

# Dermatological Complaints of the Elderly Attending a Dermatology Outpatient Clinic in Turkey: A Prospective Study over a One-year Period

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**ABSTRACT** The geriatric population is continuously growing, which leads to more aged patients being admitted to dermatology clinics. The aim of this study is to determine the dermatological complaints of the elderly attending a dermatology outpatient clinic.

All of the patients aged 65 years and older admitted to our dermatology outpatient clinic over a 1-year period were included. Patients were divided into 2 groups according to their ages as group I (65-74 years) and group II ( $\geq 75$  years). The patients were asked about their dermatologic complaints.

A total of 240 geriatric patients attended to the dermatology outpatient clinic over a 1-year period. Overall, the five most frequent dermatologic complaints of the patients were eczematous dermatitis (21.7%), pruritus (19.6%), fungal infections (16.7%), precancerous and malignant lesions (9.6%), and bacterial infections (7.1%). The most frequent types of eczematous dermatitis were asteatotic eczema (26.9%), neurodermatitis (26.9%), and stasis dermatitis (17.3%). Among fungal infections, the most frequent was tinea pedis (62.5%), followed by onychomycosis (32.5%) and tinea versicolor (5.0%). The most common precancerous lesion was actinic keratosis (78.3%). Bacterial infections encountered were pyoderma (58.8%), cellulitis (23.5%), and erythrasma (17.6%).

Most of the skin problems in the elderly are preventable or treatable, so proper skin care and treatment of skin diseases should be emphasized in general health care for the elderly.

**KEY WORDS:** dermatological complaints, elderly, outpatient, Turkey

## INTRODUCTION

Ageing causes a decline in the function of human skin, while factors such as medical conditions, drugs, and environmental irritants add to the compromised skin and predispose it to certain diseases. Structural and physiological changes that occur as a natural consequence of aging combined with the effects of a lifetime of ongoing cumulative extrinsic damage can produce a marked susceptibility to dermatological disorders in the elderly (1). Although there is no exact

point where old age can be said to start, 65 years is usually accepted as the beginning (2). However, life expectancy is increasing all over the world, and the geriatric population is increasing dramatically every year. As people age, their chances of developing skin-related disorders increase (3). Geriatric health care has received worldwide attention, but there are few studies on skin diseases in the elderly (4-16). In this study, we attempted to determine the frequency as well as

the age and gender distributions of dermatological complaints in the elderly that attended our dermatology outpatient clinic over a 1-year period.

### PATIENTS AND METHODS

Patients aged 65 years and older that were admitted to our dermatology outpatient clinic over a 1-year period between March 2011 and March 2012 were included in this study. Baseline data on sociodemographic variables, past medical history, and medication were noted. Patients were divided into 2 groups according to their ages: group I (65-74 years of age) and group II ( $\geq 75$  years of age). Dermatological complaints were assessed by the same dermatologist throughout the study period. The diseases were categorized into 15 different groups including eczematous dermatitis, pruritus, precancerous and malignant skin neoplasms, benign neoplasia, disorders due to sun exposure, fungal infections, bacterial infections, viral infections, vesicular and bullous diseases, disorders of the feet, cutaneous drug reactions, infestations, cutaneous ulcers, acneiform disorders, and disorders of mucous membranes.

Statistical analyses were carried out using the Statistical Package for the Social Sciences (SPSS) (Chicago, USA). Data were presented as percentages. *P* values  $< 0.05$  were considered statistically significant.

### RESULTS

A total of 240 geriatric patients attended the dermatology outpatient clinic over a 1-year peri-

od. Of these, 145 (60.4%) were men and 95 (39.6%) were women. The median age of the patients was  $72.72 \pm 5.60$  (min: 65, max: 87). 136 patients (56.7%) were aged between 65 and 74 years, and 104 patients (43.3%) were older than 75 years. Hypertension (29.58%), diabetes mellitus (19.16%), and heart disease (15.41%) were the most prevalent systemic diseases in the patients. Of the patients, 113 (47.8%) were using one group of drugs, and 97 (40.41%) were using more than one group of drugs.

Overall, the five most frequent dermatological complaints of the patients were eczematous dermatitis (21.7%), pruritus (19.6%), fungal infections (16.7%), precancerous lesions (9.6%), and bacterial infections (7.1%) (Table 1). The most frequent types of eczematous dermatitis were asteatotic eczema (26.9%), neurodermatitis (26.9%), and stasis dermatitis (17.3%). Among the fungal infections, the most frequent was tinea pedis (62.5%), followed by onychomycosis (32.5%) and tinea versicolor (5.0%). The most common precancerous lesion was actinic keratosis (78.3%). Bacterial infections encountered were pyoderma (58.8%), cellulitis (23.5%), and erythrasma (17.6%).

The five most frequent dermatological complaints were eczematous dermatitis (28.6%), fungal infections (25.0%), pruritus (23.2%), precancerous lesions (15.2%), and bacterial infections (8.0%) in men. However, in women the most frequent complaint was pruritus (31.3%), followed by eczematous dermatitis (29.9%), fungal infections (17.9%), precancerous le-

**Table 1.** The distribution of dermatologic complaints according to gender in elderly patients

Disease	Men		Women		Total	
	n	%	n	%	n	%
Eczematous dermatitis	32	61.5	20	38.5	52	21.7
Pruritus	26	55.3	21	44.7	47	19.6
Fungal infections	28	70.0	12	30.0	40	16.7
Precancerous and malignant skin neoplasia	17	73.9	6	26.1	23	9.6
Bacterial infections	9	52.9	8	47.1	17	7.1
Disorders of the mucosa	7	50.0	7	50.0	14	5.8
Viral infections	7	63.6	4	36.4	11	4.6
Disorders of the feet	4	44.4	5	55.6	9	3.8
Disorders due to sun exposure	2	25.0	6	75.0	8	3.3
Acneiform disorders	2	33.3	4	66.7	6	2.5
Cutaneous drug reactions	2	66.7	1	33.3	3	1.3
Cutaneous ulcers	3	100.0	-	-	3	1.3
Bullous diseases	3	100.0	-	-	3	1.3
Infestations	2	66.7	1	33.3	3	1.3
Benign neoplasia	1	100.0	-	-	1	0.4
<b>Total</b>	<b>145</b>	<b>60.4</b>	<b>95</b>	<b>39.6</b>	<b>240</b>	<b>100.0</b>

sions (9.0%), and disorders related to sun exposure (9.0 %).

In men in the 65-74 year age group the five most frequent complaints were: fungal infections (36.5%), eczematous dermatitis (22.2%), pruritus (22.2%), precancerous lesions (11.1%), and bacterial infections (7.9%); in patients older than 75 years the five most frequent complaints were: eczematous dermatitis (36.7%), pruritus (24.5%), precancerous and malignant skin neoplasms (20.4%), fungal infections (10.2%), and bacterial infections (8.2%). In men there was a statistically significant difference in the distribution of dermatologic complaints between the two age groups ( $P=0.023$ ) In women in the 65-74 year age group, the five most frequent complaints were: eczematous dermatitis (28.6%), fungal infections (28.6%), pruritus (25.7%), bacterial infections (11.4%), and precancerous lesions (5.7%); in women older than 75 years the five most frequent complaints were: pruritus (37.5%), eczematous dermatitis (31.3%), precancerous and malignant skin neoplasms (12.5%), bacterial infections (12.5%), and fungal infections (6.3%). There was no statistically significant difference in the distribution of the dermatological complaints between the two age groups in women ( $P=0.177$ ). There was also no statistically significant difference in the distribution of the dermatological complaints between the two age groups of men and women overall ( $P=0.412$ ) (Table 2).

## DISCUSSION

According to current United States Census statistics, the population is getting older, with a growing percentage of the population in the over-65 age

group. This trend is expected to continue well into the 21<sup>st</sup> century. Additionally, the population aged 80 and above also rapidly increasing (17). In the United States in 2004, there were more than 36 million people older than 65 years of age, representing approximately 12% of the population. By 2030, there will be 71 million, or 20% of the population (18). Skin diseases of the elderly will therefore represent a significant part of general dermatology, and geriatric dermatology is a specialty that will receive particular attention. As people age, their chances of developing skin-related disorders increase. This will result in more elderly patients attending dermatology clinics (17). In Turkey, the population of those aged 65 and above comprises the 7.7% of the overall population, and the geriatric population is estimated to reach to 10.2% in 2020 and 20.8% in 2050 (19). The rapid demographic shift has created challenges for the health-care system. Because the burden of dermatologic diseases in the elderly is increasing and substantial, and as their dermatologic demands are largely unmet, it is important for health care providers to be aware of the pattern of skin disorders in the elderly (17).

Although geriatric health care has become a worldwide concern, there are few studies about the skin problems of the elderly. These previous retrospective or prospective studies were focused on detecting the prevalence or characteristic patterns of skin diseases, or identifying past or present skin complaints and the dermatologic findings in the elderly (4-16). The aim of this study was to determine the dermatologic complaints of geriatric patients that lead them to attend our dermatology outpatient clinic.

Our study showed that the five most frequent

**Table 2.** Comparison of the most frequent dermatological complaints according to gender and age groups in elderly patients

Disease	Men		Women		Total	
	65-74 %	≥75 %	65-74 %	≥75 %	65-74 %	≥75 %
Eczematous dermatitis	22.2	36.7	28.6	31.3	28.6	29.9
Pruritus	7.9	8.2	11.4	12.5	8.0	11.9
Fungal infections	36.5	10.2	28.6	6.3	25.0	17.9
Precancerous and malignant skin neoplasia	11.1	20.4	5.7	12.5	15.2	9.0
Bacterial infections	22.2	24.5	25.7	37.5	23.2	31.3
<b>P</b>	<b>0.023</b>		<b>0.177</b>		<b>0.412</b>	

dermatological complaints of elderly people were eczematous dermatitis, pruritus, fungal infections, precancerous lesions, and bacterial infections. The vast majority of the eczematous dermatitis in these cases was asteatotic eczema. The higher prevalence is due to excessive bathing with hot water and strong soap, and not using emollients. These factors are known to precipitate eczematous dermatitis. In our study, the overall percentage of eczematous dermatitis cases was 21.7%. Other studies have shown different rates ranging from 16.3% to 37.9% (4,5). Neurodermatitis was as frequent as asteatotic eczema in our study. In a previous study from Turkey, neurodermatitis was reported to be the second most frequent type of eczematous dermatitis (11). Based on the previous study from Turkey and our present study, we can conclude that neurodermatitis is one of the major dermatological complaints of the elderly in our country. Stasis dermatitis was the third most frequent type of eczematous dermatitis in our study, affecting the 17.3% of the patients with eczematous dermatitis. It is an important problem as it can lead to increased susceptibility to ulceration and cellulitis.

In previous studies, itching was usually the most frequent complaint in dermatological surveys in the elderly (6,7). The rates of pruritus vary from 11.5% to 41.0% (11,6). Pruritus in elderly patients is usually associated with dry skin and increases with age. In our study, 19.6% of the patients complained of pruritus. In women older than 75 years of age, the most frequent complaint was pruritus; however, in men older than 75 years of age pruritus was the second most frequent complaint following eczematous dermatitis.

Decreased immune surveillance in the elderly may be related to aging and associated systemic diseases, providing more opportunity for the development of infectious diseases. The diagnosis and management of infectious diseases of the skin are significant issues in the elderly (20). The prevalence of fungal infections vary from 3.4% to 61.6% in previous studies (5,21). Fungal infections were a common complaint in our study, with rates as high as 16.7%. In elderly people, decreases in personal care, epidermal care, and immunologic functions may be responsible for the high prevalence of fungal infections (22). Among fungal infections, tinea pedis was the most frequent type. In men in the 65-74 age group the most frequent complaints were fungal infections, and the most common type was tinea pedis. Bacterial infections were the second most frequent type of infectious diseases with a prevalence of 7.1%. Bacterial infections encountered were pyoderma, cellulitis, and erythrasma. Cellulitis and erysipelas can be life-threatening in the elderly (1). Three patients with cellulitis were hospital-

ized due to the severity of the clinical findings. The rates of viral infections vary from 3.3 % to 12.3 % (3,8). In our study, the percentage of elderly patients with viral diseases was 4.6%. Among the 11 patients with viral infections, 8 patients presented with herpes zoster, and the 3 other patients presented with verruca vulgaris. Three patients with bullous lesions were diagnosed with bullous pemphigoid without a severe clinical presentation.

In our study, predominant among premalignant and malignant diseases was actinic keratosis with a prevalence of 78.3. There were 2 patients with basal cell carcinoma, 2 patients with squamous cell carcinoma, and 1 patient with malignant melanoma. The diagnoses of these cutaneous malignancies were confirmed with histopathological examination. In all patients with premalignant and malignant lesions, the lesions were located on sun-exposed areas. This preferred localization suggests the importance of sun protection throughout life. In the literature, the prevalence of actinic keratosis in the elderly population was reported as more than 60% (23). The percentage of actinic keratosis in Western countries (4,5) exceed that of Taiwan (8), Japan (12), Singapore (13), and Turkey (11,14). In some studies, actinic keratosis were reported as the most frequent (5) or the second most frequent skin disorder in the elderly (4). In a previous study from Turkey, although chronic conditions related to sun exposure were detected in more than half of the patients, only in four patients (1.4%) was this the primary complaint for hospital admittance (14). In another study from Turkey, the prevalence of premalignant and malignant lesions was 5.2% (11). However, in our study the prevalence was higher compared with previous studies from our country (11,14): it was the fourth most frequent complaint of the elderly attending our dermatology clinic. In men and women, both in the 65-74 and  $\geq 75$  age group, the precancerous lesions were among the five most frequent complaints. This is significant, since the increased prevalence of the elderly with this complaint may reflect the increase in the awareness of this population to sun-related precancerous disorders.

## CONCLUSION

As the previous studies and our prospective study show, skin diseases are common in elderly people and adversely affect their quality of life. Life expectancy is increasing all over the world, and the geriatric population is rising dramatically every year. As people age, their chances of developing skin-related disorders increase, so more elderly patients will be admitted to dermatology clinics with skin complaints in the near future. Most of the skin problems in the elderly are

preventable or treatable, so proper skin care and the treatment of skin diseases should be emphasized in general health-care for the elderly.

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