

Original Research Article

The impact of senescent skin on senile mind

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ABSTRACT

Background: With an improvement in medical services and increased life expectancy, in both developed and developing nations, the geriatric population is increasing, with the cutaneous dermatoses. Although these dermatological diseases are gaining more attention, their mental health is lagging far behind. This study is being conducted to identify the common geriatric dermatoses and also their effect on quality-of-life. The aims of this study are to study the pattern and frequency of dermatoses in patients aged 60 years and above and to assess the effect of it on their quality-of-life.

Methods: In total 60 patients aged 60years and above presenting to dermatology out-patient department were recruited. Socio-demographic details, presence of co-morbidities and dermatological complaints were recorded on a data collection form. Skin diseases were categorized into 7 categories for statistical analysis. For assessing the effect of dermatoses on quality-of-life of participants, dermatology life quality index was administered.

Results: 60 patients were evaluated, 64.3% were male and 35.7% were females. Mean age of patients was 67.60 ± 6.236 , 35% patients had one or more co-morbidities. Papulosquamous disorders were the commonest dermatoses seen in 31.3% patients, followed by infections and infestations in 30%. Around 20% patients had moderate to large effect on quality-of-life.

Conclusions: Skin changes are amongst the most visible signs of aging. Furthermore, the basic fact of looking old has negative effect on quality of life. The special needs of elderly population must be looked into by making appropriate changes in the national health policies.

Keywords: Elderly, Geriatric dermatoses, Psychological impact, Aging, Quality of life

INTRODUCTION

Aging is a biological reality, which has its own dynamics of progressive decrease in the functioning and reserve capacity of all organs including skin, which is beyond human control.^{1,2} Government of India adopted national policy on older persons in January 1999, the policy defined senior citizen or elderly as a person who is of 60 years of age or above.³

Life expectancy has risen continuously in developed countries, yet the mystery of aging remains largely

unresolved. As a consequence, the prevalence of mental and physical disability and diseases related to old age has increased steeply.¹ In India there were 72 million elderly persons above 60 years of age as of 2001 and this number is likely to increase to 179 million in 2031 and further to 301 million in 2051, hence dermatologic care in geriatric population needs emphasis.^{4,5}

Skin changes in elderly population takes the form of either intrinsic or extrinsic changes. Due to degenerative and metabolic changes that occur in the skin layers during the aging process, elderly people are vulnerable to a wide

variety of dermatological disorders like infections, xerosis, pruritus and malignancies.⁶

For elderly population with decrease in professional engagements there is an increase in social interactions in the form of engagement with grandchildren, thus with visible skin ailments older people are forced to stay away fearing transmission of disease, this gravely affects their mental health.⁷ In India very few studies have been done to look into the cutaneous manifestations and its effect on quality of life of the elderly people.⁷ This study is being undertaken to identify the common geriatric dermatoses with an attempt to assess their effect on the quality of life.

Objectives

The objectives were to study the clinical pattern of various cutaneous diseases in geriatric population and to assess the quality of life in patients aged 60 years and above with cutaneous diseases using dermatology life quality index.

METHODS

This prospective Observational study was conducted in the Department of Dermatology, Krishna Rajendra Hospital, Mysore after obtaining ethical clearance. All patients aged 60 years and above presenting to dermatology out-patient department were recruited from a study period of 01 June 2024 to 31 August 2024 after obtaining written informed consent.

Inclusion criteria

Patients aged 60 years and above attending Dermatology out-patient department, K. R. Hospital, Mysore with cutaneous diseases and patient willing to participate in the study were included.

Exclusion criteria

Patients younger than 60 years and patients not willing to participate in the study were excluded.

Sample size

Sample size is calculated using estimation technique of proportion as follows, where, D=level of relative precision=20% of P, =standard normal deviation for 5% level of significance (5% α) =1.96, P=prevalence of geriatric dermatoses=70%, and q=1-P.

$$N = Z^2 Pq / D^2$$

The sample size calculated is 60.

Information regarding age, gender, residential address, educational status, associated comorbidities (hypertension, diabetes mellitus, hypothyroidism, liver

diseases, coronary artery disease, renal diseases and pulmonary disease) and dermatological complaints were recorded on a data collection form. This was followed by a complete general physical examination and mucocutaneous examination. Diagnosis was established by clinical examination and tests wherever required. The dermatoses were categorized into seven different groups including Papulo squamous diseases, Infectious diseases (fungal, bacterial, viral infections, and infestations), benign neoplasm, precancerous lesions (leukoplakia, actinic keratosis, and Bowen's disease), skin cancer (basal cell carcinoma, squamous cell carcinoma, mycosis fungoides, and kaposi sarcoma), age related skin changes(xerosis, senile lentigo, senile comedons, senile pruritus, angioma, and longitudinal nail ridging), and the others (leg ulcer, insect bite, sarcoidosis, urticaria, perforating dermatoses, granuloma annulare, in-growing toe nail, corn, vasculitis, and vitiligo).The educational status of the study participants was categorized into illiterate, elementary education (classes I–VIII), secondary/senior secondary education (classes IX–XII), and college degree/diploma as per the criteria obtained from the website of the Ministry of Human Resource Development, Government of India.

The residential address was categorized as being urban, or rural, with an urban area being defined as per the census of India 2011.

For assessing the quality of life of participants, DLQI questionnaire was administered to patients. The total score was interpreted as follows: "DLQI score 0–1=no effect on the patient's quality of life, 2–5=small effect on the patient's quality of life, 6–10=moderate effect on the patient's quality of life, 11–20=large effect on the patient's quality of life and 21–30=very large effect on the patient's quality of life."

Statistical analysis was done using statistical package for the social sciences (SPSS) version 22. The one sample Kolmogorov Smirnov test was employed to determine whether the data sets differed from a normal distribution or not. Normally distributed data were analyzed using parametric test, and non-normally distributed data were analyzed using non parametric test.

Descriptive statistics were calculated for quantitative variables, and frequency along with percentage was calculated for qualitative and categorical variables. P<0.05 was considered statistically significant.

RESULTS

In total, 60 consecutive patients 60 years and above were recruited, and out of these 39 (64.3%) were male and 21 (35.7%) were females. Age of patients ranged from 60 years to 88yrs with a mean age of 67.60±6.236. Most patients were in the age group of 60-69 years (Table 1).

Table 1: Distribution of patients in different age groups.

Age groups (years)	Variables (n=60)			
	Male		Female	
	Number	Percentage (%)	Number	Percentage (%)
60-69	19	32.6	15	25.4
70-79	14	22.85	5	8.15
>80	6	8.85	1	2.15
Total	39	64.3	21	35.7

A total of 21 (35%) patients had one or more associated comorbidities. Hypertension and diabetes mellitus were the commonest comorbidities with 7 (11%) patients having both, 6 (9%) and 4 (6%) patients having only hypertension and diabetes mellitus respectively. In total 19 (31.6%) were illiterate, 11 (19%) each had received elementary education or secondary education, and 17 (29%) had attended college. In total 41 (68.3%) patients were residing in rural dwellings. Most common skin diseases noted were papulosquamous disorders constituting 20 (34.3%) of the total skin disorders seen. This was followed closely by infections and infestations 18 (30%) (Figure 1). Senile pruritus and age-related skin changes were seen in 10 (16%) patients (Figure 2).

Endogenous eczema (Figure 3) and psoriasis were the most prevalent erythematous-squamous disorders (Figure 4).



Figure 1: A 67-year-old man with left side herpes ophthalmicus.



Figure 2: A 78-year-old man with coarse wrinkles (crow's feet).



Figure 3: A 68-year-old lady presented with sub-acute eczema.



Figure 4: A 70-year-old man with chronic plaque psoriasis.

Rarely 2(3.33%) patients had malignancies that is basal cell carcinoma (Figure 5) and mycoses fungoides (Table 2).

Around 20 (33%) patients had no effect on the quality of life, 29(47.6%) patients had small effect on quality of life and 18(20%) patients had moderate to large effect on quality of life (Table 3).

Table 2: The distribution of skin diseases.

Disease	Male number	n=39 (%)	Female number	n=39 (%)	Total number	n=60 (%)
Fungal infections	10	25.6	5	23.8	15	25
Viral infections	1	2.56	0	0	1	1.66
Bacterial infections	1	2.56	0	0	1	1.66
Scabies	1	2.56	1	4.76	2	3.33
Hansen’s disease	1	2.56	0	0	1	1.66
Statis dermatitis	1	2.56	0	0	1	1.66
Contact dermatitis	1	2.56	1	4.76	2	3.33
Endogenous eczema	5	12.8	3	14.2	8	13.33
Psoriasis	7	17.94	1	4.76	8	13.33
Lichen planus	1	2.56	1	4.76	2	3.33
Urticaria	1	2.56	0	0	1	1.66
Lichen simplex chronicus	0	0	0	0	0	0
Senile pruritus and age-related skin changes	7	17.94	5	23.8	12	20
Benign neoplasms	0	0	0	0	0	0
Precancerous lesions	0	0	0	0	0	0
Cutaneous malignancies	1	2.56	1	4.76	2	3.33
Others	1	2.56	3	14.2	4	6.66
Total	39	100	21	100	60	100

Table 3: Dermatology life quality index scores of study population.

DLQI score	Variables (n=60)			
	Male		Female	
	Number	Percentage (%)	Number	Percentage (%)
0-1 (no effect)	9	23.07	7	33.33
2-5 (small effect)	21	53.84	10	47.6
6-10 (moderate effect)	8	20.5	4	19
11-20 (large effect)	1	2.56	0	0
21-30 (very large effect)	0	0	0	0

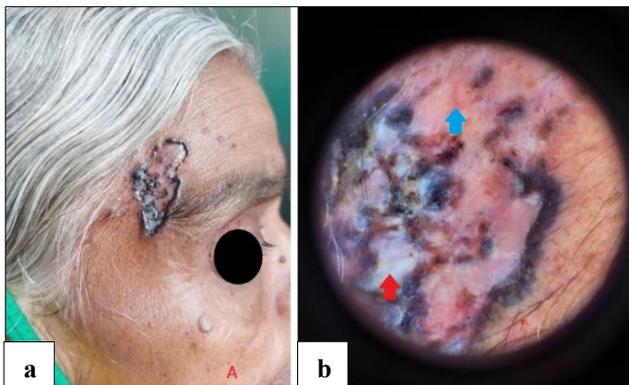


Figure 5: (a) 76-year-old lady with pigmented basal cell carcinoma over left side face, and (b) dermoscopy (Dermlite DL2) revealing telangiectasias (blue arrows), large blue-grey globules, and structureless areas (red arrows).

DISCUSSION

Population ageing is a rapidly expanding global phenomenon affecting both developed and developing

nations. In India, the elderly population (≥ 60 years) has shown a steep rise from 72 million in 2001 to a projected 179 million by 2031 and 301 million by 2051.¹ This demographic transition necessitates focused attention on geriatric health, including dermatological care.

While systemic illnesses in older adults receive considerable clinical attention, skin health and its associated psychosocial implications remain underemphasized. Dermatological disorders, though often non-fatal, can significantly impair quality of life (QoL), particularly in the elderly.^{4,5}

The present study included 60 elderly patients with dermatological conditions attending the Dermatology Outpatient Department of Mysore Medical College and Research Institute. Males constituted 64.3% of the study population, a finding consistent with observations by Patange et al and Devi et al.^{8,9} This male predominance may reflect greater healthcare-seeking behavior or increased occupational exposure. The majority of participants belonged to the 60–69-year age group, which correlates well with findings reported by Kandwal et al, Patange et al and Devi et al.⁷⁻⁹

Quality of life assessment revealed that one-third (33.3%) of participants experienced no impairment, while nearly half (47.6%) reported a mild effect and one-fifth (20%) experienced moderate to severe impairment. These findings closely mirror those of Kandwal et al, where a comparable proportion of elderly patients reported moderate to severe QoL impairment.⁷ Despite the high prevalence of skin disorders among the elderly, there remains a scarcity of Indian studies evaluating their impact on quality of life. Evidence from a UK-based study suggests that inflammatory skin conditions adversely affect QoL more than even cutaneous malignancies, with severity of disease showing a negative correlation with QoL.¹⁰ Dermatological disorders can significantly influence social interactions due to their visible nature. This impact is particularly pronounced in the elderly, whose social engagement often shifts from occupational roles to family-centered interactions. In the Indian context, interaction with grandchildren represents a major form of social participation. Elderly individuals with visible skin lesions may avoid such interactions due to fear of contagion, thereby contributing to social withdrawal and psychological distress.

Erythematosquamous disorders were the most frequently observed dermatoses in the present study, affecting approximately 31% of participants. Psoriasis and eczema/dermatitis each accounted for 13.33%, while lichen planus was observed in 3.33%. These findings are comparable to those of Kandwal et al who reported papulosquamous disorders in 32.4% of elderly patients.⁷ Other Indian studies by Paliwal et al and Dhumale et al also reported a high prevalence of endogenous eczema, while psoriasis prevalence ranged between 3% and 11% across various studies.^{11,12} Many of these conditions can be effectively managed with simple skin care measures, emphasizing the importance of early diagnosis and patient education.

Infections and infestations formed the second most common category, affecting 30% of participants, a finding consistent with Paliwal et al.¹¹ Fungal infections were the most prevalent, observed in 15% of cases, similar to the prevalence reported by Patange et al and Devi et al.^{8,9} The increased susceptibility to fungal infections in the elderly may be attributed to poor hygiene, immunosenescence, and comorbidities such as diabetes mellitus. Maintenance of personal hygiene, prompt treatment, and adequate glycemic control can substantially reduce the burden of these infections. Viral infections were observed in 1.66% of participants, comparable to prevalence rates reported by Paliwal et al, Devi et al, and Kandwal et al. Scabies was detected in 3.33% of cases, similar to the prevalence reported by Kandwal et al.^{7,10,12} Hansen's disease was identified in 1.66% of participants, closely aligning with findings by Paliwal et al.¹⁰ Senile pruritus and other age-related dermatoses were present in 20% of participants, consistent with reports by Kandwal et al and Devi et al.^{7,9} Cutaneous malignancies were observed in 3.33% of cases,

a higher proportion compared to the 0.8% reported by Paliwal et al.¹¹

A majority of patients in the present study had skin conditions persisting for more than one year, highlighting the chronic nature of geriatric dermatoses. This chronicity may be explained by the relatively low impact of these conditions on mortality, leading to delayed healthcare seeking. Improved healthcare facilities have increased life expectancy, allowing these disorders to persist for longer durations. Additionally, physical dependence, limited mobility, and lack of caregiver support may further delay access to specialized dermatological care.^{13,14}

Limitations

The limitation of the study was it had a small sample size.

CONCLUSION

Skin changes are amongst the most visible signs of aging, and the perception of looking older can negatively impact a person's quality of life. There is lack of Indian research on how skin conditions affect the quality of life in the elderly population. The development of other health issues places significant financial and emotional strain on the well-being of older adults. The presence of skin diseases can worsen this burden. The special needs of elderly individuals should be addressed by making necessary adjustments in national health policies. With increase in geriatric population, setting up of dedicated geriatric clinics that offer comprehensive, multidisciplinary care under one roof will not only be beneficial but also more efficient in terms of cost.

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