

ORIGINAL RESEARCH ARTICLE

STUDY OF CLINICAL SPECTRUM OF GERIATRIC DERMATOSES IN PATIENTS ATTENDING A MULTI-SPECIALTY HOSPITAL

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ABSTRACT

**Background:** The spectrum of skin disease is unique in geriatric population and also varied according to geographical areas. It is emerging major health problem in person above 60 years of age, since the overall life expectancy is increasing. There is not much data on skin disease in geriatric population of Nepal. The study aimed to identify the prevalence and clinical characteristics of geriatric dermatoses in a multi-specialty hospital set up.

**Methods:** All patient attending dermatology OPD above 60 years of age and fitting the inclusion criteria were taken in to the study. A detailed history, physical exam and relevant laboratory investigation was done to make a diagnosis. The data collected was entered in Excel and descriptive analysis was done by SPSS version 22.

**Results:** The number of elderly patients was 235 out of 3292 (7.13%). Altogether 246 diagnosis was made in 235 patients which had male preponderance of 53.19%. The pre-dominant diagnosis was skin infection and infestation (38.61%), followed by eczema or dermatitis (18.69%) and papulo-squamous disease (11.78%). Other common conditions seen were urticaria (4.87%), photodermatoses (4.87%), senile xerosis (4.87%) and miliaria (3.65%).

**Conclusions:** Cutaneous infections and infestations were the commonest dermatoses followed by eczema/dermatitis. Fungal infection, allergic contact dermatitis, psoriasis were among common dermatoses. No cases of skin malignancy were found. Elderly population in Nepal is increasing and epidemiological data provide government and health care provider to address their problem in effective way.

INTRODUCTION

Geriatric dermatology is the study of skin disease in patients above 60 years of age.<sup>1</sup> As the person gets old, the skin goes through process of ageing, both intrinsic which is inherent to each individual and extrinsic which is influenced by ultra-violet (UV) rays, environmental pollutants, smoking. Decreased mobility of patient compounded by co-morbid conditions like diabetes mellitus, hypertension, drug intake also contribute to challenges in diagnosis and management. By 2050, world geriatric population will outnumber young population according to WHO report.<sup>2</sup> In Nepal, 60-plus population currently constitutes around 9 percent of the total population, which is expected to rise to 11 percent by 2030.<sup>3</sup> The current life expectancy of Nepal is 70.88 years compared to 69.97 years in 2016 and is ever increasing.<sup>4</sup>

With the increase in life expectancy and overall geriatric population, dermatological problems in these population will be a major concern in future. Also, the prevalence of skin disease is rising worldwide. The outpatient visit is around 4-5% of total visit.<sup>5</sup>

An understanding of trend of dermatological disease in el-

derly is hence imperative. Geriatric dermatology is an overlooked entity in Nepal and there is paucity of epidemiological data. Hence, this study was undertaken to provide regional data on clinical spectrum of disease in geriatric patients.

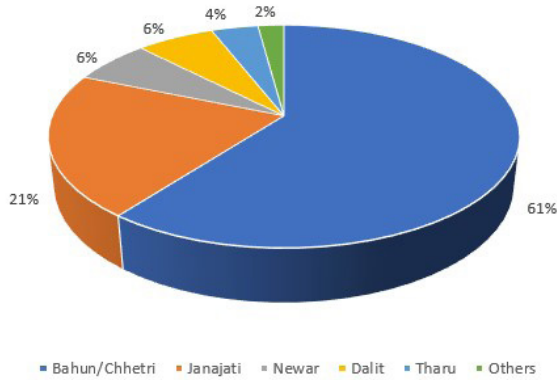
METHODS

This was a retrospective study conducted during 1 year (May 2014 to April 2015) in a multi-specialty hospital. Ethical clearance for the study was obtained. Two hundred and thirty-five consecutive patients over 60 years of age were included in the study. The cases were included according to convenient sampling method. Retrospective chart review of the clinical records was undertaken. Demographic details like age, sex, ethnicity was noted. Month and season of presentation of the patient was also recorded. Patient with unconfirmed diagnosis, inadequate data were excluded from the study. The data was entered in Excel and descriptive analysis was done by SPSS version 22.

RESULTS

Majority (142, 60.4%) were of Brahmin/Chhetri ethnicity, followed by Janajati (49, 20.85%), Newar (15, 6.38%), Dalit (15,

6.38%), Tharu (9, 3.82%) and other (5, 2.12%) (Figure 1).



**Figure 1: Ethnic distribution of patient**

A total of 235 elderly patients were seen out of 3292 OPD visit accounting for 7.13% of total visit. There were 125 (53.19%) male and 110 (46.8%) female out of 235 patients with male to female ratio as 1.13:1. The mean age was 68.86 years ranging from 60 to 94 years. Majority (134, 57%) were in the 60-69 years age group. The age and sex distribution are given in Table 1.

**Table 1: Age and sex distribution of patients**

Age group (Years)	Males	Females	Total
60-69	70	64	134
70-79	26	39	65
80-89	22	7	29
>90	7	0	7
<b>Total</b>	<b>125</b>	<b>110</b>	<b>235</b>

Most cases presented in the spring (34.04%) and summer (29.8%) season and less in winter season (17.4%). Dermatophyte infection was the commonest finding in all seasons. Altogether 246 diagnosis was made in 235 patients since some patients had more than one condition. The most common diagnosis was infection and infestation which was found in 95 cases (38.61%) Fungal infection (42%, 40 cases) was the most common among infection followed by viral infection (22 cases; 23.25%). Herpes zoster (13 cases) was the commonest viral infection while it was scabies (6 cases) among parasitic infestation. Post herpetic neuralgia was present in 5 cases. Other notable cases among infection was lupus vulgaris (3 cases) and Hansen's disease (3 cases) (Table 2).

Among non-infective illness, eczema and dermatitis were the most common diagnosis. Thirteen patients had allergic contact dermatitis, 11 had pompholyx and 6 had lichen simplex chronicus. Psoriasis (21 cases) was commonest among papulosquamous disease followed by lichen planus (6 cases). Urticaria, Photodermatoses and senile xerosis was present in 12 cases each. Miliaria was present in 9 cases. Among hair and nail disease, alopecia areata was seen in 2 patients while telogen effluvium in 1 patient. Onychomycosis was seen in 3 patients while chronic paronychia in 1 patient. Among pigmentation disorder, only two patient had vitiligo and one had IGH. One patient complained of erectile dysfunction while another patient had loss of libido. Only two cases of drug reaction were seen; one with fixed drug eruption and another with maculopapular rash. Among miscellaneous cat-

egory, most notable ones were amyloidosis, Buerger's disease, granuloma annulare, senile purpura, rosacea, skin tag, melanocytic nevi, seborrheic keratosis. Eleven patients had more than one condition. Details of non-infective illness are given in Table 3.

**Table 2: Dermatoses of infection and infestation**

S.N.	Condition	Cases	Total Cases N (%)
1	<b>Fungal infection</b>		
	Dermatophytes	40	46 (18.69%)
	P versicolor	2	
	Candida	4	
2	<b>Viral Infection</b>		
	Herpes Zoster	13	22 (8.94%)
	Herpes Simplex	1	
	Genital Herpes	2	
	Human Papilloma virus	1	
	Post herpetic neuralgia	5	
3	<b>Mite and arthropod infestation</b>		
	Scabies	6	15 (6.09%)
	Vesicant Dermatitis	5	
	Insect bite reaction	4	
4	<b>Bacterial infection</b>		
	Scalp folliculitis	5	6 (2.44%)
	Furunculosis	1	
5	<b>Mycobacterial infection</b>		
	Lupus vulgaris	3	6 (2.44%)
	Hansen disease	3	

**Table 3: Dermatoses of non-infective etiology**

S.N.	Condition	Cases	Total Cases N (%)
1	<b>Eczema and dermatitis</b>		
	Allergic contact dermatitis	13	46 (18.69%)
	Irritant contact dermatitis	1	
	Hand feet eczema	2	
	Nummular eczema	4	
	Seborrheic dermatitis	5	
	Atopic dermatitis	2	
	Pompholyx	11	
	Lichen simplex chronicus	6	
	Prurigo nodularis	2	
2	<b>Papulosquamous disease</b>		
	Psoriasis vulgaris	21	29 (11.78%)
	Pustular psoriasis	1	
	Psoriatic erythroderma	1	
Lichen planus	6		
3	Urticaria	12	12 (4.87%)
4	Hair and nail disease	7	7 (2.84%)
5	photodermatoses	12	12 (4.87%)
6	Miliaria	9	9 (3.65%)
7	Pigmentary disorder	3	3 (1.21%)
8	pemphigus	3	3 (1.21%)
9	Sexual dysfunction	2	2 (0.81%)
10	Drug reaction	2	2 (0.81%)
11	Senile xerosis	12	12 (4.87%)
12	Miscellaneous	14	14 (5.69%)
Total			151 (61.38%)

Polymorphic light eruption (PMLE) was more commonly associated with primary diagnosis (3 cases). Details of non-infective illness are given in Table 3. Sex wise comparison of top 5 disease is given in Table 4. Season wise comparison of top 5 disease is given in Table 5.

**Table 4: Sex wise comparison of top 5 disease**

Disease	Male	Female	Total
Dermatophyte infection	26	14	40
Psoriasis	10	13	23
Allergic contact dermatitis	7	6	13
Herpes zoster	6	7	13
Polymorphic light eruption	5	7	12

**Table 5: Table showing season wise distribution of top 5 disease**

Autumn	N	Spring	N	Summer	N	Winter	N
Dermatophyte infection	14	Dermatophyte infection	11	Dermatophyte infection	10	Dermatophyte infection	5
Xerosis	8	Photodermatoses	7	Miliaria	8	Psoriasis	4
Psoriasis	4	Psoriasis	6	Psoriasis	7	Urticaria	3
Herpes zoster	3	Urticaria	6	Allergic contact dermatitis	5	Herpes zoster	3
Pompholyx	3	Bite reaction	5	Pompholyx	4	Pompholyx	3

## DISCUSSION

The worldwide population of geriatric age groups is in increasing trend and WHO has predicted that by 2050, the older population will surpass younger ones.<sup>2</sup> Nepal also faces similar situation and by 2030, the older population is predicted to reach 11% of total population.<sup>3</sup> This shift in ageing population will also bring about increase in geriatric dermatoses which makes it imperative to know the pattern of dermatological disease in local population.

A total of 235 patients were analyzed out of 3292 patients visiting dermatology OPD. This constitutes a frequency of 7.13%, which is more than the previous study reported from Nepal (5.1%)<sup>6</sup> which may be due to the change in demographics over the years and also due to variation in regional population. Males (125 cases, 53.19%) outnumbered females (110 cases, 46.8%), which is consistent with previous studies.<sup>7,8</sup> Majority of the patients (134 cases, 57%) were in 60-69 years of age group. This finding was consistent with the study done by Kshetrimayum et al.<sup>9</sup>

Increasing age results in decreased immunity against infectious agents, which may result in increased susceptibility to infections including skin infections. Infections and infestations were the commonest group of disease in elderly and was seen in 38.61% cases (95 cases). This finding was comparable to the study done by Durai et al<sup>10</sup> and Sayal et al,<sup>11</sup> however it was bit higher than reported in few other studies.<sup>9,12-13</sup> This finding was also different than a study reported from Nepal,<sup>6</sup> in which eczema (35.8%) was most common skin disease. The difference may be attributed to regional climatic and environmental differences.

Fungal infection was the commonest among infections and was seen in 46 (18.69%) followed by viral infection (22 cases, 8.94%), infestations (15 cases, 6.09%) and bacterial infection (12 cases, 4.87%). The incidence of fungal infection was almost similar to study by Padma et al<sup>14</sup> (23%) but higher than other studies,<sup>8,9</sup> which may be due to the fact that study population are exposed to relatively high heat and humid temperature conducive to fungal growth.

The incidence of viral infection was comparable to study reported by Goyal et al<sup>15</sup> (10.6%). Herpes zoster (13 cases, 5.28%) and Post herpetic neuralgia (5 cases, 2%) which is a late se-

qualae of Herpes zoster were the notable infection among viral infections. These were also the commonest viral infection reported by Kshetrimayum et al.<sup>9</sup> Reactivation of herpes zoster virus is more likely to occur due to decreased immunity and post herpetic neuralgia may be significant because of decreased physical and emotional coping capability in elderly. The finding of 3 cases of leprosy among 235 patients is an interesting feature, suggesting it might still be a significant problem, even as Nepal has met the elimination criteria in 2010 set by WHO.

Scabies is an important cause of generalized pruritus in elderly and incidence of 2.43% is comparable to studies done by Raveendra et al<sup>8</sup> and Goyal et al.<sup>15</sup> Arthropod infestation including Paederus and vesicant dermatitis was seen in 9 cases. To the best of my knowledge, this is not reported in earlier studies. The study population are likely to be exposed to tropical climate as well as wild environment in vicinity of Chitwan, might explain this finding.

Eczema and dermatitis were second most common group of disease (46 cases, 18.69%). This was less than reported by Thapa et al<sup>6</sup> (35.8%) and L Raveendra et al<sup>8</sup> (31%) but comparable to Yalcin et al<sup>16</sup> (20.4%) and Kshetrimayum et al<sup>9</sup> (22.4%). Endogenous dermatitis was seen in 24 cases (9.75%) with pompholyx as predominant condition (11 cases, 4.47%). Neurodermatitis was seen in 8 cases (3.25%) which was similar to the finding of Bilgili et al<sup>17</sup> (3.6%).

Psoriasis (8.53%) was most common among papulo-squamous disease (11.8%) including a case each of pustular psoriasis and psoriatic erythroderma. This was similar to observation made by Kshetrimayum et al,<sup>9</sup> who reported an incidence of 10.4% for papulo-squamous disease and 6% for psoriasis. Pustular psoriasis and psoriatic erythroderma can be serious for elderly patients and special attention should be paid for their diagnosis and management. Lichen planus was found in 6 patients (2.43%), which was comparable to finding of Bilgili et al<sup>17</sup> (1.5%). Urticaria was found in 12 patients (4.87%). This was higher than observed by Kshetrimayum et al<sup>9</sup> (1.2%) but was less than Bilgili et al<sup>17</sup> (7.5%). Incidence of PMLE was similar to Thapa et al.<sup>6</sup>

Senile xerosis is a physiological change observed by many other studies.<sup>8,18</sup> It was attributed for the cause of generalized pruritus

in 12 patients (4.87%) when other cause had been ruled out. Bilgili et al<sup>17</sup> attributed xerosis as cause of pruritus in 5.4% patients which is comparable to this study. One case each of loss of libido and erectile dysfunction was seen in patients in early 60's. To the best of my knowledge, this is not reported by previous studies, hence a special emphasis should be given to diagnose and treat these patients, since dermatologist in our part of world do tend to see these types of patients.

Eleven patients (4.68%) had more than one diagnosis in contrast to <1% reported by Thapa et al.<sup>6</sup> Sex wise comparison of top 5 disease did not show any statistically significant difference, however, tinea infection had slight male preponderance. This difference might be due to more exposure to hot, humid climate, personal hygiene, and clothing differences. Dermatophyte infection and Psoriasis were common all year around. Photodermatoses was common in spring which may be due to period of increased UV exposure after end of winter. Urticaria was also more common in spring, may be due to surge in environmental allergens during this season. But since cases were low in number, a definite conclusion is difficult to make.

This is a hospital-based study and results are limited to specific group of geriatric patients and may not reflect the general population. This study has focused on pathological complaint/findings and not the physiological changes which are obvious changes of ageing. More community-based survey with large number of patients may be studied in future.

## CONCLUSION

This study from central part of Nepal brings about the spectrum of disease that is prevalent in local population. Geriatric population of Nepal is increasing in significant number with improving overall life expectancy. A study from local population reflects the nature of skin disease that is prevalent and that helps the government, policy makers and health workers to deal with them.

**CONFLICT OF INTEREST:** None

**FINANCIAL DISCLOSURE:** None

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