

# Psoriasis in the eastern Saudi Arabia

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## ABSTRACT

**Objective:** To determine the percentage occurrence, demographic and clinical features of psoriasis in adult patients at King Fahd Hospital of the University, Al-Khobar, Kingdom of Saudi Arabia.

**Methods:** The medical records of all the adult patients with psoriasis were analyzed from January 1991 to December 1994 at the dermatology clinic, King Fahd Hospital of the University, Al-Khobar, Kingdom of Saudi Arabia.

**Results:** A total of 263 adult psoriatic patients were studied with the percentage occurrence of 5.3%. There was a male preponderance with sex ratio of 1.4:1. The mean age of onset in males was 26.9 years while in females it was 22.3 years. Fifty-three percent of psoriatic cases developed before the age of 30 years. Family history of psoriasis was recorded in 8.4% of the cases.

Itching was the only symptom reported by patients in 43% of cases. The sites of involvement were as follows: lower extremity 44.9%, scalp 41.8%, nail 26.6% and palmoplantar 12.6%. Plaque psoriasis was the most common clinical type (87.1%), followed by erythrodermic (4.2%), pustular (3%), guttate (1.9%), flexural, (2.3%) and follicular (0.4%).

**Conclusion:** The present study represents the apparent magnitude of psoriasis in the eastern province of Saudi Arabia, which may reflect that the disease is common in our area as elsewhere. The clinical features of psoriasis in our patients were similar to those reported from other parts of the world.

**Keywords:** Psoriasis, adult.

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Psoriasis is a multifactorial, genetically determined, inflammatory and proliferative skin disease of unknown etiology. Well-defined, erythematous and scaly plaques on the extensor aspects of the limbs and trunk characterize it. Psoriasis is enormously variable in its duration and extent. Its clinical and morphological variants are common and affect 1% to 3% of the population.<sup>1</sup> A preliminary review of the literature revealed that reports on psoriasis from the Arab countries are scanty or deficient. The studies of psoriasis from other parts of the world are extensive and voluminous. Therefore, it was thought appropriate to identify the percentage of occurrence, demographic

and clinical features of psoriasis in adult patients at King Fahd Hospital of the University (KFHU), Al-Khobar, Kingdom of Saudi Arabia (KSA). This preliminary study will provide baseline data for future studies of psoriasis in KSA.

**Methods.** The Kingdom of Saudi Arabia has an estimated population of approximately 17 million, of which 12.3 million are Saudi nationals and the remaining, are expatriates. Al-Khobar is a small residential city in the eastern province with a population of approximately 150,000 people. The King Fahd Hospital of the University is the teaching

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**Table 1** - Distribution of age for male and female at presentation.

Age group	Male	Female	Total (%)
11-20	24	25	49 (18.6)
21-30	42	35	76 (28.9)
31-40	53	18	71 (27.0)
41-50	25	6	31 (11.8)
51-60	18	7	25 (9.5)
61-70	5	3	8 (3.1)
70-80	3	0	3 (1.1)

**Table 3** - Provocative and exacerbating factors in some patients with psoriasis.

Provocative factors	N	(%)
<i>Climate</i>	11	(4.1)
Cold	8	(3.0)
Hot	3	(1.1)
Drug	2	(0.7)
Stress	3	(1.1)
Infection	2	(0.7)
Pregnancy	2	(0.7)
Postpartum	1	(0.4)
N = number		

hospital of King Faisal University (KFU) and is one of the main regional referral centers of the eastern province. The dermatology clinic at KFHU receives mainly referred patients from other hospitals, clinics and health centers in the region. All the adult patients (>13years) diagnosed with psoriasis between January 1991 and December 1994 were included in this study. The following informations such as complaints of patient, family history, exacerbating factors, distribution, and sites of involvement, clinical types and the diseases associated with psoriasis had been recorded. The data analysis was carried out by an IBM compatible personal computer using Statistical Package for Social Sciences (SPSS/PC).

**Results.** A total of 5,001 patients were seen at the dermatology clinic at KFHU. Among these patients, there were 263 new adult cases of psoriasis with the percentage occurrence of 5.3%. The age of

**Table 2** - Distribution of age for male and female at onset.

Age group	Male	Female	Total (%)
1-10	9	9	18 (6.8)
11-20	31	28	59 (22.4)
21-30	44	22	66 (25.1)
31-40	40	15	55 (20.9)
41-50	20	7	27 (10.3)
51-60	6	3	9 (3.4)
61-70	4	0	4 (1.5)
In 25 patients (9.5%) the age at onset could not be determined because the duration of the disease was not recorded.			

patients at presentation and onset according to sex is summarized in **Tables 1 & 2**. The difference between male and female patients was statistically not significant for age groups at presentation and onset. The duration of psoriasis varied from one month to 30 years with an overall mean of 4 years. The male to female ratio for Saudi patients was 1.3:1, for non-Saudi patients was 3.5:1 and for both Saudi and non-Saudi patients was 1.4:1. Itching was the only symptom reported by patients in 113 (43%) cases. A positive family history was reported in 22 (8.4%) cases. Ninety-five percent of psoriasis with a positive family history had an age of onset less than 40 years. The distribution of the precipitating or aggravating factors for psoriasis is given in **Table 3**. Plaque psoriasis was the most common clinical type (87.1%), followed by erythrodermic (4.2%), pustular (3%), guttate (1.9%), flexural, (2.3%) and follicular (0.4%). Three cases were not documented. There was no significant correlation of each of these clinical types with the age, sex and nationality of patients. **Table 4** summarizes the site of involvement in male and female patients. The types of nail changes in males and females are shown in **Table 5**. Diabetes mellitus was associated with psoriasis in 9.9% of the patients, cardiovascular disease was found in 8% of the patients and undefined types of arthritis (joint pain) were reported in 7.2% of the patients. Other associated skin diseases occurred concurrently and these included eczema 3%, fungal infections 2.7%, alopecia 2.3%, vitiligo 1.5%, and hirsutism 0.4%.

**Discussion.** The percentage of psoriasis in our study was 5.3% of the cases, which is comparable to similar hospital based studies.<sup>2-4</sup> The mean age of the presentation was 33.3 years, which is similar to other studies,<sup>5,6</sup> but is less compared to other studies.<sup>4,7,8</sup> The mean age of onset in our patients with psoriasis was

**Table 4** - The sites of involvement in male and female psoriatic patients.

Site	Male	Female	Total (%)
Head	68	47	115 (43.7)
Scalp	60	44	110 (41.8)
Face	10	10	20 (7.6)
Neck	4	2	6 (2.3)
Upper Limbs	67	36	103 (39.2)
Arms	20	7	27 (10.3)
Forearm	5	3	8 (3.0)
Elbow	53	27	79 (30.0)
Hands	9	4	13 (4.9)
Trunk	56	21	77 (29.3)
Thorax	15	5	20 (7.6)
Abdomen	18	7	25 (9.5)
Genitalia	19	1	20 (7.6)
Back	22	16	38 (14.5)
Lower limbs	74	44	118 (44.9)
Buttocks	1	2	3 (1.1)
Thighs	7	6	13 (4.9)
Legs	26	14	40 (15.2)
Knees	58	33	91 (34.6)
Feet	8	11	19 (7.2)
Palm and soles	20	13	33 (12.6)
Nails	49	21	70 (26.6)

**Table 5** - Types of nail changes in male and female patient.

Morphology	Male	Female	Total (%)
Pitting	38	19	57 (21.7)
Onycholysis	13	6	19 (7.2)
Subungual Hyperkeratosis	4	4	8 (3.0)
Oil Spot	3	1	4 (1.5)
Ridging	3	1	4 (1.5)
Dystrophy	2	3	5 (1.9)

25.2 years and was also consistent with many other studies.<sup>5-8</sup> Another finding in our patients regarding age was that 27% of the patients developed psoriasis before the age of 20 years, while 53% of the patients developed psoriasis before the age of 30 years, similar to some studies.<sup>8,9</sup> The maximum incidence of psoriasis was between the age of 20 and 40 years. This explains that those age groups were more active and more likely to face the strains of life with mental stress, and other psychological disturbances and these factors were suggested to be the most common provocative factors to trigger psoriasis in young adults.<sup>10-12</sup> The duration of psoriasis ranged from one month to 30 years, and is consistent with other studies.<sup>13,14</sup> The male to female ratio in our patients was 1.4:1 as in other similar studies with male preponderance.<sup>13-18</sup> However, some studies had shown either no sex difference<sup>15,19,20</sup> or a female dominance.<sup>7,8,21,22</sup> In the non-Saudi group of patients the higher rate of male dominance to females (3.5:1), can be explained by the fact that non-Saudi patients are expatriates in whom males predominate over females with only a few of them accompanied by their families. Itching was reported in 43% of the cases in our study, while in other studies, Egypt 9%,<sup>13</sup> Malaysia 32.5%,<sup>4</sup> and India 81%.<sup>5</sup> It is interesting to note that the reported itching in psoriatic was mainly from tropical or subtropical regions in which heat and sweating might be the causative or provocative factors. The positive family history of psoriasis varied from 30% to 60% in European studies and from 10% to 30% in studies in other countries.<sup>4,5,23,24</sup> In general, approximately one 3rd of the patients with psoriasis have a positive family history,<sup>19,24,25</sup> however, with our patients only 8.4% had their family members affected. This low figure might be due to the fact that children with highly positive family history were excluded from our study. In our patients, winter climate and mental stress were the main provocative factors and these findings were similar to the previous studies.<sup>7,8,16,17</sup> During pregnancy and postpartum, exacerbation of psoriasis was noted in some of our patients. However, in one patient, pregnancy had improved psoriatic lesions and this observation have been similar to those reported by others.<sup>8,15,26</sup> Notably infections were not the common provocative factors with our patients compared to the ones in Europe.<sup>27</sup> The plaque type of psoriasis was the most common type with our patients (85.5%) as well as in other studies.<sup>15,28</sup> However, both generalized plaque and erythrodermic psoriasis were relatively more common in our patients compared to those reported by other studies.<sup>6,16</sup> This might be expected since our clinic has psoralin with ultraviolet A (PUVA) center and other modalities of therapies. Also, it is considered as the main referral center for most of the severe generalized and recalcitrant dermatosis from other hospitals and clinics in the eastern region. Guttate

psoriasis in our study was rare (1.9%) whereas in the west European countries it constitutes 3.2 to 17.7% of patients.<sup>29</sup> In this study we have not found a single case with generalized pustular psoriasis (GPP), however, localized palmoplantar pustular psoriasis was not rare (3%). Generalized pustular psoriasis is known to be rare,<sup>30</sup> and was not seen perhaps due to the relatively infrequent use of systemic steroids in our patients. The seborrheic variant of psoriasis was localized to the flexures in some patients and was relatively common (2.3%). The extensor aspects of extremities and the scalp were the most common sites affected, similar to other studies.<sup>5-8,16</sup> This explains that those sites have the greater rate of epidermal proliferation<sup>25</sup> and more regular exposure to irritation and local trauma.<sup>10</sup> The nail involvement occurred in 26.6% of the patients in our study while the incidence of nail involvement in psoriasis had varied from 25% to 50% in other reported studies.<sup>1,4,10,31</sup> The nail pits, onycholysis and subungual hyperkeratosis were the most common features of psoriasis in our series as well as in a Malaysian study.<sup>4</sup> The localized palmoplantar psoriasis constituted 12.6% in our patients and comparable to findings in another report.<sup>32</sup> **Table 6** shows the main sites of involvement in our study compared to other studies.<sup>4,5,17</sup> The involvement of the head was more common in Saudi females compared to non-Saudi females and male patients. The exact cause of this variation in our results is difficult to explain, however, it might be due to ethnic differences in habits, clothing, cosmetics, social or some environmental factors. In the present study, psoriasis in adults was associated with diabetes mellitus, bronchial asthma, and cardiovascular disease. These conditions have already been reported with psoriasis in other studies.<sup>5,7,33</sup> Diabetes mellitus is common in KSA<sup>34</sup> and its occurrence with psoriasis is to be expected. The relation of vitiligo and alopecia areata to psoriasis is thought to be significant, as the pathogenesis of all of these skin conditions is likely to be immunological. However, all other skin diseases can coexist with psoriasis and particularly overlap and concomitant occurrence of papulosquamous conditions such as seborrheic eczema, lichen simplex and lichen planus, all of which is well documented.<sup>1</sup> The other cutaneous and systemic conditions associated with psoriasis in our patients are considered to be chance associated.

In conclusion, the percentage occurrence of psoriasis was 5.3% in the dermatology clinic at KFHU, which may represent that the disease is common in KSA as in elsewhere. The onset of psoriasis in adult patients was during the 2nd and 4th decades of life. The clinical features of psoriasis in our patients were similar to those reported from other parts of the world. However, the family occurrence of psoriasis and its provoking factors were slightly lower as compared to other published series.

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