

Impact of Dermatological Manifestation on Quality of Life in Geriatric Patients

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Abstract

Introduction: India is greying, it is ageing and with it, so are the people. Skin diseases being visually unpleasant not only affect the physical but also, mental health of the patients. Indian literature in this background is limited therefore, this study is being conducted to identify common cutaneous dermatoses in this age group and assess the effect they have on quality of life.

Objective: The aim of this study is to discover the most prevalent geriatric dermatoses, its pattern and frequency, various clinicodemographic factors and the effect these cutaneous dermatoses have on the quality of life.

Methods: 240 patients aged 65 years and above presenting to the Dermatology OPD from 1st January 2021 to 30th June 2022 were recruited. Details were collected regarding various clinicodemographic factors, their primary dermatological complaint and co-morbidities. Then a self-assessing Dermatology Life Quality Index (DLQI) was administered to evaluate the effect of these cutaneous dermatoses on the patient's quality of life.

Results: Out of 240 patients, males (55%) predominated in our study. 81.66% of patients were retired, 69.58% were married, 22.5% were educated and 63.75% lived in urban settings. Infections were the commonest dermatoses (26.66%) and 57.91% reported a small effect on their quality of life.

Conclusion: Cutaneous dermatoses can have a significant impact on the quality of life of the geriatric population. These conditions are not only physically discomforting but emotionally distracting too as well. Health policies must be created and put into place to address the needs and worries of this community.

Keywords: Dermatoses, Geriatric, Quality of Life.

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Introduction

Geriatrics is used to describe elderly people aged 65 years and above.[1] Global population is rapidly ageing with an 8.5% increment in the geriatric group[2] India has also experiencing this shift due to "increased life expectancy and low birth rate".[3] Yet, skin diseases lack priority, and what they lack the most is, the effect it causes on patient's quality of life. Our society is very judgemental when it comes to things which are visually unpleasant, making it difficult for elderly people with skin

diseases to blend in. An individual's idea of his or her quality of life is mainly influenced by their physical health, psychological state, social relationships and personal belief and older people experience many skin diseases which affect their quality of life. [4] This study focuses on geriatric dermatoses and their effect on patient's quality of life in need to improve it depending on the severity of cutaneous disease. Understanding the pattern in which these diseases occur and treating them

according to their prevalence in that area, keeping in mind to properly address the psychological effect they have on patients is a proper way of curing the disease in today's world.[5]

Objective

Our study focuses on discovering the most prevalent geriatric dermatoses as well as their pattern and frequency, various clinicodemographic factors involved and the effect these cutaneous dermatoses have on the quality of life among the geriatric population.

Material and Method

This Observational questionnaire-based cross-sectional study was conducted in the Dermatology OPD in tertiary care centre in Rajasthan. This study was a duration-based study, a total of 240 geriatric patients aged 65 years and above presenting to the Dermatology OPD from 1st January 2021 to 30th June 2022. Inclusion criteria were based on whether the patients were aged 65 years or above, whether their complaints were cutaneous manifestations of primary dermatoses or any systemic disease, all of them were included in our study. The questionnaire included variables like age, gender, occupation, residential area, primary dermatological complaint, site of involvement, age of onset, duration of disease, aggravating factors, family history, etc based on clinical findings. Diagnosis was made and dermatoses were divided into 11 categories including infections and infestations, eczematous disorders, papulosquamous disorders, tumours, immunobolous disorders, photo dermatoses, connective tissue disorders, hair disorders, pigmentary disorders, drug reactions (fixed drug reaction) and miscellaneous conditions.

Then a self-assessed DLQI questionnaire was provided to the patient which had 10 questions, each was scored from 0 to 3 and later scored using DLQI scoring system (very much-scored 3; lot-scored 2; a little-scored 1; not at all- scored 0; not relevant- scored 0; prevented work- scored 3) and the total score was calculated with the help of DLQI Score range.

DLQI Score Range:

- 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
- 21-30 = very large effect on the patient's quality of life

The DLQI was calculated by summing the score of each question. The maximum score is 30 and the minimum score is 0.

Data was entered in MS Excel Microsoft Incorporated and analysed using SPSS IBM software version 21. After the data was obtained descriptive statistics were applied and frequency tables were prepared.

Results

In our study, 240 patients aged 65 years and above were included. The age of patients ranged from 65 years to 92 years with a mean age of 70 years.

Out of 240 patients, 132 (55%) were males and 108 (45%) were females. The majority of the patients (66.25%) who presented to us were in the age group of 65-70 years. Most of the patients in our study were retired (81.66%) and only a handful number of patients were educated (22.5%). Among all the patients, 69.58% were married, 29.16% were widowed and 1.25% were unmarried. 36.25% were living in rural area and 63.75% in urban area. All these clinicodemographic factors have been shown below (Table 1). Majority of patients had disease duration of 1 to 3 months (26.25%). Majority of our patients (30%) involved more than one area. A total of 193 patients (80.41%) had association with comorbidities. Diabetes was the commonest comorbidities found in 36.25% followed by diabetes and hypertension co-existing in 17.91% patients.

Infections were the most common cutaneous dermatoses seen in 64 patients (26.66%) followed by eczema in 57 patients (23.75%) in our study. The pattern and frequency are shown below (Table 2). Dermatophytosis (Fig 1) and herpes zoster were the most prevalent infectious diseases. Among eczemas, lichen simplex chronicus (Fig 2) was prominently seen.

In our study, the dermatology life quality index ranged from 1 to 25 with a mean of 4.3 $\pm$ 2.6. Overall, 139 patients (57.91%) showed a small effect to be the commonest effect on the quality of life due to their dermatoses (Fig 3) followed by moderate effect seen in 62 patients (25.33%) as shown below (Table 3). We also noticed that as the DLQI score increased, the quality of life gets more impaired e.g. quality of life of a patient with a skin tag is much better (DLQI=1) as compared to the quality of life of a patient suffering from pemphigus vulgaris (DLQI=25).

Physiological changes of ageing were assessed in all 240 patients included in our study group, among which 219 patients in total were those who had the presence of at least one change and 21 patients did not show any signs of physiological ageing. Senile xerosis was the commonest change seen, present in

219 patients (91.25%) followed by wrinkling (Fig 4) seen in 211 patients (87.91%).

Table 1: Clinicodemographic Factors in Geriatric Population

Clinicodemographic Factors		
Age (Mean $\pm$ Standard Deviation)	70 $\pm$ 4.6	
Gender	Male	55%
	Female	45%
Occupation	Working	18.33%
	Retired	81.66%
Educational status	Uneducated	77.5%
	Educated	22.5%
Marital status	Married	69.58%
	Unmarried	30.41%
Area Distribution	Rural	36.25%
	Urban	63.75%

Table 2: Disease Pattern and Frequency of cutaneous dermatoses in the geriatric population

Disease Category	Frequency	Percentage
• Fungal Infections (n=34; 14.5%)		
Dermatophytosis	28	11.66%
Candidiasis	5	2.08%
Pityriasis versicolor	1	0.4%
• Bacterial Infections (n=7; 2.9%)		
Carbuncle	1	0.4%
Pyoderma	1	0.4%
Cellulitis	1	0.4%
Erythrasma	3	1.25%
Folliculitis	1	0.4%
• Viral Infections (n=22; 9.1%)		
Herpes zoster	15	6.25%
Molluscum contagiosum	2	0.8%
Verruca vulgaris	1	0.4%
Herpes genitalis	1	0.4%
Verruca plana	2	0.8%
Genital warts	1	0.4%
• Mycobacterial Infection (n=1; 0.4%)		
Leprosy	1	0.4%
• Infestations (n=8; 3.33%)		
Scabies	8	3.33%
• Eczema (n=57; 23.75%)		
Lichen simplex chronicus	17	7.08%
Seborrheic dermatitis	10	4.16%
Nummular eczema	14	5.83%
Asteatotic eczema	10	4.16%
Contact dermatitis	2	0.8%
Stasis dermatitis	4	1.66%
• Papulosquamous disorders (n=34; 14.16%)		
Psoriasis	19	7.9%
Lichen planus	15	6.25%
• Photodermatoses (n=27; 11.25%)		
Chronic actinic dermatitis	10	4.16%
Polymorphous light eruptions	13	5.41%
Solar urticaria	4	1.66%
• Tumors (n=25; 10.41%)		
➤ Benign tumors (n=24; 9.96%)		
Achrochordon	12	5%
Cherry's angioma	4	1.66%
Dermatoses papulosa nigra	6	2.5%

Seborrheic keratosis	2	0.8%
➤ Malignant tumors (n=1; 0.4%)		
Squamous cell carcinoma	1	0.4%
• Immunobullous disorders (n=9; 3.75%)		
Bullous pemphigoid	9	3.75%
• Connective tissue disorders (n=4; 1.66%)		
Systemic lupus erythematosus	1	0.4%
Disseminated lupus erythematosus	3	1.25%
• Hair disorders (n=2; 0.8%)		
Alopecia areata	2	0.8%
• Pigmentary disorders (n=2; 0.8%)		
Vitiligo	2	0.8%
• Drug reactions (n=3; 1.25%)		
Fixed drug eruptions	3	1.25%
• Miscellaneous (n=5; 2.08%)		
Post herpetic neuralgia	4	1.66%
Bed sore	1	0.4%

Table 3: Effect of cutaneous dermatoses on the quality of life of the geriatric population

Dermatological Life Quality Index Score	Frequency	Percentage
0-1 (no effect)	36	15%
2-5 (small effect)	139	57.91%
6-10 (moderate effect)	62	25.33%
11-20 (large effect)	2	0.8%
21-30 (very large effect)	1	0.41%
Total number of patients (n)	240	100%



Figure 1: Female with extensive tinea corporis infection



Figure 2: Male with lichen simplex chronicus on his left ankle

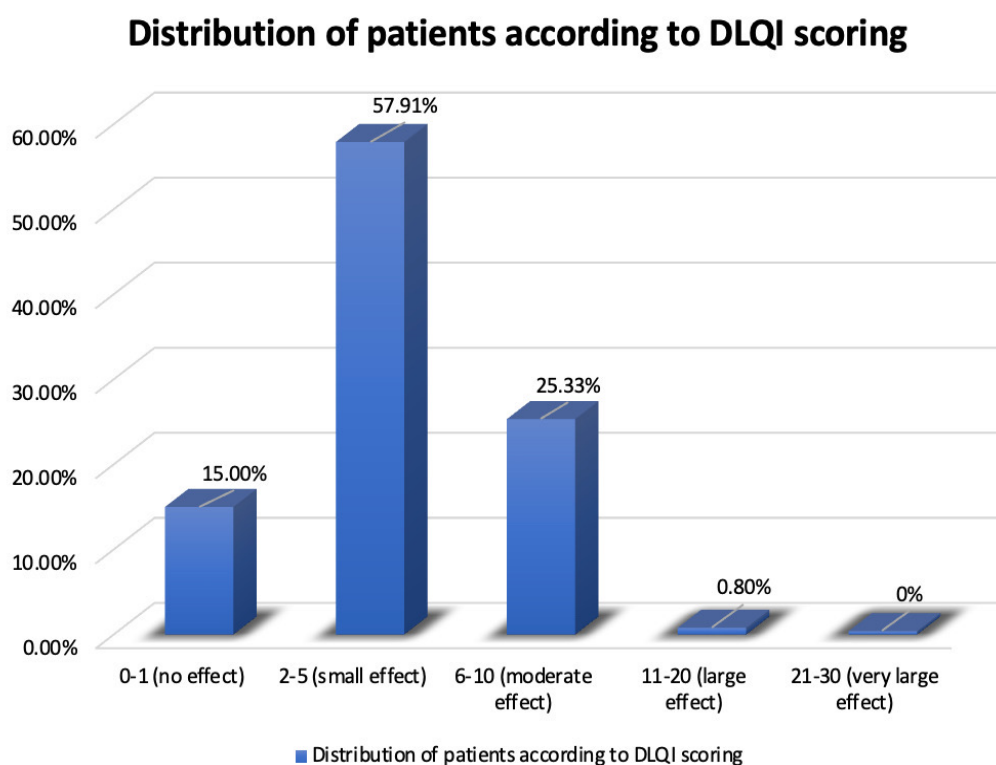


Figure 3: Distribution of patients according to Dermatological Life Quality Index scoring



Figure 4: Elderly female with wrinkles



Figure 5: Male with asteatotic dermatitis on both legs



Figure 6: Male with chronic plaque psoriasis on his right leg

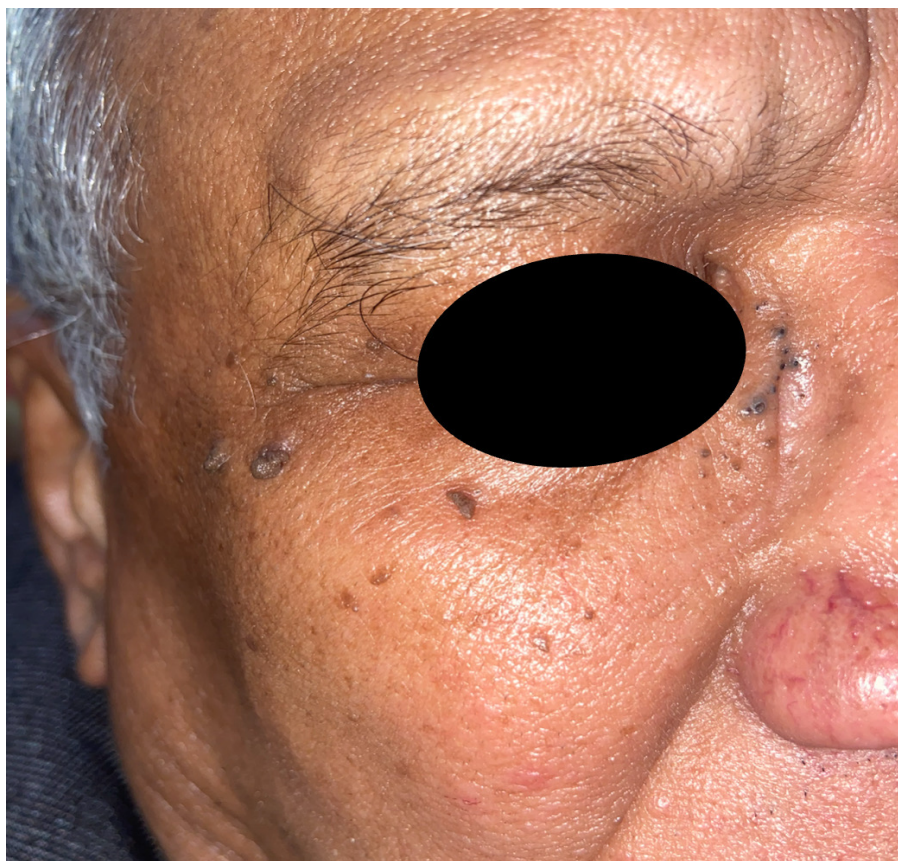


Figure 7: Male with achrochordons, senile comedones and dermatosis papulosa nigra on his face



Figure 8: Male with chronic actinic dermatitis on photo-exposed area



Figure 9: Female with senile purpura on her arms

Discussion

The rising geriatric population is a concern for dermatologists as these diseases require a different approach to treating them both medical and psychological. However, Indian literature regarding

how cutaneous dermatoses affect the older population's quality of life.

In the present study, 240 patients who were 65 years of age or older participated. The oldest patient was 92 years old. Male to female ratio was

1.2:1. Our study's male-predominant findings are consistent with those of the majority of prior studies. [3,6,7,8]

Our study also focuses on those sociodemographic factors like occupation, education, and residential area. Most patients were uneducated (77.5%), this lack of self-awareness and concern towards their own health produced a lag in seeking timely and proper medical help. Only 18.33% employed with occupational exposure to sunlight, moist environment, long standing hours of work, increased person to person contact, all adding up to their disease etiology or aggravating factors, such as dermatophytic infections, stasis dermatitis, photo dermatoses, viral infections, etc. Out of all, 69.58% patients were married, indicating the supportive role of partners in healthcare access, and 63.75% were urban residents, reflecting better awareness and access to medical facilities compared to rural populations.

Infections were the commonest cutaneous dermatoses seen in our study, present in 26.66% with fungal infection predominating (14.5%), followed by viral (9.1%), bacterial (2.9%) and mycobacterial (0.41%) infection. Similar finding has been reported in other studies with infection rates ranging from 26.4% to 34.5%. [1,9,10,11,12,13] Fungal infections were the most frequent, as noted in our and other studies. [1,13,14] The high prevalence in the elderly may be attributed to poor personal care, reduced immunity, decreased epidermal turnover, poor hygiene, neglect, delayed or incomplete treatment, lack of precautionary measures, underlying systemic diseases.

In the present study, eczematous conditions (Fig 5) were seen in 57 patients (23.75%). Comparable to reported rate from 19.2% to 31.29%. Lichen simplex chronicus (7.08%) was the most commonly, consistent with studies done by Kshetrimayum S et al and Leena Raveendra where the incidence of lichen simplex chronicus was 6% and 10%. [1,9] Papulosquamous disorders contributed 14.16% in our study i.e. 34 patients out of 240 in total. This value ranges from 10.4% to 12.3% in various other studies. The incidence of psoriasis (7.9%) in this study (Fig 6) coincides with the incidence of studies done by Leena Raveendra (7%), Kshetrimayum S et al (10.4%) and Patange and Fernandez (10.5%). The incidence of lichen planus (6.25%) in our study coincides with study done by Sahoo, Singh et al (5%). [1,9,13,15]

Scabies was the only infestation observed, affecting 3.33% of the patients, comparable to various other studies. [1,11,12] Poor hygiene, overcrowding as many of the study population lived in joint families and a history of similar complaints in other family members were positive findings in all these

patients. [ix] indicating household transmission by close contact. In our study, the incidence of benign tumors was 9.96% and the malignant tumor was 0.41%. Of these achrochordons (5%) (Fig 7), cherry's angioma (1.66%), dermatosis papulosa nigra (2.5%) (Fig 7), seborrheic keratosis (0.8%) and a single patient of squamous cell carcinoma (0.41%). The incidence of benign tumors shown in other studies are very high as compared to ours, ranging from 37.5% to 88%. [1,13] This huge difference is because we took only those benign tumors that presented to us as primary dermatological complaint. The incidence of malignant tumors varied from 0.5% to 15.5% in other studies which are comparable to ours. [6] Lower prevalence in Indian populations may reflect greater UV protection from increased skin pigmentation.

In our study, 11.25% of the patients had photodermatoses (Fig 8). Compared to studies by Kshetrimayum S et al. and Sheethal et al., where the incidence was 8% and 7%, this incidence is marginally higher. [9,16] This might be due to the fact that our area receives a greater amount of ultraviolet radiation. Also, the elderly population is more susceptible to sun-related disorders due to the synergistic effect of age and sun exposure. Farmers having a lot of sun exposure made a majority of the working patients in our study. People who are confined to their homes also like to spend their time sunbathing.

Among bullous disorders, only bullous pemphigoid was seen in 9 patients (3.75%). A higher incidence of bullous disorders was found in our study as compared to Durai, Thappa et al (1.8%) and Leena Ravendra (1.5%) but similar to Grover S where the incidence of bullous disorders is 4.4%. [1,17,18]

Connective tissue disorders are relatively uncommon. In our study, the incidence was reported to be 1.66%, of which systemic lupus erythematosus was seen in 0.41% and discoid lupus erythematosus in 1.25%. Our result is highly comparable to a study done by Agarwal et al where the incidence of systemic lupus erythematosus was 0.8% and discoid lupus erythematosus was 1.4%. [8] Hair disorders included 2 patients of alopecia areata. Postherpetic neuralgia (1.66%) and bed sore (0.4%) were included under miscellaneous disorders in our study. [9]

In pigmentary disorders, vitiligo was seen in 2 patients (0.8%) which is very less in our study as compared to studies done by Leena Raveendra and Patange and Fernandez mainly because most of the patients we had were classified as idiopathic guttate hypomelanosis and only 2 patient were confirmed vitiligo cases. [1,13] Ageing lead to physiological compromised and mange those deficiencies and associated diseases, elderly consume a lot of

medications which make them more liable to drug reactions at hand. The incidence of these drug reactions in our study was 1.25%, which is close to studies by Nair et al. and Kshetrimayum S. (1.53% and 2%).[9,10]

Sometimes, underlying conditions are the cause of present skin complaints or they may aggravate them if they co-exist leading to further degradation in their condition. Among 240 cases in our study, diabetes mellitus was the commonest association seen i.e. 87 patients (36.25%), followed by hypertension with diabetes in 43 patients (17.91%). The results of our study can be compared to a study conducted by Syed Ali et al where 66.5% of patients showed an association with systemic diseases, he also found diabetes mellitus to be the most common association present by 34.5% of patients. [19]

In the present study, 139 patients (57.91%) out of 240 patients showed a small effect on quality of life due to their cutaneous dermatoses followed by 62 patients (25.83%) who showed a moderate effect, mainly due to symptoms, decreased social interactions and self-consciousness. Our results are highly comparable to the study done by Kandwal et al in the sub-Himalayan region of Uttarakhand where 57.8% of people showed a small effect on their quality of life.[3] Not many studies have been conducted regarding this topic to make a proper comparison, but individual disease studies assessing the patient's quality of life due to a particular disease are present. Bhavana Doshi et al in their study found that patients with superficial dermatoses had a moderate effect on their quality of life.[20] Jin-Gang An et al found a moderate effect in patients with lichen simplex chronicus.[21] Sopiko liluashvii and Tina Kituashvii found an extremely large effect in patients with psoriasis.[22] In a study by Zeno, Sophie et al patients with lichen planus had a small effect on their quality of life due to the disease.[23] This variation in our study compared to all other studies is due to the fact that our study group included only patients aged 65 years or above whereas in other studies age was not a concern while assessing the quality of life in a patient. Further, their quality of life was negatively correlated with their disease extent.

Physiological changes are naturally and cannot be stopped or hidden. For this reason, we examined all patients for such changes in our study and found that senile xerosis was the most common seen in 219 patients (91.25%) in our study.

The incidence of senile xerosis ranges from 77% to 99.8% in various other studies.[1,14,17, 24] The reason for such high prevalence of senile xerosis being present in our study population could be attributed to less use of topical emollients, use of

harder soap, financial keep by people living in rural areas or sometimes the patients are just lazy to apply moisturize and take care of their skin. Wrinkling was seen in 87.75%, highly comparable to other studies where it ranges from 88% to 99%.[1,14,17,18,24] Pruritus was a common complaint among patients but Senile pruritis was seen in 17.91% which is quite higher than what Patange and Fernandez got in their results i.e., 3.8%.[13] Senile purpura (Fig 9) was seen in 13.33% and this results coincide with studies done by various other researchers.[1,13,14,15,17] Idiopathic guttate hypomelanosis was seen in 24.58% similar to various other studies. [1,13,14,17] Dermatoheliosis was seen in 27.91%, Senile comedones in 22.08% and Senile lentigens in 11.25%.[1,13,14,16,18,24]

Conclusion

To conclude, cutaneous dermatoses in our study on patient's quality of life might be small, but it is present, it is affecting patient's life, lowering their spirit and messing with the idea of a blissful old age. This demands reforms and strategies made only for the elderly people keeping in mind their health and struggles. Most conditions were due to poor hygiene, carelessness, and incomplete or delayed treatment. They were easily curable and manageable at the primary healthcare level. The development of geriatric clinics and awareness programme focusing on their needs and care is a step forward. Regular check-ups, preventive screening, and education of patients and caregivers are essential for early detection, effective treatment, and prevention.

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