic diseases (0.8%) contributed to the rest of cases. The management of the vast majority of cases (85%) consisted of advice with a prescription, while only (5%) of patients required admission.

*Conclusion* Dermatitis and skin infections were the most common cutaneous disorders in our study population. On the basis of the present data, improving the socio-economic status, environmental and personal hygiene, as well as, specific instructions to the risk group can be beneficial.

**Key words**

Cutaneous disorders, Afzalipour Hospital, Kerman.

## Introduction

A dermatologist must be aware of more than two thousand cutaneous disorders. These disorders range from dried and wrinkled skin to various serious and dangerous chronic diseases.<sup>1</sup> In the USA, approximately 6% of outpatient visits are for dermatological diseases and non-dermatologists treat a high percentage of these

patients.<sup>2,3</sup> Recognition of cutaneous disorders most prevalent in a region, their symptoms and causes, their proper preventative and treatment methods should be studied by general physicians and dermatologists for better patients' management.<sup>4</sup> The aim of this study was to determine the type (diagnosis and classification) of cutaneous disorders to determine how they are managed. It is hoped that this approach may help to improve the education of caregivers and physicians<sup>5</sup> by focusing on diagnosis and treatment of the most common cutaneous disorders.

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**Methods**

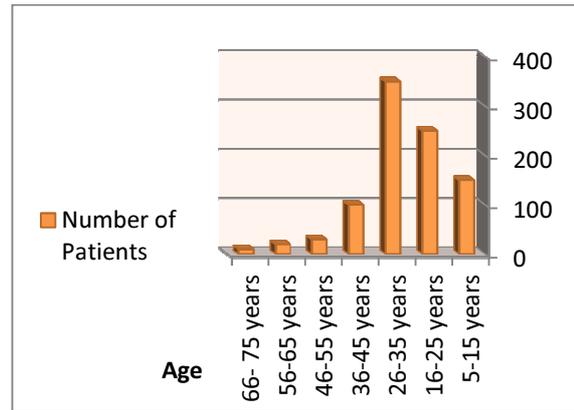
This study was carried out in the department of Dermatology, Afzalipour Hospital Clinic, Kerman, Iran during a three-month period in the autumn of 2013. A number of 1000 patients had been referred to this center. Excluding those who had repeated visits, 900 new cases were detected including multiple diagnoses in some patients. Dermatology residents evaluated all the patients. The medical records of the patients (history, physical examination and laboratory investigations) were analyzed. The diagnoses had been classified according to WHO International Classification of Diseases. The management of the patients was also studied. Descriptive statistics had been carried out.

**Results**

Nine hundred patients have been enrolled in this study. There were 500 male (55.5%) and 400 female (44.5%) patients, the gender difference was statically significant ( $p=0.001$ ) and the mean age of the patients was  $(30.7 \pm 6$  years). The age distribution of cases has been shown in **Figure 1**.

The most common cutaneous disorders were dermatitis and urticaria that accounted for 31%, followed by infectious diseases (19%), pigmentary diseases (15%), acne vulgaris (14%), papulosquamous diseases (10%), out of which psoriasis contributed to 45 cases (5%). Hair diseases (3%), skin tumors (2.2%), nail diseases (2%), adverse drug reactions (2%), vesiculobullous diseases (1%) and cutaneous manifestations of systemic diseases (0.8%) contributed to the rest of cases. The pattern and the relative frequency of cutaneous disorders have been shown in **Table 1**.

In dermatitis group, contact dermatitis was the most common (18%), followed by seborrheic



**Figure 1** Age distribution of the patients (n=900).

**Table 1** Distribution of the cases in relation to the type of cutaneous disorders (n=900).

Skin disorder	N (%)
Allergic cutaneous disorders	297 (33)
Dermatitis and urticaria	279 (31)
Adverse drug reactions	18 (2)
Infectious cutaneous disorders	171 (19)
Viral exanthemas	54 (6)
Fungal infections	45 (5)
Bacterial infections	36 (4)
Viral warts	27 (3)
Parasitic diseases	9 (1)
Inflammatory and autoimmune cutaneous disorders	232 (25.8)
Acne	126 (14)
Connective tissue diseases	7 (0.8)
Papulosquamous diseases	90 (10)
Vesiculobullous diseases	9 (1)
Miscellaneous group	200 (22.2)
Pigmentary diseases	135 (15)
Hair diseases	27 (3)
Skin tumors	20 (2.2)
Nail diseases	18 (2)

**Table 2** Management of the patients who had referred to the Afzalipour Hospital Clinic (n=900).

Skin disorder	N (%)
Medical advice with prescription for drugs	765 (85)
Outpatient plan consultation	81 (9)
Hospitalization	45 (5)
Internal medicine specialist's consultation	9 (1)

dermatitis (6%) and atopic dermatitis (4%), whereas dyshidrotic and unclassified dermatitis accounted for less than 2% of the examined cases. Infectious diseases with cutaneous

manifestations were observed in 19% of the patients. Viral exanthemas accounted for 6% of the patients, followed by fungal infections 5% of the patients and bacterial infections 4% of the patients, whereas viral warts and parasitic diseases accounted for 4% of the examined cases.

Exacerbations of mostly chronic autoimmune and inflammatory cutaneous disorders were the reason of the consultation in 25.8% of the patients. Patients are categorized in groups according to ages; in <15 years old, the most common dermatoses were atopic dermatitis followed by infectious cutaneous disorders. In the 16-25 years old group, dermatitis and acne had been seen more commonly. In the 26-35 years old group dermatitis, pigmentary diseases and alopecia were predominant while in  $\geq 36$  years old group, contact dermatitis, psoriasis and alopecia were commonly observed. The highest mean age was in the malignant tumor patients ( $61 \pm 8$  years) and the lowest age group belonged to atopic dermatitis patients ( $5 \pm 2$  years). Duration of hospitalization was 2 to 24 days. The maximum duration was seen in patients with bullous disorders ( $15 \pm 9$  days). The tabulation of the work out of the cases revealed that 765 (85%) patients received hygienic and dietary advice with a prescription for drugs **Table 2**. Re-evaluation of the outpatients had been planned in 81 (9%) patients. Forty-five patients (5%) had been admitted to the hospital for further diagnostic procedures and treatment. Nine (1%) cases were referred to internist for further was necessary.

## Discussion

The department of dermatology in the Afzalipour Hospital is the only tertiary referral department in the region of South Eastern Iran, Kerman Province. Most of the skin conditions are not life threatening, and usually patients do

not consult with a physician. This study has described the pattern of the patient's referral to tertiary medical centers, and at large it is quite different from the society. The most common cutaneous disorders were dermatitis and urticaria, is based on a background of immediate or delayed hypersensitivity. This observation correlates well with other studies that report allergic cutaneous disorders as the most common cause to seek care from a health provider.<sup>5,6,7</sup> In a study conducted in Manchester (personal communication), dermatitis with 20% of cases was reported as the commonest skin problem, followed by viral diseases and psoriasis (16.2% and 7.2%, respectively). A study by Hardwick *et al.*<sup>8</sup> reported dermatitis (19%) and viral diseases (16%) as the most common diseases in dermatology outpatients. In another study, Lomholt<sup>9</sup> reported that in a 1000 population, dermatitis was seen in 9% of study population while other common diseases were acne (8.6%), bacterial and parasitic diseases (4.6%) and viral diseases (3.4%). One study from Saudi Arabia showed that dermatitis was more common than infections.<sup>11</sup> The breakdown of dermatitis subtypes revealed a high frequency of contact dermatitis. Shenefelt<sup>10</sup> reported contact dermatitis as the first among the types of dermatitis, seen in a similar percentage of 30%. This was followed by seborrheic dermatitis and atopic dermatitis whereas dyshidrotic and unclassified dermatitis accounted for less than 2% of the examined cases similar to the other studies that report a low frequency of dyshidrotic dermatitis.<sup>6</sup> Adverse drug eruptions represented only a small percentage of patients seeking for care. Several of these cases represented undiagnosed or insufficiently treated patients with more severe course that necessitated hospitalization for identification of the causative agent and further treatment. However, the total hospitalization rate of all cases was only 5%.

Infectious cutaneous disorders were the second most common disease group in this study. Viral exanthemas ranked higher among cutaneous infections. Fungal diseases were the second most common reason for patients with infections seeking care. Parasitic diseases were observed in a very low frequency and this might be due to misdiagnosis. Infectious and parasitic diseases are less common in relation to the findings of other studies in Africa where the socio-economic conditions are different.<sup>6,7</sup> Several studies have been carried out on the topic in Iran. Studies conducted in Yazd and Gilan province<sup>12,13</sup> showed that skin infections and dermatitis were the most common causes of patient referral to dermatology clinics, and studies in Kerman also noted dermatitis, acne and melasma as the most common dermatoses.<sup>14,15</sup> In our study similar to the previous study carried out in Kerman,<sup>15</sup> pigmentary diseases showed to be third common cause of women referring to the Afzalipour Hospital Clinic.

Regarding age distribution, in <15 year old the most common dermatoses were atopic dermatitis followed by Infectious cutaneous disorders. In the 16-25 years old group, dermatitis and acne were more commonly seen, which is consistent with most of the studies. Leishmaniasis was the most common parasitic disease in our study (2%), as in Yazd<sup>12</sup> and Kerman<sup>15</sup> studies, which accounted for 4% and 5.3% of all clinical referrals in the respective studies. Malignant tumors and precancerous conditions can be influenced by skin type, as well as, cultural and social habits. Although skin tumors were diagnosed in 2.2%, this finding cannot be confirmed without a biopsy. For the same reason, the relative frequency of benign and malignant lesions cannot be accurately determined despite our initial clinical hypothesis. Proper education of the population regarding the adverse effects of the sun, which is the most important factor in causing such

diseases, and ways to reduce the sun damage for people in open spaces, can improve conditions dramatically. Julian reported an incidence of skin cancer detected in 3% of cases similar to our study.<sup>16</sup> Inflammatory and autoimmune disorders represent mostly diseases with a chronic and relapsing course. Psoriasis was the leading cause of dermatological consultation for papulosquamous diseases, seen in 5% of the total cases examined (45 cases). Julian reported psoriasis in 2.6% patients and other studies suggest psoriasis as the chronic dermatological disorder that affects 1% to 2% of the population.<sup>16,17</sup> Acne is a common cutaneous disorder that affects pilosebaceous follicles of mainly teenagers and young adults.<sup>18,19</sup> Acne was seen in 14% of all cases in our study. The majority of acne patients already had attended consultation. Acne is found worldwide and is more severe in males, with clinical evidence indicating a familial trait.<sup>20</sup> Psychological and emotional stress may accompany this cutaneous disorder.<sup>21</sup>

A breakdown of care management showed that 85% of patients required medical advice with prescription of drugs while only in 15% was hospital management necessary (**Table 2**).

## **Conclusion**

The most common cutaneous disorders were dermatitis and urticaria in the region and amongst those, contact dermatitis is the most common. This is also the case worldwide, where young, employed population is exposed to a lot of occupational chemicals and allergens. Proper planning to inform the population, especially those employed in industrial, agricultural, or construction activities, will have a notable effect on the reduction of such diseases. It is highly likely that spread of skin infections is influenced by socio-economic and hygienic circumstances of the population, and many such diseases are

preventable and controllable. Definitely, suitable planning for identification of etiological factors of diseases can help in the prevention of these conditions. The pattern of skin diseases is, among other parameters, an index of community development and of quality of the provided care. On the basis of the present data, improving the socio-economic status, environmental and personal hygiene, as well as, specific instruction to the at risk group can be beneficial.

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