

Geriatric Dermatoses in Benghazi, Libya

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Abstract

Background: The geriatric population is composed of persons aged 65 years and above. Skin disorders are an important source of morbidity in elderly patients.

Material and Methods: The aim of this study was to determine the spectrum and frequency of skin disorders among Libyan elderly patients. Over one year 248 elderly patients with dermatologic complaints attending Jumhoria Hospital in Benghazi-Libya dermatology clinics were enrolled in our study; the majority of patients (65.3%) were found to be in the age group of 65 to 75 years.

Results: 67 percent of the patients had skin diseases of infective etiology. Fungal infections (49.6 %) were the most common. Xerosis was observed in 40%. Eczematous dermatitis was seen in 27.8%. Psoriasis was present in 7.7%, generalized pruritus in 6% and psychosomatic background in 3.2 % of the cases. Malignant tumors were seen in 2.4%.

Conclusion: This study provides important data on the spectrum of dermatologic diseases in Libyan geriatric patients and to the best of our knowledge this is the first study carried out on geriatric dermatoses in Libya.

Introduction

The geriatric population is composed of persons aged 65 years and above.

With progressive aging of populations, geriatric health care has become a major international issue for health authorities.

Since the human population is living longer, chronic diseases will become more prevalent, as will diseases of the skin. The prevalence of skin diseases rises steadily throughout life [1, 2, 3, 4].

Elderly people are predisposed to certain dermatological disorders because of various senile changes in skin which occur as a result of combination of cumulative intrinsic and

extrinsic aging. Intrinsic aging is a process of natural senescence; ageing results in a decline in several functions of the human skin, including barrier efficacy, sensory perception, wound healing, immune responsiveness and DNA repair.

Extrinsic factors include sun light exposure, smoking, and various environmental insults. Factors such as medical conditions including: diabetes, vascular insufficiency, and various neurological conditions, and drugs add to the compromised skin and predispose it to certain diseases. Furthermore, the increased incidence of some skin disorders in the elderly, may be a consequence of difficulty in seeking medical care, neglect of their skin and redu-

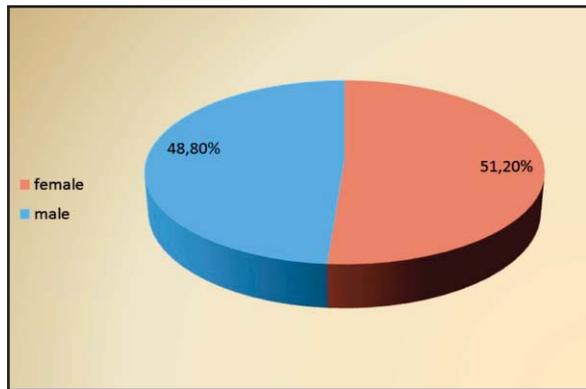


Figure 1. Sex distribution

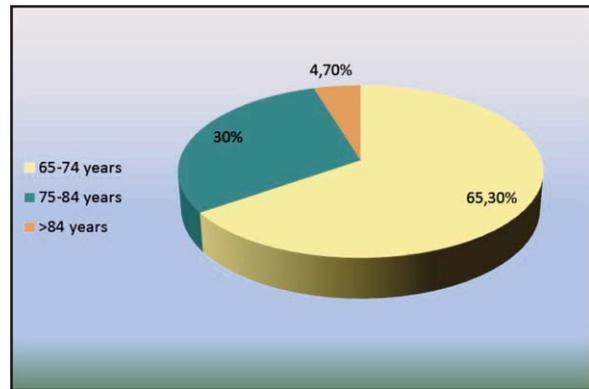


Figure 2. Age distribution

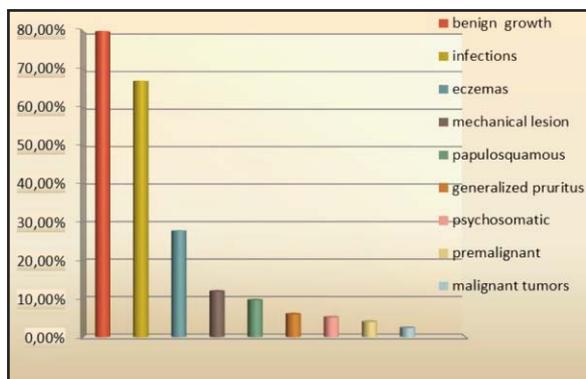


Figure 3. Frequency of geriatric dermatoses' groups

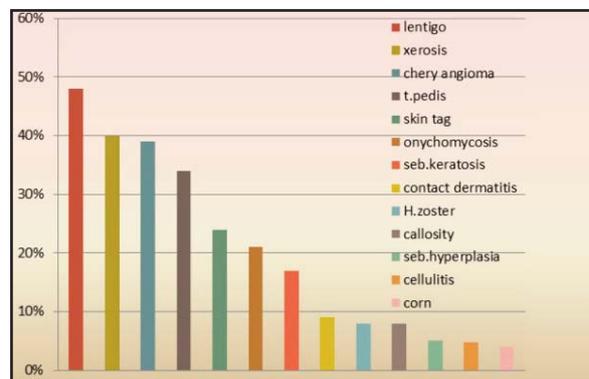


Figure 4. Frequency of geriatric dermatoses

ced local skin care because of decreased mobility or functional impairment [3, 4].

The impact of these changes varies from cosmetic to life-threatening disorders. Though varying in severity, all may adversely affect an older person's health.

The most common geriatric cutaneous diseases are broadly categorized into infections and infestations, eczema, pruritus, papulosquamous diseases, hair and nail disorders, vascular disorders and neoplasms.

Pruritus is a very common complaint among the elderly. In the absence of skin lesions, psychological factors or systemic diseases should be considered [3, 5, 6, 7].

The most common bacterial infections of skin in the elderly population are cellulitis whereas tinea pedis and tinea unguium are the most common cutaneous fungal infections and are usually exacerbated with age. Intertigo and paronychia related to candida are also quite prevalent in this age group.

There is an increased incidence of herpes zoster in the elderly people. Its associated prodromal pain can be misdiagnosed as other medical or surgical conditions, such as migraine or acute myocardial infarction. Post herpetic neuralgia severity and duration are related to age.

Scabies is often misdiagnosed because of atypical presentations and confusion with asteatosis. Re-infestation and poor compliance are important problems in elderly [3, 4, 5, 6, 7].

Asteatotic eczema, nummular eczema, seborrheic dermatitis, stasis eczema, and contact eczema fall under the category of eczematous dermatitis. Several of these disorders are commonly seen in the elderly. Xerosis is almost universal in the elderly [3, 5, 6, 7].

Elderly persons are especially susceptible to hemorrhage into the skin due to reduction in dermal collagen and fat [5, 6].



Figure 5. Herpes zoster



Figure 6. Severe tinea pedis with nail dystrophy



Figure 7. Onychomycosis

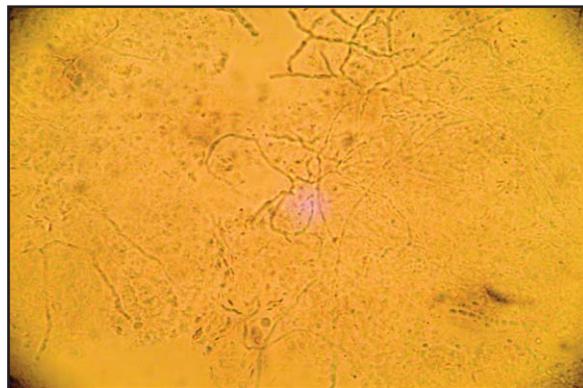


Figure 8. Positive KOH tinea unguis

Polypharmacy is common among the elderly population, which may lead to higher risk of cutaneous adverse drug reactions [5, 7].

Psychogenic dermatological diseases in elderly include disorders such as lichen simplex chronicus, prurigo nodularis, neurotic excoriations, and delusions of parasitosis.

Skin neoplasia, whether benign, premalignant or malignant, is more common in the elderly due to decrease the body's ability to repair damage.

Common types of benign tumors include seborrheic keratosis, skin tags, solar lentigines, and cherry angioma.

Sun light is an important environmental carcinogen. It increases the incidence of Bowen's disease, squamous cell carcinoma basal cell carcinoma as well as melanoma in sun exposed skin.

Although skin problems might sometimes seem minor compared with other major systemic diseases frequently seen in this age group, accurate diagnosis and proper management help reduce the morbidity and positively influence their life quality. With better knowledge of and more attention to dermatological problems in elderly patients, we have a greater chance to help relieving their discomfort, particularly pruritus or pain, and promote their well-being [4, 5, 6, 7].

Because of the growing trend toward populations aging in many countries, geriatric health care has become a worldwide concern, and there is an increased focus on geriatric dermatology.

Although skin disease is a common and inevitable consequence of ageing, relatively few epidemiological studies are available about geriatric skin diseases. Moreover, no information exists regarding skin disorders among



Figure 9. Erysipelas



Figure 10. Positive KOH tinea unguum



Figure 11. Neurotrophic ulcers in leprosy patient



Figure 12. Stasis eczema

the elderly population in Benghazi, Libya, and there is a need to evaluate various cutaneous disorders in the Libyan geriatric population.

The aim of this study was to study skin disorders in Libyan elderly patients to determine the spectrum and frequency of geriatric dermatoses, as well as to compare our data with similar international studies.

Materials and Methods

A prospective study was performed on geriatric population with complaints of skin diseases attending dermatology department outpatient clinic in Jumhoria Hospital, Benghazi-Libya for a period of one year. The admitted patients to the skin department were also included. A detailed history was recorded and complete dermatological examination carried out apart from genitalia as it was difficult to expose each patient fully during screening if the patient denied any genital symptoms.

Relevant investigations were performed, whenever indicated. In most instances, diagnosis of the di-

seses was based on clinical impression, in some cases skin biopsy was performed in order to reach diagnosis.

The diseases were sub-classified to infectious (bacterial, fungal, viral and parasitic), eczematous dermatitis, papulosquamous diseases, hair and nail disorders, psychosomatic disorders, mechanical lesions, benign growths, premalignant and malignant lesions and miscellaneous.

The patients were grouped into 3 categories based on their age: 65 to 74 years, 75 to 84 years and 85 years and older.

The data were statistically analyzed using the computerized program, SPSS version 13.

Results

A total number of 248 elderly patients with complaints of skin diseases were studied; of them 51.2% were females (**Figure 1**). The majority of patients (65.3%) were found to be in the age group of 65 to 74 years (**Figure 2**), 77.4% were out patients and only 2.8% were of black race.



Figure 13. Psoriasis vulgaris



Figure 14. Lentigo



Figure 15. Sebaceous hyperplasia

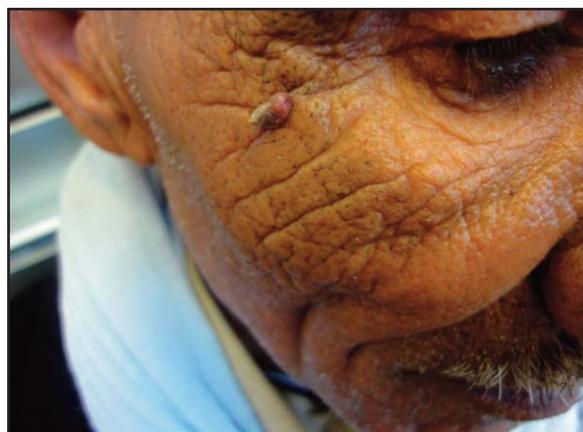


Figure 16. Skin tag with horn on solar elastosis

The highest number of cases presented with skin infections (67%) followed by eczemas (27.8%), papulosquamous diseases (9.7%), generalized pruritus (6%), psychosomatic disorders (5.2 %), premalignant lesions (4%), malignant tumors (2.4%). Benign lesions (80%) and mechanical hyperkeratotic lesions (12%) were in most instances not the presenting problems (**Figure 3**).

The frequency of geriatric dermatoses is demonstrated in (**Figure 4**).

Fungal infections were the commonest infection (49.6 %), followed by viral (11.3%), bacterial (9%), scabies (7%) and leprosy (1.2%).

Fungal infections were mainly represented by tinea pedis (34%), clinically suspected onychomycosis were seen in 26%, and only 21% was KOH positive. Tinea cruris and corporis were seen in 2.5% and 0.8% respectively. Candidiasis including candidal intertrigo and thrush was seen in 2.7 %

Herpes zoster was the mostly diagnosed viral illness in our elderly (8%), wart and herpes simplex were seen in 2.8% and 0.4% respectively.

Various bacterial infections were recorded; cellulitis in 4.8%, ecthyma in 1.6% and each of; erysipelas, folliculitis, bullous impetigo and paronychia was seen in 0.8%.

Various types of infections were recorded in our elderly patients (**Figures 5, 6, 7, 8, 9, 10 and 11**).

Among eczemas (27.8%), contact dermatitis was the commonest dermatitis reported in this study (9%), followed by hand eczema (7%), neurodermatitis (3.6%) asteatotic dermatitis (2.8%), stasis dermatitis (**Figure 12**) and atopic dermatitis each (2%) and discoid eczema (1.2%).

Xerosis was seen in 40%, mainly over legs.

High prevalence of papulosquamous diseases was reported in our elderly patients; psoriasis was present in 7.7% (**Figure 13**) and lichen planus in 2%.

Among psychosomatic disorders; lichen simplex chronicus, was the most common (3.6%) whereas delusional parasitosis was reported in one case.



Figure 17. Aktinic keratosis



Figure 18. Basal cell carcinoma



Figure 19. Squamous cell carcinoma



Figure 20. Angiosarcoma

Benign tumors were observed in about 80% of our patients, in most instances they were not the presenting problem. They included; lentigo (48%), cherry angiomas (39%), skin tag (24%), seborrhoeic keratosis (17%) and sebaceous hyperplasia (5.2%) (**Figures 14, 15 and 16**).

Premalignant lesions were seen in 4%; actinic keratosis in 1.6% (**Figure 17**), Bowen disease, leukoplakia and possibly lentigo maligna each in 0.8%.

Malignant tumors were diagnosed in 2.4%; of them basal cell carcinoma was the commonest (1.6%). Squamous cell carcinoma and angiosarcoma was seen in only 1 case (**Figures 18, 19 and 20**).

No lymphoma or confirmed malignant melanoma were diagnosed.

Bulbous pemphigoid was the only autoimmune vesiculobullous disorder in this study; it was seen in 3 cases (**Figure 21**).

Connective tissue diseases were seen in 2 cases; 1 case of tumid lupus erythematosus and another of Sjogren syndrome.

Androgenic alopecia was recognized in almost all our elderly males' and in 70% of females with variable stages (**Figure 22**), whereas diffuse hair loss was observed in 18% of females and alopecia areata in only 1 case.

Senile purpura (3.6%) (**Figure 23**), echymosis (2.4%), venous lake (2.4%) (**Figure 24**), vasculitis (1.6%), and pigmented purpura (0.4%) were the main vascular lesions recorded in this study.

Mechanical lesions were common in our elderly; callosities were seen in 8% and corns in 4% (**Figure 25**).

Vitiligo was present in 3.2% whereas idiopathic guttate hypomelanosis in 38%. Solar elastosis was observed in 28%. Mucosal lesions were seen in 3.6%; sore smooth tongue in 2% and angular cheilitis in 1.2%.

Miscellaneous conditions were seen in 6.8% of patients which include; drug rash, urticaria, insect bite, chronic actinic reticuloid, erythema multiforme, erythema nodosum and diabetic dermopathy (**Figure 26**).



Figure 21. Bullous pemphigoid



Figure 22. Female androgenic alopecia



Figure 23. Senile purpura

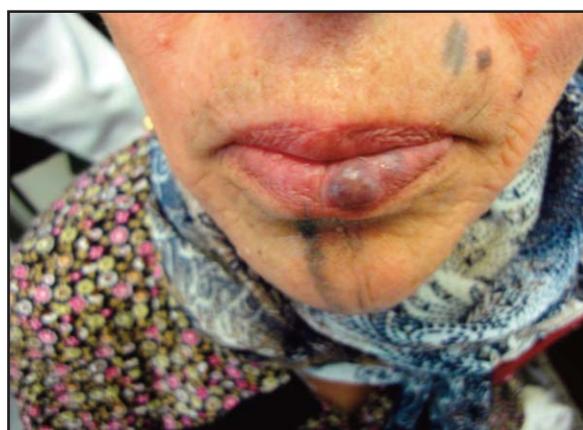


Figure 24. Venous Lake

Discussion

Skin diseases are important health problem affecting geriatric population. They are very common among the elderly all over the world. Several epidemiological studies on geriatric dermatose have been undertaken across the world. Their prevalence varies widely depending on the patients' clinical environment as well as the regional and ethnic factors [8, 9].

The present study was carried out on 248 Libyan elderly patients, it was encompassed various types of skin diseases among elderly patients attending the outpatient department as well as the admitted ones over one year.

Infections were the most commonly presenting conditions; this is inconsistent with the results of other studies in the literature showing eczema as the predominant skin disease in elderly [10, 11].

Infective conditions occur as a result of a combination of diminished immunity, predisposing medical conditions as diabetes; 28% of our elderly was diabetic, and a variety of drugs used to treat these conditions may affect immune function and homeostasis. Neglect, reduced local skin care and poor personal hygiene also could be contributing factors.

Our study exceeded the reported ranges of infections (67% vs 33.8%- 43.5%) [9, 12, 13, 14, 15, 16, 17, 18].

Fungal infections (49.6 %) were higher than in Singaporean (4.5%), Croatian (6.81%), Tunisian (16.9%), Indian (17.5%) and Taiwan (38.0%) studies [10, 13, 14, 15, 18]. Fungal infections were mainly represented by tinea pedis (34%) and onychomycosis (21%); our results were in concordance with previous reports which demonstrate tinea pedis and



Figure 25. Corn



Figure 26. Diabetic dermopathy

tinea unguium as the most common cutaneous fungal infections in the elderly population [5, 9]. The high prevalence of mycosis in our study may be explained by our hot humid climatic conditions.

Frequent washing without drying of feet for praying predispose to tinea pedis which often serve as a primary source of infection that can spread to the nails.

Frequency of viral infection in our patients (11.3%) was more than what is reported in Tunisian, Indian and Singaporean studies: (6.8%, 5% and 3.4% respectively) [9, 13, 14] but comparable to Taiwan data (12.3%) [10].

Herpes zoster incidence is high in elderly; it was the mostly diagnosed viral illness in our elderly (8%), our prevalence is far away from that reported by Chopra A. in an Indian study (0.9%) [17]. Certain risks factors, most likely reduced cell-mediated immunity with advancing age, may reactivate Varicella zoster virus.

Nine percent of our elderly patients had bacterial infection; this is higher than Indian data (4.5%) but very near to Tunisian (8.7%) [9, 13, 17].

Cellulitis and erysipelas are common infections in the elderly. In concordance with literature; cellulitis was the most common bacterial infection in our study [5].

The high frequency of cellulitis (4.8%) could be explained by presence of predisposing factors as tinea pedis, oedema, dry skin, diabetes and compromised circulation.

Scabies is important parasitic infestation in elderly, it was the only parasitic infestation seen in this study; it was detected in 7% of our patients which is higher than what was reported in Singapore by Yap et al. [14].

Leprosy cases were seen in 1.2%, near to Indian data [9].

Eczema was the second common finding in this study (27.8%); our results exceeded some reported ranges of eczemas (2.8% to 24.7%) [12, 13, 16, 17, 18].

Other studies showed higher prevalence (39%, 58.7%) [9, 10, 14].

Contact dermatitis has been reported to occur in as high as 11% of the elderly population, and includes allergy-and irritant-type reactions [5]. It was the most common dermatitis reported in this study (9%).

The high prevalence of contact dermatitis may be due to self-application of various topical medications as antimicrobial and analgesics, some traditionally used agents including plants, herbals, oils and balms in addition to common allergens as dyes, rubber. Alkaline soaps, detergents are the main culprits in cases of irritant dermatitis.

Older patients, who often have vascular abnormality associated with arteriosclerosis and diabetes mellitus, are prone to stasis dermatitis.

Two percent of our elderly had stasis dermatitis which was lower than Indian and Turkish data [9, 11, 16, 18].

Xerosis, low humidity and emotional stress predispose to nummular dermatitis; it was observed in 1.2%. Neurodermatitis (3.6%) and atopic dermatitis (2%) were less seen than in India [17].

Seborrheic dermatitis is commonly seen in the elderly, our frequency (0.4%) was lower than the reported ranges in Turkey and India (3.9% to 10.5%) [9, 11, 16, 18].

Old age is usually associated with dry skin which is responsible for essential pruritus. Increased transepidermal water loss, reduced sebum and sweat production lead to skin dryness. Extrinsic aggravating factors include low ambient humidity and excessive bathing. Diuretic drugs and cholesterol-lowering agents have also been shown to induce skin dryness.

40% of our elderly patients had xerosis, this is lower than what is observed in other studies [8, 9, 17] and could be explained by the traditional frequent use of olive oil by our elderly.

Pruritus is the most common dermatological complaint of the elderly population. Pruritus may originate from diverse underlying systemic diseases. Emotional or psychological stress may also be contributing factors to itching. In up to 30% of patients, pruritus remains idiopathic and occurs more frequently and more severely with increasing age [5].

Our study lagged the reported ranges of generalized pruritus (6% vs 11.5% to 78.5%) [9, 10, 12, 16, 17, 18].

Psoriasis is chronic, lifelong disease and the frequency of psoriasis in elderly has varied in different studies, 7.7% of our patients had psoriasis and a frequency of 3% to 12.5% has been reported in Croatia and India [9, 14, 15, 17, 18].

Our incidence of vitiligo (3.2%) was comparable to Sahoo et al. finding (3.5%) [19], higher than Weisman results (1.4%) [20] but lower than reports of Patanage (19%) [1]. This variation could be due to ethnic and racial factor.

Idiopathic guttate hypomelanosis is benign leukoderma that appears as part of the aging process. It was seen in 24.5% of cases. A si-

milar incidence in India was observed by Beaugregard et al. [16, 21].

A psychosomatic background was observed in nearly 5.2% of the cases, among them lichen simplex chronicus, was the most common (3.6%), delusional parasitosis was reported in one case. Our figure is less than what is observed in other studies [18, 17].

Senile purpura (3.6%) and echymosis (2.4%) were the main vascular lesions recorded; this susceptibility to injury with rupturing of cutaneous small blood vessels by trivial trauma is due to decreased supporting collagen.

Hyperkeratotic lesions were common problems affecting our geriatric patients' callosities were seen in 8% and corns in 4%, these may be related to the presence of digital deformities such as hallux vulgus.

Bulbous pemphigoid was diagnosed in 1.2%; this was within the reported range in literature (0.5%-1.8%) [9, 17]. An altered immunological reactivity of skin is likely to be involved.

Collagen vascular diseases were observed in 0.8% which was lower Indian data (3.5%) [9].

Neoplasia associated with aging occurs in many organs, but is particularly characteristic of skin. Both benign and malignant skin tumors are more frequently seen in elderly population. Benign proliferative growths are present in many elderly and reflect in part the breakdown of growth homeostasis in age [8].

Common types of benign tumors include seborrheic keratosis, skin tags, solar lentigines, and cherry angioma. They mostly were asymptomatic and often regarded as 'normal' by elderlies.

A skin tag is increasingly common with aging; its incidence in our elderly was 24%. Tindal et al. reported a higher incidence (56%) [12].

Senile lentigines in our study (48%) agreed with reported prevalence which ranged from 12% to 70.6% [16, 18, 12, 9, 17, 11, 22, 23].

Cherry angiomas and seborrheic keratoses are seen more often as people age.

Our study trailed the reported prevalence rates of cherry angioma (39% vs. 49.5%-86%) and those of seborrhoeic keratosis (17%

vs.24.2%-88%) [8, 16, 18, 12, 17], Croatian results (18.98%) were near to ours [15].

These differences underscore the ethnic and regional variations between different study populations.

Actinic keratoses are very common in fair skinned individuals chronically exposed to the sun (22-25%) [7, 8, 15], our prevalence was only 1.6% as the majority of our population were not faired skin.

Basal cell carcinoma and squamous cell carcinoma are by far the most common malignancies in the west.

In our study malignant tumors were seen in 2.4%; basal cell carcinoma was the most common (1.6%), which is agreed with Taiwan and Indian studies [5, 10, 19].

Ultraviolet radiation is the major etiologic factor for the development of skin cancer in our country. For this reason, skin cancer was often found against a background of sun damage. Carcinogenic agents as tobacco also contribute to the pathogenesis. We reported one case of squamous cell carcinoma with positive history of tobacco chewing.

Conclusion

This study provides important data on the spectrum of dermatologic diseases in Libyan geriatric patients, the pattern of geriatric skin diseases in Libya was different from Western, Eastern countries and some Middle East countries.

Skin infections formed the largest group of skin problem seen in Libyan elderly; many of these infections were contributed to neglect and poor personal hygiene. The high frequency of xerosis and eczema with contact dermatitis being the commonest dermatitis emphasizes the importance of health education in geriatric people concerning skin care to compensate for failing physiologic function.

The risk for development of skin neoplasia is increased in elderly reflecting the breakdown of growth homeostasis, it is important to identify them early so that timeous treatment can prevent serious malignancies.

Only few reports in the literature about geriatric dermatoses in Arabic countries and to

the best of our knowledge this is the first study carried out on geriatric dermatoses in Libya.

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