

The Prevalence of Skin Disease Among Geriatric Patients Attending Erbil Dermatology Center in Erbil City

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Abstract

Background and objectives: Worldwide, the elderly population is in continuous increase. This increase needs to shed light on the frequency, age & gender distribution of cutaneous disorders in geriatric patients older than 65 years old. There are limited studies on skin diseases in elderly populations. This cross-sectional study aimed to investigate the prevalence of skin diseases in the elderly patients. **Methods:** This study done for all geriatric patients from both sexes with a dermatologic complaint attending Erbil dermatology teaching center outpatient clinics & those at infirmary, Full medical history was taken and complete general and dermatological examination were done. Patients were further subdivided into three groups according to their ages; in which group A included patients (65-74 years old), group B included patients (75-85 years old) & group C (more than 85 years old). The average duration for data collection was within one year. **Results:** Among 311 males (59.7%) & 210 females (40.3%); xerosis was the commonest presenting signs (90.79% of cases) and the most common cutaneous disorders were as follow; dermatitis 35.3% (asteatotic dermatitis was the commonest 35.9%), skin infections (20.2%) (Fungal infection comprised 69.5%), papulosquamous disease (11.9%) (Psoriasis comprised 69.4%) & skin tumors represent 9.6% (most common was actinic keratosis 44%). Pigmentary changes, pruritis & neurocutaneous disorder, immunobolous diseases, peripheral vascular diseases, miscellaneous disorders were as following: 3.8%, 7.7%, 1.9%, 3.8% and 5.8% respectively. **Conclusions:** Cutaneous disorders especially dermatitis are among those important health problems in elderly patients in this geographic area. Increasing general awareness about risk factors of these diseases and doing more researches in other regions are highly recommended.

Keywords: Elderly; Skin diseases; Skin aging; Geriatric patients.

Introduction

The gradual increase in the life expectancy in the last few decades in many countries, it has challenged many authors to study the incidence of geriatric dermatoses. The overall functions of skin, the body's largest organ, decline with age, the epidermal turnover rate slows down with age, delaying reepithelialization time after injury. Older corneocytes accumulation leads to impart a dull gray-white appearance and rough feeling to aging skin. Altered biosynthesis of stratum corneum lipids, including ceramides, triglycerides, and fatty acids, may lead to increased transepidermal water loss and defects in the permeability barrier, also decreased epidermal filaggrin formation reduces natural moisturizing factor of stratum corneum and its ability to maintain hydration. Therefore, dryness of skin, or xerosis, is a common problem among

the elderly¹. Alteration in skin appearance may be due to intrinsic or extrinsic factors. Intrinsic changes (true aging) occur with the passage of time. Extrinsic alterations, most commonly called photo aging, are primarily caused by ultraviolet exposure from sunlight. Chronic sun exposure is responsible for the appearance of irregular mottled pigmentation, lentigines (brown macules), coarse wrinkling and telangiectasis². Immune response is lessened, the incidence of neoplasms increases, and there is greater susceptibility to skin infections³. Moreover, wounds heal more slowly due to a combination of decreased immune and inflammatory response, collagen degradation, and delayed replenishment of the vasculature⁴. Another normal change, of skin aging is flattening of the dermoepidermal junction. This change compromises the communication and nutrient transfer between skin layers, increases

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dermal separation that may cause increased blistering or tearing and decrease in epidermal filaggrin (a protein required to bind keratin filaments into macrofibrils) that contributes to dryness and flaking of skin⁴. Decline of enzymatically active melanocytes (about 10% to 20% each decade) contributes to increased sensitivity to ultraviolet radiation. Decline of DNA repair in combination with loss of melanin, increases the risk of photo carcinogenesis⁵. In addition, there is a decrease in vascular responsiveness contributing to impaired thermal regulation and skin pallor. Diseases of elderly adults are becoming increasingly important as life expectancy gradually rises worldwide. The most common cutaneous disorders in elderly patients were shown below, Table 1.

Table (1):Common Skin disorders of the elderly⁶.

Skin disorders
• Dermatitis. • Papulosquamous diseases. • Immunobullous diseases. • Infectious diseases. ○ Bacterial infections. ○ Viral infections. ○ Fungal infections. ○ Parasitic infections. • Ulcerative diseases (pressure ulcer). • Photo aging. • Benign Tumors. • Premalignant Tumors. • Malignant Tumors. • Miscellaneous diseases.

Patients and methods

A cross-sectional analytical design was used for the current study on geriatric patients. Our study included all geriatric patients from both sexes with a dermatologic complaint attending outpatient clinic at Erbil teaching center & those at Erbil infirmary. Even though the most acceptable cut off age limit for the geriatric population is 65 years old. Patients were further subdivided into three groups according to their ages; in which group A included patients (65-74years old), group B included patients (75-85 years old) & group C (more than 85years old). The average duration for data collection was from April 2017 to March 2018. The overall total sample size were 521 subjects, inclusion criteria included geriatric age group over 65 of both sexes. All patients were subjected to proper full history taking according to a prepared questionnaire, gener-

al examination was carried out for all included subjects, meticulous dermatologic examination was done according to which the diagnosis was reached, skin biopsies was done for 223 cases to confirm the diagnosis, laboratory investigations as blood sugar, CBC, liver function and renal function tests were done when needed. All collected questionnaires were revised for completeness, and logical consistency. Pre-coded data were collected and entered in the computer and then analyzed using appropriate data system which is called Statistical Package for Social Sciences (SPSS) version 22 and the results will be compared between patients with different variables, with a statistical significance level of ≤ 0.05 . The results will be presented as rates, ratio, frequencies, percentages in tables and figures and analyzed using Chi square test. Ethical considerations informed by taking verbal consent from each patient who registered in the study after explaining the aim of the study. The study approved by ethical committee of the Kurdistan Board of Medical Specialties.

Results

Demographic results of 311 male (59.7%) & 210 female (40.3%) according to their classification three age groups was as follow: group A (65-75)years old, group B (75-85) years old, group C (more than 85) years old, 309 patients (59.3%) were from urban & 212 (40.7%) were from rural areas. Their educational status and previous occupations were shown as follow Table 2.

Table (2):Descriptive data of participants.

Variables	Categories	No.	%
Age	65-74 years	425	81.6
	75-85 years	87	16.7
	≥ 85 years	9	1.7
Gender	Male	311	59.7
	Female	210	40.3
	Illiterate	316	60.7
Education status	Basic	157	30.1
	Preparatory	43	8.3
	College and higher education	5	1
Address	Urban	309	59.3
	Rural	212	40.7
	House wife or un-employed	163	31.3
Previous occupation	Industrial, agricultural worker	278	53.4
	Skilled worker	71	13.6
	Professional	9	1.7
		521	100

Among 521 patients xerosis was the most commonly observed signs (90.79% of cases). The most common presenting dermatological disorders among geriatric age groups were dermatitis 184 patients (35.3%) ; followed by skin infections 105 patients (20.2%) , papulosquamous disorders 50 patients (9.6%) and other presentations (miscellaneous diseases 30 patients (5.8%) included discoid lupus erythematosus, morphea, urticaria, angioedema, acanthosis nigricans, aphthous ulcers, postherpetic neuralgia, keloids, actinic chilitis and calluses), Table 3.

Table (3):Prevalence of different dermatological diseases among geriatric participants.

Variables	Categories	No.	%
Xerosis	Yes	473	90.8
	No	48	9.2
Dermatological diseases	Dermatitis	184	35.3
	Skin infection	105	20.2
	Pigmentary disorder	20	3.8
	Pruritus	40	7.7
	Tumours	50	9.6
	Immunobolous diseases	10	1.9
	Papulosquamous disorders	62	11.9
	Peripheral vascular disease	20	3.8
	Miscellaneous	30	5.8
	Total	521	100

Asteatotic eczema 66 patients (35.9%) were frequently seen dermatitis followed by seborrheic dermatitis 38 patients (20.7%), hand dermatitis 18 patients (9.8%), contact dermatitis 17 patients (9.2 %) & atopic dermatitis 16 patients (8.7%%). Among patients presented with skin infections, fungal infection was the commonest (69.5%). Actinic keratosis was most common presentation among patients who presented with skin tumors 22 patients (44%). Frequently seen papulosquamous disorders among geriatrics were psoriasis (69.4%), Table 4.

Table (4): Sub classification of different dermatological diseases.

Variables	Categories	No.	%
Dermatitis	Asteatotic dermatitis	66	35.9
	Seborrheic dermatitis	38	20.7
	Hand dermatitis	18	9.8
	Contact dermatitis	17	9.2
	Gravitational dermatitis	16	8.7
	Atopic dermatitis	16	8.7
	Neurodermatitis	9	4.9
	Nummular dermatitis	4	2.2
Skin infection	Total	184	100
	Fungal	73	69.5
	Viral	15	34.3
	Bacterial	11	10.5
	Parasitic	6	5.7
	Total	105	100
	Actinic keratosis	22	44
	BCC	19	58
Tumors	SCC	9	18
	Total	50	100
	Psoriasis	43	69.4
	Lichen planus	13	21.0
Papulosquamous	Others	6	9.7
	Total	62	100

According to the gender, prevalence of dematological diseases was as shown in the following Table.

Table (5)Association between gender and dermatological diseases (p-value= 0.002).

Dermatological diseases	Gender				Total	
	Male		Female		No.	%
	No.	%	No.	%		
Dermatitis	119	38.3	65	31.0	184	35.3
Skin infection	78	25.1	27	12.9	105	20.2
Pigmentary disorder	8	2.6	12	5.7	20	3.8
Pruritis	22	7.1	18	8.6	40	7.7
Tumours	25	8.0	25	11.9	50	9.6
Immunobolous diseases	5	1.6	5	2.4	10	1.9
Papulosquamous	28	9.0	34	16.2	62	11.9
Peripheral vascular disease	12	3.9	8	3.8	20	3.8
Miscellaneous	14	4.5	16	7.6	30	5.8
Total	311	100	210	100	521	100

Discussion

There are limited studies on skin diseases in elderly populations. The current study documented different dermatoses among 521 participants, male patients outnumbered female patients, and most of our patients were from urban area. Dermatitis was taking the lead (35.3%), this high prevalence could be explained by the high incidence of xerosis among old people⁷, which is a well-known predisposing factor to the different types of eczema⁸. Xerosis was observed in 473 patients and higher than those seen by Bilgili et al.⁶ and Goyal et al.¹¹ This high prevalence of xerosis might be due to decreased sebum secretion in the aged skin, as well as frequent hot bathing without subse-

quent emollient application especially in winter⁹. Furthermore, the elderly population are more susceptible to xerosis because of preexisting disease states and medications (e.g. lipid lowering agents)¹⁰, which are linked to predisposing or aggravating eczemas⁸. However, dermatitis in the current study (35.3%) was higher than those in Goyal et al.¹¹ and Souissi et al.¹² and comparable with those done by Bilgili et al.⁶ These variations might be attributed to the difference in the number of included cases, the difference in the climate (temperature and humidity) changes, in addition to the decrease in culture development that might affect the patient self-care¹³. Asteatotic eczema was the most common presentation followed by other types of eczema including seborrheic dermatitis, hand eczema, gravitational dermatitis, atopic dermatitis, neurodermatitis and nummular dermatitis in contrast to study done by Bilgili et al.⁶ the most common dermatitis was contact dermatitis. Second most common dermatoses group reported in the current study were infections which constituted 20.2%. The high prevalence of skin infections in such age group might be attributed to the fact that this age group usually suffers from loss of epidermal integrity, thinning of skin, dryness and decreased blood flow, lack of sebum that keeps the skin moist and combats infection, as well as delay in the healing process¹⁴. Furthermore, aged skin suffers from impaired immune function and reduction in the number of Langerhan's cells¹⁵. All these factors share in increasing the risk of skin infections in this vulnerable group. Moreover, the atrophy of subcutaneous fat on hands, face, shins, waist in elderly males and thighs in elderly females leads to sagging and folds, which can then become more prone to infection¹⁴. Our results were lower than that documented by Souissi et al.¹² and those that detected by Liao et al.¹⁶ On the other hand it was higher than that detected in by Bilgili et al.⁶ and Goyal et al.¹¹ Fungal infection was the commonest presentation followed by viral, bacterial and parasitic infections which was comparable with those by Goyal et al.¹¹ Fungal infections depend on underlying diseases such as diabetes, bedridden status, and also hygiene level of the patient. These disorders are facilitated by local factors such as prolonged occlusion with moisture and warm thin skin flexures. Nutritional deficiencies might alter host defense mechanisms or epithe-

lial barrier integrity, which allows increased adherence or penetration by candida. These are some factors responsible for increasing the incidence of candidiasis among the elderly age group¹⁷.

Third in line came the papulosquamous disorders with a prevalence of 11.9%, including mainly psoriasis and lichen planus. In general, psoriasis is a common chronic skin disease that is seen in about 1%-3% of the world's population¹⁸. It has been explained that potentially, there is a difference genetically between early-onset and late-onset psoriasis, owing to a lack of human leukocyte antigen subtype Cw6 in elderly-onset psoriasis¹⁸. The results of the current study were higher than that reported by Liao et al.¹⁶, Polat et al.¹⁹ and lower than Grover et al.²⁰

This difference could be attributed to the difference in the genetic background and to the environmental influences on patients in different regions. We believe that several factors could be held responsible for such a high prevalence of papulosquamous disorders reported in our study. Indeed, sun exposure which although is generally considered to be beneficial for most of the psoriatic patients, in the meantime strong sunlight was reported to worsen the disease in some cases owing to koebnerization²¹. In cases of lichen planus it is known to have a deleterious effect on the disease⁸. This might be the case in our country, where strong sunlight is available throughout most of the year. Stress might be another contributing factor in triggering such diseases²².

The risk of developing skin tumors is known to increase with aging. This is related to several factors, including decreased DNA-repair capacity, decreased immuno-surveillance and accumulation of carcinogenic material during aging. The most important etiologic factor for skin cancer is claimed to be sunlight exposure. The cumulative duration of exposure to sunlight is longer in the elderly people than the younger and they develop more damage against ultraviolet light due to decreased melanocytes²³. All these factors contributed to the fact that the frequency of skin tumors was found to be (9.6%) of total dermatologic diseases; occupying the fourth place (actinic keratosis was the commonest). Its prevalence in this study was lower than those done by Grover et al.²⁰ and higher than that done by Bilgili et al.⁶ These variations might be attributed

to the fact that generally in western countries, the prevalence of skin tumors is much higher than in the eastern region. This might be related to them being fair skinned with less protection against sun exposure²⁴. Another point might explain the fewer incidences of skin tumors in the Islamic world might be due to the way of dressing, which discourages body exposure especially in females as in study done by Najdawi et al.²⁵ (4.7% of the total malignant tumors were females). Alongside, it might also reflect the decreased awareness in our population to seek medical attention when they are encountered with suspicious lesions, a reason that might lead to under reporting of such condition. The frequency of pruritis was 7.7%, this is mostly related to dryness, comorbidities. It was comparable with studies done by Bilgili et al.⁶ and higher than those done by Goyal et al.¹¹ Pigmentary disorders mainly vitilligo were found in 3.8% of the total dermatoses in the current study. An intriguing point was the predominance of female patients (5.7%) in comparison with males (2.6%). An explanation to this might be due to cosmetic interest in female patients for seeking management for the pigmentary disorders. Unlikely vitilligo was commonly seen in males than in females by Bilgili et al.⁶ Immunobolous disease was seen to be consistent with that done by Bilgili et al.⁶ and higher than those Goyal et al.¹¹ and Grover et al.²⁰ Regarding gender, most of the dermatosis show male predominance which is comparable with the study done by Goyal et al.¹¹ This is mainly due to most of our participants was male.

Conclusions

Cutaneous disorders especially eczematous diseases are among those important health problems in elderly patients in this geographic area. Doing more researches for increasing general awareness about these diseases and their risk factors are highly recommended.

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