

## Dermatological problems in geriatric patients: a hospital based study

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### ABSTRACT

Geriatric health care has become a major issue worldwide. There are no data regarding geriatric dermatologic diseases available from Nepal. Patients of 60 years and above were enrolled in the Nepali fiscal year 2067 (April 2010-April 2011). The data included age, sex, place, and diagnosis. The aim of the study is to determine the characteristic pattern and frequency of dermatoses in dermatologic patients aged 60 years and above. There were total of 6442 patients who visited out patients department. Out of which frequency of geriatric patients were 330, which constitute about 5.1%. The male to female ratio was 50% each. The most common cutaneous dermatoses were eczema 35.8%, fungal infection 13.6%, viral infection 7%, followed by pruritus 7.3%, scabies and photodermatitis 4.5% each, Inflammatory papulosquamous disorder 3.3%, Bacterial infection and Icthyosis 2.1% each, vesiculobullous 1.8%, tumors and pigmentary disorder 0.6% and Miscellaneous group (keratoderma, callus, urticaria, diabetic ulcer, burgers disease, burning feet syndrome, Rosacea, Drug rash-amoxicillin, senile acne, prurigo nodularis, hansens disease, pellagra, Actinic cheilitis) 15.8%. Few patients had more than one dermatoses which constitute <1%. Photodermatitis was found to be statistically significant. The most common dermatoses were Eczema in females followed by Photodermatitis and comparatively in males viral and fungal infections were common. This study depicts various characteristic patterns of dermatoses seen in elderly. Eczema and infections was found to be most common diseases seen in elderly. Further epidemiologic studies including treatment, follow-up of elderly patients has to be carried out to know the burden of the disease and decrease morbidity and psychological concern associated with diseases.

**Keywords:** Age, Geriatric, Nepal, skin dermatoses.

### INTRODUCTION

As population is aging, geriatric health care has become a major issue worldwide. Aging is a process where both intrinsic and extrinsic stimuli such as ultraviolet rays, smoking, environmental pollutants affect structural as well as functional integrity of aging skin giving rise to spectrum of diseases such as xerosis, pruritus, eczema, psoriasis.<sup>1</sup> These dermatoses which are rarely fatal can lead to significant morbidity and affect quality of life.<sup>2</sup> The cumulative effect of ultraviolet rays has malignant potential and can produce skin cancers in older age group. As skin ages there are degenerative changes in the dermis which leads to decrease in collagen and elastin fibres hence decrease total thickness of skin which results in thinning of dermal papillae and subsequently reduce cushioning effect and support to dermal vasculature and prone to mechanical trauma which leads to pressure ulcer and skin tears and vascular disorders such as stasis dermatitis.<sup>3</sup> Cutaneous immunity suffers with age. Progressive reduction in normal immune system leads to reactivation of viral infection like herpes zoster and development of autoimmune disorders. In Nepal, geriatric population is estimated to be 4.4% in 2011. There are very few or little studies available regarding geriatric

dermatological disease in the literature. However there are no data regarding geriatric dermatologic diseases available from Nepal. As Nepal medical College and Teaching Hospital (NMCTH), situated in central Nepal is a tertiary care referral center, people from different geographical regions comes here for treatment, providing us an opportunity to study different dermatological problems. This study was conducted with an objective to know geriatric dermatological problems in Nepalese population in a hospital based setting.

### MATERIALS AND METHODS

We conducted a retrospective study in outpatient department of Dermatology, NMCTH. We enrolled patients of 60 years and above who visited our department in the Nepali fiscal year 2067 (April 2010-April 2011). The data was retrieved from the registers maintained in the department including age, sex, place, and diagnosis. The aim of the study is to determine the characteristic pattern and frequency of dermatoses in dermatologic patients aged 60 years and above. For statistical evaluation SPSS version 11.5 was used. Chi square test and Fishers exact test was used for statistical significance and P value, <0.05 was considered significant.

## RESULTS

There were total of 6442 patients who visited out patients department in NMCTH. Out of which frequency of geriatric patients were 330, which constitute about 5.1%. The male to female ratio was 50% each. The minimum age was 60 years and maximum 97 years. The mean age was found to be 66 years. The most common cutaneous dermatoses was eczema 35.8% out of which Seborrhoeic dermatitis was found to be highest among eczema and contributed 40.67%, followed by asteatotic eczema 31.3% others were lichen simplex chronicus 5.9%, atopic eczema 3.3%, xerotic eczema 5.9%, hand eczema 3.3%, allergic contact dermatitis 4.2% and Irritant contact dermatitis 3.3%. The second most common disease was fungal infection, which constituted 13.6%. Elderly patients presented with different types of Dermatophyte infection as *T. corporis* 35.5%, *T. pedis* 22.2%, *T. unguis* 17.7% and *T. cruris* 11.1% and *T. incognito* 11.1% and *T. manuum* 2.2%. *T. corporis* was common among fungal infection. Viral infection contributed 7% including herpes zoster, post herpetic neuralgia, warts, herpes labialis. Herpes zoster was the most frequent presentation in elderly patients and constituted 52.1% followed by post herpetic neuralgia 34.7%. Pruritus was present in 7.3% of the total cases. Scabies was found in 4.5%. Photodermatitis contributed 4.5% alone out of the total dermatoses found in geriatric patients and was found to be more common in females. Inflammatory papulosquamous disorder (Psoriasis, lichen planus) 3.3%, Bacterial infection including folliculitis, carbuncle, cellulitis constituted 2.1%, Ichthyosis 2.1%, vesiculobulbous 1.8% (pemphigus, bullous pemphigoid), tumors (Basal cell carcinoma and sebaceous cyst one each) and pigmentary disorder (vitiligo and Post inflammatory disorders) 0.6% and Miscellaneous group contributed 15.8% including urticaria 46.1%, Plantar keratoderma

Table-I: Distribution of Skin Dermatoses in elderly

Diagnosis	Frequency (%)
Eczema	118 (35.8)
Fungal	45 (13.6)
Pruritus	24(7.3)
Viral	23(7.3)
Photodermatitis	15(4.5)
Parasitic	15(4.5)
Inflammatory Disorder	11(3.3)
Ichthyosis	7(2.1)
Bacterial	7(2.1)
Vesiculobulbous	6(1.8)
Tumors	2(0.6)
Miscellaneous	52 (15.8)
Pigmentary disorder	2 (0.6)
Eczema + Ichthyosis	1 (0.3)
Fungal+ Inflammatory	1 (0.3)
Bacterial+ Pruritus	1 (0.3)

9.6%, callus 9.6%, hansen disease 7.6%, Rosacea 7.6%, prurigo nodularis 3.8%, diabetic ulcer 1.9%, buergers disease 1.9%, burning feet syndrome 1.9%, Drug rash-amoxicillin induced 1.9%, senile acne 1.9%, Actinic cheilitis 1.9%, Pellagra 1.9%. The distribution of dermatoses according to age, is given in Table-1. Few patients had more than one dermatoses like Eczema with Ichthyosis, Fungal infection with psoriasis, Folliculitis with pruritus which constitute <1%. The most common dermatoses were Eczema in females followed by Photo dermatitis and comparatively in males viral and fungal infections were common as shown in Table-2. Photo dermatitis was found to be statistically significant in females compared to males.

## DISCUSSION

Geriatric age groups are increasing specially in western developed countries, and elderly patients being admitted in the dermatology clinics each year.<sup>4</sup> The population is getting older according to current U.S. Census statistics. This trend is expected to continue well into the 21st century. As elderly get older, an increased emphasis on geriatric medicine is inevitable.<sup>5</sup> This study represents eczema as most common dermatoses found in elderly which constitute 35.8%. Similar findings were found in study by Yab *et al* 35.3%, Thaipisutikul 34.9% and Liao *et al* respectively.<sup>6,8</sup> There are studies done in Turkey, Tunsania and Croatia where eczema was found to be in lower in frequency (11.1%, 11.9% and 16.6%) respectively.<sup>9-11</sup> Elderly patients are more prone to minor ailments for which they apply irritants in the form of creams, herbal which are locally easily available and hence are prone to eczema. As farming is a common occupation elderly people are exposed to changes in temperature, contact

Table-2: Distribution of skin dermatoses according to sex

Diagnosis	Female	Male	Total
Fungal	21	24	45
Bacterial	5	2	7
Viral	9	14	23
Parasitic	8	7	15
Eczema	61	57	118
Inflammatory Disorder	5	6	11
Ichthyosis	4	3	7
Tumors	1	1	2
Photodermatitis	11	4	15
			P value<0.05
Vesiculobulbous	3	3	6
Pruritus	10	14	24
Miscellaneous	25	27	52
Pigmentary disorder	1	1	2
Eczema + Ichthyosis	1	0	1
Fungal+ Inflammatory	0	1	1
Bacterial+ Pruritus	0	1	1

with various allergens as well as aging related process are possible factors responsible for higher frequency of eczema in our study. It is more common in females, which may be due to contact with soap, detergents and environmental pollutants during household works like washing utensils and clothes. With advancing age immune status of the elderly declines which predispose to infections. In our study we found infection as second most common disease in elderly; fungal infection constituted 13.6% and viral infection 7.5%. Fungal infection was common in males in comparison to females. Males are more prone to physical trauma and hence to infection due to active outdoor activities. Decreases in personal care, epidermal turnover, and immunologic functions are possibly responsible for the high prevalence of fungal infections.<sup>12</sup> Factors like poor hygiene, neglect and overcrowding also contribute to infections. Studies by Yap et al, Kiliç et al, Souissi et al, Furue et al and Yalcin et al also found infection common in elderly.<sup>6,10,13-15</sup> Scabies can be misdiagnosed in elderly as presentation can be atypical and presents with generalized pruritus with fewer lesions.<sup>16</sup> Our study represented 4.5% of the total cases with scabies. Xerosis and dry skin is due to decreased ability of the skin to retain water and reduced epidermal hydration during aging process and can induce pruritus. Pruritus is a very common dermatological problem found in elderly with a prevalence rate as high as 29%–41% Elderly in our study who presented with pruritus was 7.3%. In a study by Thaipisuttikul found many causes of pruritus. We could not find any underlying cause associated with generalized pruritus other than scabies. Autoimmune disorders in geriatric age group are due to decrease in immunologic functions<sup>17</sup> and in our study it attributed 1.8%. The increased cumulative effect of sun exposure and carcinogens with age and the impaired capacity to repair DNA may be responsible for the higher incidence of sun-related diseases in elderly people.<sup>18</sup> In our study elderly females are more prone to photo dermatitis than males and it was found to be statistically significant. Females irrespective of their ages in Nepal spend more time in sunlight during farming and household works. Feminine habit of wearing outfits like half sleeves (Blouses) in comparison to full sleeves worn by male counterparts, put them more at risk. Elderly people have more leisure time and have an attitude to chat with friends and relatives under sunlight. Seasonal variations also influence the incidence of fungal infections and pruritus, as well as disorders related to sun exposure and the frequency of infestations, which are more common in the spring and summer. Our study didn't include any seasonal variation as a factor for geriatric problems due to retrospective nature of the present study.

Aging is a process where both intrinsic as well as extrinsic factors produce structural as well as functional changes, which can lead to spectrum of diseases in elderly. This study has certain limitations but depicts various characteristic

patterns of dermatoses seen in elderly. Eczema and infections was found to be most common diseases seen in elderly. Further epidemiologic studies including treatment, follow-up of elderly patients has to be carried out to know the burden of the disease and decrease morbidity and psychological concern associated with diseases.

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