

# Cutaneous Manifestation in Geriatrics and their Effect on Quality of Life: A Tertiary Care Hospital Based Observational Study

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**Abstract:** ***Background:** India is “an ageing nation”, the life expectancy in India was 57 years in the 90s, in 2019 it has increased to 68.9 years. As both the life expectancy as well as the geriatric population are on the rise, the percentage of senior citizens seeking dermatological help are projected to increase. However, skin diseases though being prevalent lack priority. This study is being conducted to identify the common geriatric dermatoses prevalent in central India, Chhattisgarh and also to assess their effect on the quality of life. **Aim:** To study the cutaneous manifestations in people above the age of 60 years and their effect on quality of life. **Material and methods:** This is a cross-sectional observational study carried out on 200 consecutive patients aged 60 years and above in Department of Dermatology of a Tertiary care hospital of central India after meeting the inclusion and exclusion criteria. **Results:** Out of 200 patients, two-thirds were males. Out of total, 45.5% patients had one or more comorbidity. Xerosis followed by seborrheic keratosis were the most common physiological cutaneous manifestations, and infective dermatoses followed by allergic contact dermatitis were the most common pathological conditions seen. Few rare cases were also seen during the study such as n Discoid lupus erythematosus, and Bullous pemphigoid. Around 18% reported moderate to large effect on their quality of life. **Conclusion:** Skin diseases are an important cause of psycho-social morbidity among geriatric population. Their special needs must be addressed by making appropriate changes in national health policies. Also, sensitization about geriatrics dermatosis can be done among medical officers and health workers.*

**Keywords:** Dermatoses, elderly, geriatrics, skin diseases

## 1. Introduction

Ageing is a natural, gradual process which occurs at cellular level. A decline in normal functions of skin predominantly its healing capacity, immune responses and capacity to repair DNA occurs with ageing [1]. With aging, the dermoepidermal junction flattens, number of interdigitations decrease, the number of melanocytes decrease by 20% giving the pale appearance to the skin and hair. [2] There is a reduction in bulk of dermis and accumulation of a brown colored pigment lipofuscin, which is a marker of cell damage.[3] The process of skin aging generally gives rise to trivial dermatoses such pruritus, eczema, xerosis, etc. [4] However, many dermatological conditions are fatal like skin malignancy and they lead to significant morbidity and impairment of quality of life.[5]

## 2. Materials and Methods

**Study Type:** It is a cross-sectional observational study.

**Sample size:** A sample size of 200 was calculated using the formula:

$$n = Z^2_{\alpha/2} PQ/l^2,$$

**Inclusion criteria:** Patients above 60 years with mucocutaneous complaints included in the study and any comorbidity of less than 5 years.

**Exclusion criteria:** The onset of certain dermatological diseases before 60 years and the patients with genetic dermatoses which interfere with aging skin were excluded.

**Study design:** Cross-sectional observational study design was used.

**Study setting:** Department of Dermatology in Government Medical College, Mahasamund, Chhattisgarh.

**Study duration:** Study carried out for 8 months, from January 2024 to August 2024.

A detailed cutaneous and systemic examination was carried out after obtaining informed consent. Relevant routine investigations such as hematology, biochemistry, and specific investigations such as skin biopsy done.

**Statistical analysis:** The data was compiled in Microsoft (MS) excel worksheet and analysed using SPSS (statistical package for social sciences) software version 20.0. The descriptive statistics of categorical variables like age, education, gender, and other demographic and clinical patterns of various mucocutaneous disorder variables were summarized in terms of frequency and percentages. A chi-square test was used to find the association between socio-demographic variables and the clinical pattern of various cutaneous disorders. Fisher's exact test was used when the expected value of a cell was less than 5, and a  $p < 0.05$  was considered for statistical significance.

For assessing the quality of life of participants, DLQI questionnaire was administered to patients. [6] The total score was interpreted as follows:

“DLQI score 0–1 = no effect on the patient's quality of life.

DLQI score 2–5 = small effect

DLQI score 6–10 = moderate effect.

DLQI score 11–20 = large effect.

DLQI score 21–30 = very large effect.

The relation of gender, level of education, place of residence, and specific dermatoses with DLQI scores was analyzed.

### 3. Observation

**Table 1:** Distribution of patients in different age groups

Age group (Years)	n=200			
	Male		Female	
	No.	Percentage	No.	Percentage
60-69	74	37	35	17.5
70-79	42	21	28	14
≥80	17	8.5	4	2
Total	133	66.5	67	33.5
Male > female				

**Table 2:** The distribution as per comorbidities

Comorbidity:	Male No.	Female No.	Total No.	Female No.	n=200 Percentage
Hypertension	22	14	36	36	18%
Diabetes mellitus	12	9	21	21	10.50%
Asthma	5	7	12	12	6%
Anemia	6	12	18	18	9%
Heart disease	1	2	3		
Chronic kidney disease	1	0	1		
Total = 91 [45.5%]					

**Table 3:** The distribution of Physiological skin changes in Geriatric group

Skin Changes	Male No.	Female No.	Total No.	n=200 Percentage
Xerosis	75	39	114	57%
Seborrheic keratosis	63	21	84	42%
Wrinkles	32	20	52	26%
Senile pruritus	9	7	16	8%
Senile purpura	4	1	5	2.50%
Senile comedones	11	7	18	9%
Idiopathic guttate hypomelanosis	18	8	26	13%
Benign neoplasm [ acrochordon]	22	16	38	19%
Dermatosis papulosa nigra	13	7	20	10%
Melanonychia	5	4	9	4.50%
Cherry angioma	13	8	21	10.50%

**Table 4:** The distribution of skin diseases

Disease	Male No.	Female No.	Total No.
Lichen planus	2	1	3 (1.5 %)
Psoriasis	15	10	25 (12.5%)
Palmoplantar keratoderma	9	8	17 (8.5%)
Melasma	4	9	13 (6.5%)
Exogenous/ Contact dermatitis	43	24	67 (33.5%)
Endogenous Dermatitis	3	3	6 (3%)
Drug reaction	2	1	3 (1.5%)
vitiligo	6	4	10 (5%)
Urticaria	3	2	5 (2.5%)
Asteatotic eczema	18	7	25 (12.5%)
Fungal infections	59	38	97 (46.5%)
Viral infections	5	3	8 (4%)
Bacterial infections	8	5	13(6.5%)
Scabies	2	3	5 (2.5%)
Vesico bullous disorder	2	0	2 (1%)
Androgenic alopecia	15	6	21(10.5%)
Nail dystrophy	10	8	18 (9%)
Discoid lupus erythematosus	1	0	1 (0.5%)

Analysis Of DLQI

Dermatology life quality index ranged from 0 to 30.

**Table 5:** Dermatology life quality index scores of study population

DLQI score	N =200			
	Male		Female	
	No.	Percentage	No.	Percentage
0-1 [ no effects]	41	20.5	29	14.5
2-5 (small effect)	39	19.5	21	10.5
6-10 (moderate effect)	22	11	10	5
11-20 (large effect)	2	1	2	1
21-30 (very large effect)	0	0	0	0

### 4. Results

A total of **200 patients** were enrolled in the study. Among the participants, **two-thirds were male**. Of these, **45.5% had one or more comorbidities**. A total of 91 (45.5%) patients had one or more associated comorbidities. Hypertension and diabetes mellitus were the commonest comorbidities where 18% and 10.5% patients having hypertension and diabetes mellitus, respectively.

The most prevalent **physiological cutaneous changes** were:

- **Xerosis:** The most common sign of aging skin.
- **Seborrheic keratosis:** A benign growth often seen in older populations, typically appearing as dark, raised lesions.

The most frequent **pathological conditions** were:

- **Infective dermatoses:** Such as fungal infections and bacterial skin conditions.
- **Allergic contact dermatitis:** Likely due to increased sensitivity of aging skin.

Several **rare conditions** like:

- **Bullous pemphigoid:** An auto immune disorder that can manifest as skin blister.

#### **Impact on Quality of Life:**

**DLQI scores** were found to be significantly correlated with variables such as:

- **Gender:** Females may experience more psychological distress due to visible skin changes.
- **Education level:** Higher levels of education appeared to correlate with better understanding and management of skin conditions, potentially leading to better coping strategies.
- **Place of residence:** Urban residents seemed to be more aware and proactive in seeking dermatological care.
- **Specific dermatoses:** Conditions like bullous pemphigoid and severe infective dermatoses were associated with higher DLQI scores, indicating a larger negative impact on the quality of life.

#### **Statistical Analysis:**

The study's statistical analysis, conducted using **SPSS version 20**, revealed that there were significant associations between socio-demographic factors and the prevalence of certain dermatological conditions. **Chi-square tests** were employed to assess the relationship between demographic variables and clinical manifestations, with **p<0.05** considered statistically significant.



**Figure 1:** 62-year-old man with xerosis and Asteatotic eczema.



**Figure 2:** 65-year-old female with seborrheic keratosis over the right side of leg.



**Figure 3:** 76-year-old man with large seborrheic keratosis on scalp and multiple small on the face with Wrinkles.



**Figure 4:** 65-year-old female with vitiligo on face

## 5. Discussion

Geriatric dermatoses are one of the most common reasons for day-to-day consultation in the elderly. This article reviews the various physiological and pathological changes of aging, dwelling on the role of intrinsic and extrinsic factors in the pathogenesis of aging skin thus better understanding of this emerging branch in dermatology leading to enhance resource management for elderly population.

India became an ageing country in 2001 with population of persons aged 60 years and above exceeding 7%. [7]. Proper attention and response to skin health can improve the quality of life of elderly persons with resultant better social engagements.

In the present study, out of 200 patients aged above 60 years 18% reported moderate to large effect of their dermatoses on the quality of life usually in the form of fewer social interactions and feeling of self-consciousness. Indian literature on the effect of dermatoses on the quality of life of geriatric population is lacking. In a study from United Kingdom, patients aged 65 years and above having skin rashes had significantly poor quality of life even worse than those having skin cancers. [8] Skin diseases being visible affect the social life of those affected for elderly population, this is even more significant as with decrease in professional engagements there is an increase in social interactions. Further in India this is in the form of engagement with grandchildren, thus with visible skin ailment older people are forced to stay away fearing transmission of disease. This gravely affects their mental health.

In Indian geriatrics infection, contact dermatitis and papulo-squamous disorders constitute a major proportion of dermatoses. In our study, 59.5% patients had infections and infestation. Aged skin is predisposed to infections due to its impaired barrier function. Maintaining proper hygiene and hydration will curb most of these infections and infestations. In India, though the prevalent joint family system ensures adequate care of elderlies, still with more number of nuclear families emerging there is need to establish an effective social security system to look after older population.

Next erythemato-squamous disorders including psoriasis, eczema-dermatitis, lichen planus, drug eruptions, and urticaria. The prevalence of erythemato-squamous disorders has ranged from 14.1% to 76.2% [Table 5]. [9 10 11 12 13 14 15 16] Liberal use of emollients and less use of chemical containing products can prevent aggravation of these disorders. Other Indian studies have reported their prevalence to be in the range of 15.7–43%. [8,9,10,11,12,13,14]

Development of comorbidities puts a lot of financial and psychological stress on the well being of old patients. The presence of skin ailments further aggravates this stress. Other studies have reported this prevalence to be 15–60%. [8,9,10,11,12,13] Another effect of co-morbidities is the side effects of drugs prescribed to treat them. Many can have detrimental effect on the skin hydration and wellbeing.

## 6. Conclusion

Geriatric dermatology is an emerging branch In dermatology, and an update on this, will go a long way to effectively manage these patients. A thorough knowledge of the epidemiology as well as gender distribution of dermatological diseases in geriatric population in the tertiary care hospital will help in assessing health status and health care needs related to skin for better allocation of resources, distribution of material and manpower, and help health care providers in better decision-making resulting in higher patient satisfaction.

### Implications

- **Policy recommendations:** Dermatological diseases should be incorporated into public health discussions about elderly care, with an emphasis on education, early diagnosis, and treatment.
- **Psychosocial support:** Targeted interventions for elderly patients suffering from skin diseases can help improve their mental health, particularly in rural or less-educated populations.

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