

Determination of the Prevalence of the Common Dermatological Conditions in Elderly Population Attending a Tertiary Care Hospital

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Abstract

Introduction: Skin disorders are common in elderly people. Systemic diseases promote the development of dermatological conditions. Various systemic diseases contribute to the presence of cutaneous disorders, indicating the possibility that a skin abnormality may sometimes be the first and only symptom of a much more serious medical problem. The aim of the study to determine the frequency of skin diseases in elderly patients. **Materials & Methods:** This was a cross-sectional study and non-probability convenient sampling technique was used. Patients were recruited from attending the Dermatology Out-patient Department of SZMCH during the study from January'2018 to July'2018. Patients included in the study having skin diseases aged between 60-80 years, including all those who were diabetic and hypertensive because diabetes and hypertension are the most common comorbid conditions among these elderly patients. Patients were included having skin diseases including pruritus, dermatitis, xerosis, eczema, psoriasis, scabies, bacterial infection, and fungal infections. **Results:** More than half (53.0%) patients belonged to age 71-80 years. Three fourth (75.0%) patients had pruritus followed by 37(37.0%) had dermatitis, 24(24.0%) had xerosis, 23(23.0%) had eczema and 12(12.0%) had bacterial infections. Pruritus, dermatitis, eczema and bacterial infections were statistically significant ($p < 0.05$) among three groups. **Conclusion:** More than half of the patients belonged to age more than 70 years of age. Most common (three fourth) skin patients had pruritus, followed by more common skin patients were found dermatitis, xerosis, eczema and bacterial infection. Pruritus, dermatitis, eczema and bacterial infections were statistically significant in different age groups.

Keywords: Dermatological conditions, Elderly population, Tertiary care hospital.

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Introduction

Skin disorders are common in elderly people. Systemic diseases promote the development of dermatological conditions¹. Aging is a permanent and active process which affects all organs of the body, including skin. The texture of the skin decreases with age i.e. structural and physiologic transformation that arise as a natural result of intrinsic aging in addition with the effects of a lifetime of on-going cumulative extrinsic damage and environment insult (e.g. overexposure to solar irradiation) can produce a marked vulnerability to dermatologic disorders in the elderly². Geriatric health care has absorbed a worldwide attention, but few statistical studies were carried out about skin diseases in this age group. 30 years ago, the American HANES survey demonstrated that the frequency of skin disorders increases with age so that at the age of 70 some 70% had a significant skin condition and many others had multiple skin problems³. The integrity of the skin declines with age i.e. structural and physiologic changes that occur as a natural consequence of intrinsic aging combined with the effects of a lifetime of ongoing cumulative extrinsic damage and environment insult (e.g. overexposure to solar irradiation) can produce a marked susceptibility to dermatologic disorders in the elderly⁴. Neurological and/or systemic diseases, health and hygiene, socioeconomic status, climate, color of skin, gender, nutrition, culture, and personal habits, such as smoking or drinking, etc., may also contribute a role in the genesis of cutaneous conditions in the elderly population⁵, such as xerosis,

fungal infections, psoriasis, scabies, dermatitis, photosensitivity, purpura, uneven pigmentation, comedones⁶. Demographic aging is now well established. Thus, skin diseases in the elderly will continue to become an increasingly important public health issue⁷.

Materials and Methods

This was a cross-sectional observational study and non-probability convenient sampling technique was used. Patients were recruited from attending the Dermatology Out-patient Department of SZMCH during the study from January 2018 to July 2018. Patients included in the study had skin diseases aged between 60-80 years, including all those who were diabetic and hypertensive because diabetes and hypertension are the most common comorbid conditions. Patients were included having skin infections including pruritus, dermatitis, xerosis, eczema, psoriasis, scabies, bacterial infection, fungal infections. Patients who were unwilling and having any systemic disease such as chronic liver disease, thyroid dysfunction, parkinson's disease, stroke and chronic renal failure were excluded on the basis of history, examination and previous investigations. Patients aged 60 years and above belonging to either sex with skin diseases presenting in outpatient department were included in this study. Diagnosis of cutaneous diseases was made on history and clinical examination. Any cutaneous diseases with onset before 60 years of age were excluded on the basis of history, examination and previous investigations. The questionnaire included data on the demographic profile, type of skin diseases and cause of skin diseases, age, gender, occupational and socioeconomic status. Data was entered and all analysis was conducted on SPSS (Statistical Package for Social Sciences) Version 20. Descriptive statistics were calculated for continuous variables of age with mean \pm SD. For categorical variables frequency and percentages were calculated. Data was presented in tables. Chi square was used to compare age and gender with skin diseases, p-value <0.05 was considered statistically significant.

Results

More than half (53.0%) patients belonged to age 71-80 years. The mean age was found 68.5 ± 7.0 years with range from 61 to 82 years. Majority (58.0%) patients were male and 42(42.0%) patients were female. Male female ratio was 1.4:1. Almost two third (61.0%) patients were from rural area and 39(39.0%) were of urban area (Table I). Three fourth (75.0%) patients had pruritus followed by 37(37.0%) had dermatitis, 24(24.0%) had xerosis, 23(23.0%) had eczema and 12(12.0%) had bacterial infections (Table II). Pruritus, dermatitis, eczema and bacterial infections were statistically significant ($p < 0.05$) among three groups (Table III).

Table-I: Demographic profile of the study population (n=100).

	Number of patients	Percentage
Age (year)		
61-70	36	36.0
71-80	53	53.0
>80	11	11.0
Mean \pm SD		68.5 \pm 7.0
Range		61-82
Sex		
Male	58	58.0
Female	42	42.0
Residence		
Rural	61	61.0
Urban	39	39.0

Table-II: Skin diseases of the study population (n=100).

Skin diseases	Number of patients	Percentage
Pruritus	75	75.0
Dermatitis	37	37.0
Xerosis	24	24.0
Eczema	23	23.0
Bacterial infections	12	12.0
Fungal infections	10	10.0
Psoriasis	7	7.0
Scabies	6	6.0
Skin cancer	4	4.0

Table-III: Association between skin diseases with age (n=100).

Skin diseases	Age 61-70 years (n=36)		Age 71-80 years (n=53)		Age >80 years (n=11)		p value
	n	%	n	%	n	%	
	Pruritus	30	83.3	41	77.4	4	
Dermatitis	17	47.2	12	22.6	8	72.7	0.002 ^s
Xerosis	9	25.0	12	22.6	3	27.3	0.933 ^{ns}
Eczema	14	38.9	9	17.0	0	0.0	0.009 ^s
Bacterial infections	9	25.0	3	5.7	0	0.0	0.010 ^s
Fungal infections	6	16.7	4	7.5	0	0.0	0.187 ^{ns}
Psoriasis	3	8.3	2	3.8	2	18.2	0.217 ^{ns}
Scabies	2	5.6	3	5.7	1	9.1	0.900 ^{ns}
Skin cancer	1	2.8	2	3.8	1	9.1	0.641 ^{ns}

s= significant, ns= not significant

p value reached from chi square test

Discussion

In present study it is observed that more than half (53.0%) patients belonged to age 71-80 years. The mean age was

found 68.5±7.0 years with range from 61 to 82 years. Majority (58.0%) patients were male and 42(42.0%) patients were female. Male female ratio was 1.4:1. Almost two third (61.0%) patients were rural area and 39(39.0%) were urban area. In Kalar et al² study found all patients with skin diseases aged between 60-65 and over 65 years. Mponda K and Masenga study observed age ranges 55–99 years, median age of 67.5 years were seen⁸. Reszke et al.¹ study also be reported that the mean ± standard deviation (SD) age of all participants was 76.1 ± 6.1 years (range:65–92 years). Whereas women (59.1%) and 81 men (40.9%) were examined. Chowdhury et al⁹ have showed the mean age of presentation was 67.7± 6.08 year. Most of the patients (61%) belonged to age group 60-69 year followed by 33% between 70-79 year and 6% were of 80 years and above. There were 110 males and 90 females with male: female ratio was 1.2:1.

In this study three fourth (75.0%) patients had pruritus followed by 37(37.0%) had dermatitis, 24(24.0%) had xerosis, 23(23.0%) had eczema and 12(12.0%) had bacterial infections. In the study of Chowdhury et al⁹ observed that the most common presenting and associated complaint was pruritus and it was present in almost 74% of this population. Eczematous condition were the most common presenting disorder (39%), followed by infection (38%), pigmentary disorders in 26%, papulosquamous in 18% and immunobullous disorders in 5% cases. Among the eczematous conditions asteatotic dermatitis (20%) was most common followed by seborrheic dermatitis (15%). Thapa et al¹⁰ where eczema (35.8%) was most common and in Khawar et al¹¹ eczema (40%). was after scabies, fungal infections were dominant (13.6%) in both age groups. Similar to Thapa et al.¹⁰ pruritus, dermatitis, eczema and bacterial infections were statistically significant ($p<0.05$) among three groups. Kalar et al.² shown that in the < 60 years of age group, the frequency of diseases in decreasing order was found as follows: scabies (15.5%), fungal infections 13.6%, eczema 6.4%, pruritus 5.9%, bacterial infections and contact dermatitis 5.5%, psoriasis 5%. In the > 60 years of age group: scabies 8.6%, fungal infections 5.9%, eczema and xerosis 3.6%, contact dermatitis 2.6%, viral infections 2.3%. Darjani et al¹² study revealed that the most frequent diseases of erythematosquamous diseases were defined as dermatitis (16.6%), psoriasis (12.3%), lichen planus (5.45%) and pilaris rubra pityriasis (1.1%). Fungal infections (tinea, candidiasis) were the most common infectious diseases (8.2%) followed by viral infections (herpes zoster) (4.5%) and infestations (scabies) (4.3%). The most common precancerous lesion was actinic keratosis (24.3%). BCC by 8.8% was the most prevalent skin carcinoma. Skin tag (48.8%) and seborrheic keratosis (8%) were the most common benign neoplasm and 69% of patients with skin tag were females. Pruritus was the common problem in other dermatological diseases (22%). Pruritus in 60–69 years group 20.8%, 70–79 years group 22.9% and ≥80 years 26%. Dermatitis in 60–69 years

group 16%, 70–79 years group 13.8% and ≥80 years 28.3%. Xerosis in 60–69 years group 12%, 70–79 years group 9.7% and ≥80 years 15.2%. Fungal infections in 60–69 years group 8%, 70–79 years group 6.9% and ≥80 years 13%. Psoriasis in 60–69 years group 14.4%, 70–79 years group 9% and ≥80 years 10.9% Scabies in 60–69 years group 4%, 70–79 years group 3.5% and ≥80 years 8.7%.

Conclusion

More than half of the patients belonged to age more than 70 years of age. Various systemic diseases contribute to the presence in present study which were three fourth pruritus followed by more common were found dermatitis, xerosis, eczema and bacterial infection. Pruritus, dermatitis, eczema and bacterial infections were statistically significant in different age groups.

Conflict of Interests: None.

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References

1. Reszke R, Pełka D, Walasek A, Machaj Z, Reich A. Skin disorders in elderly subjects. *International Journal of Dermatology*. 2015; 54: e332-e338. <https://doi.org/10.1111/ijd.12832> PMID:26148310
2. Kalar MU, Mustafa SH, Zaidi SSF, Zuhair R, Bano M, Fatima F, et al. Skin Disorders in Elderly Population Attending Tertiary Care Hospital in Karachi. *International Journal of Collaborative Research on Internal Medicine & Public Health*. 2016; 8(6): 381-88.
3. Marks R. Skin disease in the elderly. *European Journal of Dermatology*. 2006; 16(4): 460-461.
4. Farage MA., Miller KW., Berardesca E., Maibach HI. Clinical implications of aging skin: cutaneous disorders in the elderly. *Am J Clin Dermatol*. 2009; 10:73-86. <https://doi.org/10.2165/00128071-200910020-00001> PMID:19222248
5. Grover S, Narasimhalu C. A clinical study of skin changes in geriatric population. *Indian J Dermatol Venereol Leprol*. 2009; 75: 305-6. <https://doi.org/10.4103/0378-6323.51266> PMID:19439890
6. Patange SV, Fernandez RJ. A study of geriatric dermatoses. *Indian J Dermatol Venereol Leprol*. 1995; 61: 206-8.
7. Saçar T, Saçar H. Prevalence of dermatosis in the geriatric population in Izmir region. *Turk Geriatri Dergisi*. 2011; 14(3): 231-7.

8. Mponda K, Masenga J. Skin diseases among elderly patients attending skin clinic at the Regional Dermatology Training Centre, Northern Tanzania: a cross-sectional study. *BMC Res Notes*. 2016; 9: 119:2-5

<https://doi.org/10.1186/s13104-016-1933-6>

PMid:26905256 PMCID:PMC4763417

9. Chowdhury J, Das S, Roy AK. Skin diseases in elderly population from Eastern India- An observational study. *Journal of Pakistan Association of Dermatologists*. 2016; 26 (4): 318-321.

10. Thapa DP., Jha Ak., Kharel C., Shrestha S. Dermatological problems in geriatric patients: a hospital based study. *Nepal Med Coll J*. 2012; 14: 193-195.

11. Khurshid K., Irfanullah., Paracha MM., Amin S., Pal SS. Frequency of Cutaneous Diseases in Geriatric population of type IV and V Skin. *JPMI*. 2012; 1: 39-42.

12. Darjani A, Mohtasham-Amiri Z, Amini KM, Javad Golchai J, Sadre-Eshkevari S, Narges Alizade. Skin Disorders among Elder Patients in a Referral Center in Northern Iran. *Dermatology Research and Practice*. 2011; 1-4.

<https://doi.org/10.1155/2013/193205>

PMid:23935606 PMCID:PMC3722782