

ORIGINAL RESEARCH

**STUDY OF GERIATRIC DERMATOSES IN PATIENTS
ATTENDING TERTIARY HEALTH CARE CENTRE IN
RURAL AREA OF TELANGANA**

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ABSTRACT

Background: To study the spectrum of geriatric dermatoses in patients attending tertiary care centre in rural area, Telangana.

Materials and Methods: It was a Prospective observational study. The present study included all the geriatric population with males aged 60 years & above and females aged 50 years & above. Female patients were chosen at a younger age, as in them the hormonal changes after menopause influences the aging skin changes, which starts around their 50s.

Results: Out of 400 patients studied 195 (48.75%) were males, 205 (51.25) were females with male to female ratio of 0.95:1. The mean age of elderly patients in the present study is 64.48 years. Majority of patients (54.0%) belonged to the age group of 60-69 years, followed by 24% in age group of 50-59 years. Xerosis was the commonest physiological change seen in the present study in 91.25% (365) patients. The high incidence of xerosis could be attributed to less use of emollients and usage of harsher soaps by the subjects of the study who mostly hail from rural areas. Infections and infestations of skin were seen in 37.5 % (150) patients. Fungal infections seen in 43.3% (65), viral infection in 28.6% (38), leprosy in 13.3% (20), Pyoderma in 6.6% (10) and Scabies in 11.33% (17) of patients. In the present study, eczematous conditions were seen in 20.5% (82) patients. Among the various types of eczema, stasis dermatitis was the commonest, seen in 34.14%(28) of patients. Papulosquamous disorders were seen in 17.25% (69) .The incidence of psoriasis in the present study was 8.5% (34) followed by lichen planus, in 4.75% (19) of patients. Vesiculobullous disorders in the present study were seen in 4.75 % (19) of patients. Incidence of pemphigus vulgaris in present study

was 1.75%(7) of patients. Bullous pemphigoid was noted in 1%(4) of patients. Malignant tumors were seen in 1.5% (6) of patients. In present study, Melasma was seen in 10.75% (43) patients, vitiligo was seen in 3.25% (13) of patients. In present study associated systemic illness were seen in 57.5 % (229) patients. Hypertension in 30.75% (123) patients was the commonest systemic illness. Incidence of various pathological dermatosis among males and females were studied for any statistical significance by using fisher test. Statistical significance with $p < 0.05$ was seen in incidence of Dermatitis papulosa nigra ($p = 0.000001163$) and for cherry angiomas ($p = 0.000000159$) among male and female patients.

Conclusion: We conclude, the present study results indicate that among geriatric skin conditions, physiological skin conditions were more common manifestations when compared to pathological conditions.

Keywords: Dermatitis papulosa nigra, xerosis, Melasma, Papulosquamous, Papulosquamous.

INTRODUCTION

Skin is a window to aging changes, a biological reality which has its own dynamic, beyond human control.^[1] Aging skin has a marked susceptibility to dermatologic disorders due to the structural and physiologic changes that occur as a consequence of intrinsic and extrinsic aging.^[2] Skin changes in the elderly may occur due to natural aging process, or due to any dermatoses, the pattern, of which may be unique/ different in the aged population. Thus, the ambit of dermatological care needed for the elderly population is different from that for other age groups.

Rapid demographic shift has created many challenges in management of diseases in the geriatric population. In the most countries of the world, the proportion of people of over 60 years old is growing faster than any other age group: this fact is happening as a result of both longer life expectancy and also of what we can determine as the declining fertility rates.^{[1],[2],[3],[4],[5],[6]} Major advances in medical field and overall improvement in socioeconomic status have led to a significant increase in life expectancy.

Human skin like all other organs undergoes chronological aging and aging as a consequence of environmental damage. Aging skin has a marked susceptibility to dermatologic disorders due to the structural and physiologic changes that occur as a consequence of intrinsic and extrinsic aging.^{[7],[8]} Aging is the decline in the power of self-maintenance, the increase in the susceptibility to disease and the growing probability of death as age advances. Ultimate senescence is as much a biological necessity as initial survival evolutionary progress has occurred, because animals are programmed for both. In the words of Macfarlane Burnet the two basic evolutionary needs of all species of higher animals are survival to reproductive age, and death when survival offers no reproductive advantages to the species.^[9]

The age groups of elderly individuals included in different studies done in this regard are variable. The majority of the studies had included an age group from 60- 65 years as elderly population. The present study included all the geriatric population with males 60 years & above and females having age of 50 years & above.^[10]

Aims and objectives

Aims: To study the spectrum of geriatric dermatoses in patients attending tertiary care centre in rural area, Telangana.

Objectives:

1. To study the age wise distribution of dermatoses in geriatric age group.
2. To study the gender wise distribution of dermatoses in geriatric age group.
3. To study distribution of physiological changes and pathological dermatoses in geriatric age group.
4. To study associated Systemic illness in the study group.

MATERIALS & METHODS

Place of Study: Department of DVL, KIMS, Narketpally.

Study Design: Prospective observational study.

Duration of Study: 2 years (i.e. October 2013 to September 2015).

Sample Size: 400.

Selection of Study Subjects:

- Patients were clinically evaluated after obtaining clearance and approval from the institutional ethical committee.
- Informed and written consent was taken from patients and the clinical data was recorded as per the proforma.
- Detailed history taking and complete clinical examination was done.
- Clinical photographs were taken at the same time.
- Patients were subjected to appropriate investigations CBP, RBS, thyroid profile, lipid profile and skin biopsy.
- Special investigations including tzanck smear, wet mount preparations from scraping and microscopy, nail clippings and skin scrapings for 10% KOH, fungal culture, pus for culture and sensitivity whenever required were done.
- Data was tabulated in Microsoft Excel 2010 Worksheet.
- Data analysis was done using IBM SPSS 20.0(Chicago,IL, USA)
- Fischer's exact test was used for data interpretation.

Inclusion Criteria:

- All females aged 50 years and above & males aged 60 years and above were included in the study.

Exclusion Criteria:

- Patients with genodermatoses, photosensitivity disorders (excluding photoaging), premature aging, inherited disorders of DNA instability, albinos, and connective tissue disorders were excluded from the study.
- Females below 50 years and males below 60 years of age were excluded from the study.

RESULTS**Table 1: Age and Gender Wise Distribution of Study Group (N=400)**

S.No	Age	Male N=195(%)	Female N=205(%)	Total N=400(%)
1	50-59Yrs	-	84 (46.82)	84(21.0)
2	60-69Yrs	122 (62.56)	85 (41.46)	207 (51.75)
3	70-79Yrs	63 (32.30)	29 (14.14)	92 (23.0)
4	>80Yrs	10 (05.12)	7 (03.41)	17 4.25)

- The age group of patients studied ranged from 50 to 90 years.
- 51.75 % (207) of patients in the study belonged to age group of 60-69 years, followed by age group of 70-79 years with 23% (92) of patients.
- The youngest patient was 50 years old in females and 60 years old in males, eldest patient was 87 years old in males and 90 years old in females, with mean age of 63.76 years.

Table 2: Age Wise Distribution of Dermatoses in the Study Group (N= 400)

S.No	Dermatoses	50-59 Years (N=84)	60-69 Years (N=207)	70-79 Years (N=92)	>80 Years (N=17)	Total (N=400)
1	Physiological Skin Changes	84(100)	207 (100)	92(100)	17(100)	400
2	Infections & Infestations	32(38.1)	59(28.5)	48(52.1)	11(64.7)	150
3	Eczema	28(33.3)	69(33.3)	28(30.4)	7(41.2)	132
4	Papulosquamous Disorders	15(17.8)	44(21.25)	40(43.5)	0	99
5	Vesiculobullous Disorders	4(4.7)	8(3.8)	7(7.6)	0	19
6	Beningn Tumours	24(28.5)	172(83.1)	92(100)	17(100)	305
7	Malignant Tumours	0	2(0.9)	3(3.3)	1(5.8)	6
8	Miscellaneous Dermatoses	22(26.1)	35(16.9)	41(44.6)	5(29.4)	103
9	Nail Changes	31(36.9)	160(77.3)	92(100)	17(100)	300
10	Hair Changes	66(78.5)	207(100)	92(100)	17(100)	382
11	Oral Cavity Involvement	20(23.8)	163(78.7)	85(92.4)	17(100)	285

- Physiological skin changes were seen in 100% (400) of study group.
- Infections & infestations were seen highest in >80 years age group with 64.7% (11) of patients followed by 70-79 age group with 52.1% (48) of patients.

- Eczemas were seen highest in >80 years age group with 41.2%(7) of patients followed by age group of 60-69 years and 50-59 years with 33.3% of patients each.
- Papulosquamous disorders were seen highest in 70-79 years age group with 43.5% (40) of patients followed by 21.25% (44) of patients in 60-69 years age group.
- Vesiculobullous disorders were seen highest in 70-79 years age group with 7.6% (7) of patients followed by 50-59 years age group with 4.7% (4) of patients.
- Benign tumours were seen in 100% of patients in >80 years age group (17) and in 70-79 years age group(92).
- Malignant tumours were seen highest in >80 years age group with 5.8% (1) patient.
- Miscellaneous dermatoses were seen highest in 70-79 years age group with 44.6% (41) of patients followed by >80 years age group with 29.4%(5) of patients.
- Nail changes were seen in 100% of patients in age group of 70-79 years (92) and >80 years age group(17).
- Hair changes were seen in 100% of patients in age group of 60-69 years (207), 70-79(92) years and >80 years (17).
- Oral cavity changes were in 100% (17) of patients in age group >80 years, followed by 70-79 yrs age group with 92.4%(85) of patients..

Table 3: Gender Wise Distribution of Physiological Skin Changes in the Study Group (N=913)

Physiological Skin Changes	Male N=471(%)	Female N=442(%)	Total N=913 (%)
Xerosis	195 (41.40)	170 (38.64)	365 (39.97)
Wrinkles	179 (38.0)	169 (38.23)	348 (38.11)
Idiopathic Guttate Hypomelanosis	55 (11.67)	37(8.37)	92(10.07)
Senile Lentigens	10 (2.12)	34 (7.69)	44 (4.81)
Sunken Eyes	9 (1.91)	16 (3.61)	25 (2.73)
Senile Comedons	15 (3.18)	8 (1.80)	23 (2.51)
Senile Purpura	5 (1.06)	5 (1.13)	10 (1.09)
Sebaceous Hyperplasia	3 (0.63)	3(0.67)	6(0.65)

- Xerosis in 39.97% (365) of patients was the most common type of physiological skin change seen in the study group, followed by wrinkles in 38.11% (348) of patients.
- Xerosis was seen in 100% (195) of males and in 82.92%(170) of females.
- Wrinkling was seen in 91.79%(179) of males and 82.43%(169) of females.
- Idiopathic gutate hypomelanosis was seen in 10.07 % (92) of patients.

Table 4: Gender wise Distribution of Infections & Infestations in the Study Group (N=150)

Sl No	Infections & Infestations		No. of Cases		
			Male N=70 (%)	Female N=80(%)	Total N=150(%)
1	Fungal Infections	Candidiasis	4(5.71)	8(10.0)	12(8.0)
		Dermatophytosis	12(17.14)	16(20.0)	28(18.66)
		Pityriasis Versicolor	5(7.14)	6(7.50)	11(7.33)
		Onychomycosis	10 (13.57)	12(15.37)	22(14.66)
2	Viral Infections	Herpes Zoster	9(12.85)	13 (16.25)	22(14.66)
		Herpes Genitalis	1 (1.42)	3 (3.75)	4(2.66)
		Common Warts	5 (7.14)	4(5.0)	9(6.0)
		Genital Warts	1(1.42)	2 (2.50)	3(2.00)
3	Leprosy		14 (20.0)	5(6.25)	19(12.66)
4	Pyoderma		6 (8.57)	5(6.25)	11(7.33)
5	Scabies		6 (8.57)	10 (12.50)	16(10.66)
6	Pediculosis		1(1.42)	0	01(0.66)

- Infections & infestations were seen in 37.5%(150) of patients of which 17.5%(70) of patients were males and 20% (80) of patients were females.
- Fungal infections were seen in 43.30% (65) of cases was the most common type of infections followed by viral infections.
- Fungal infections were seen in 38.57% (27) of males and 47.5%(38) of females.
- Viral infections were seen in 22.85%(16) of males and 27.5% (22) of females.
- Scabies seen in 10.66% (16) of cases was the commonest parasitic infestation in the study group.
- No statistical significance in the occurrence of fungal and viral infections among males and females (fisher exact test $p>0.05$).

Table No: 5 Gender Wise Distribution of Eczemas in the Study Group (N=82)

S.No	Eczemas	Male N=45(%)	Female N=37(%)	Total N=82(%)
1	Stasis Dermatitis	16(35.55)	12(32.43)	28(34.14)
2	Seborrhoeic Dermatitis	17(37.77)	06(16.21)	23(28.04)
3	Contact Dermatitis	03(6.66)	09(24.32)	12(14.63)
4	Asteatotic Eczema	07(15.55)	04(10.81)	11(13.41)
5	Eczema With Dissemination	01(2.22)	02(5.40)	3(3.65)
6	Discoid Eczema	01(2.22)	02(5.40)	3(3.65)

- Eczemas were seen in 20.5%(82) of patients of which 23.07%(45) of patients were males and 18.04% (37) of patients were females.
- Stasis dermatitis seen patients were the commonest eczema in 34.14% (28) of patients.

- Stasis dermatitis was seen in 35.55%(16) of males and 32.43%(12) of females.
- No statistical significance in the occurrence of LSC and stasis dermatitis among males and females (fisher exact test p=0.817)

Table No: 6 Gender Wise Distribution of Papulosquamous Disorders in the Study Group (N=69)

S.No	Papulosquamous Disorders	Male N=33(%)	Female N=36(%)	Total N=69(%)
1	Psoriasis	21(63.63)	13(36.11)	34(49.27)
2	Lichen Planus	7(21.21)	12(33.33)	19(27.53)
3	Acneiform Disorders	3(9.09)	6(16.66)	9(13.04)
4	Lichen Simplex Atrophicus of Genitalia	0	4(11.11)	04(5.79)
5	Parapsoriasis	2 (6.06)	1 (2.77)	3(4.34)

- Papulosquamous disorders were seen in 17.25% (69) of patients, of which 8.25% (33) were males and 9%(36) of patients were females.
- Psoriasis seen in 34(49.27%) patients was the commonest papulosquamous disorder seen followed by lichen planus (excluding oral lichen planus) seen in 19 (27.53%) of patients.
- In patients with psoriasis 63.63% (21) were males and 36.11% (13) were females.
- Lichen planus was seen in 3.5%(7) of males and 5.8%(12) of females.
- No statistical significance in the occurrence of psoriasis and lichen planus among males and females (fisher exact test p=0.0950).

Table No: 7 Gender Wise Distribution of Vesiculobullous Disorders in the Study Group (N=19)

S.No	Vesiculobullous Disorders	Male N=10(%)	Female N= 9(%)	Total N=19(%)
1	Pemphigus Vulgaris	4(40.0)	3(33.33)	7(36.84)
2	Bullous Pemphigoid	3(30.0)	1(11.11)	4(21.05)
3	Epidermolysis Bullosa Acquisita	1(10.0)	2 (22.22)	3(15.78)
4	Bullous Emf	1(10.0)	2(22.22)	3(15.78)
5	Dermatitis Herpetiformis	1(10.0)	1(11.11)	2(10.52)

- Vesiculobullous disorders were seen in 4.75% (19) of patients in the study group, of which 2.5%(10) of patients were males and 2.25% (9) of patients were females.
- Pemphigus vulgaris was seen in 36.84% (7) of patients was the commonest vesiculobullous disorder followed by bullous pemphigoid in 21.05% (4) of patients.
- Bullous pemphigoid was seen in 1.5%(3) of patients and in 0.48%(1) of patients.
- No statistical significance in the occurrence of pemphigus vulgaris and bullous pemphigoid among males and females (fisher exact test p>0.05).

Table No: 8 Gender Wise Distribution of Benign Tumours in the Study Group (N=807)

S. No.	Benign Tumours	Male N=368 (%)	Female N=439 (%)	Total N=807(%)
1	Dermatosis Papulosa Nigra	122(33.15)	168(38.26)	290 (35.93)
3	Seborrhoeic Keratosis	108(29.34)	96(21.86)	204(25.27)
4	Cherry Angiomas	60(16.30)	78(17.76)	138 (17.10)
2	Achrochordon	44(11.95)	56(12.75)	100 (12.39)
6	Sebaceous Cyst	19 (5.16)	18(4.10)	37 (4.58)
5	Dermoid Cyst	8 (2.17)	6(1.36)	14 (1.73)
7	Trichoepithelioma	5 (1.35)	11 (2.50)	16 (1.98)
8	Keratoacanthoma	0	6 (1.36)	6 (0.74)
9	Bowenoid Papulomatosis	2 (0.54)	0	2 (0.24)

*Total doesn't correspond to 400 as multiple benign tumours coexisted in some patients

- Benign tumours were seen in 76.25% (305) of patients in the study group of which 37.5%(150) of patients were males and 38.75%(155) of females were females.
- Dermatoses papulosa nigra (DPN) seen in 35.93% (290) of patients was the commonest benign tumour followed by Seborrhoeic keratosis in 25.27% (204) of patients.
- DPN was seen in 62.5%(122)of males and 81.9%(168)of females.
- Seborrhoeic keratosis was seen in 55.3%(108) of males and 46.8%(96) of females.

Table No: 9 Gender Wise Distribution of Malignant Tumours in the Study Group (N=6)

S. No.	Malignant Tumours	Male N=2 (%)	Female N=4 (%)	Total N=6(%)
1	Basal Cell Carcinoma	1 (50.0)	2 (50.0)	3(50.0)
2	Squamous Cell Carcinoma	1(50.0)	1(25.0)	2(33.33)
3	Malignant Melanoma	0	1 (25.0)	1(16.66)

- Malignant tumours were seen in 1.5%(6) of patients of which 0.5% (2) of patients were males and 1%(4) of patients were females.
- Basal cell carcinoma seen in 50.0%(3) patients was the commonest malignant tumour followed by Squamous cell carcinoma in 33.33% (2) patients and Malignant Melanoma seen in 16.66% (1) patients.

Table No: 10 Gender Wise Distribution of Miscellaneous Dermatoses in the Study Group (N=155)

S.No	Miscellaneous Dermatoses	Male N=64(%)	Female N= 91(%)	Total N=155(%)
1	Lichen Simplex Chronicus	28(43.75)	24(26.37)	52(33.54)
2	Melasma	06(9.37)	37(40.65)	43 (27.74)
3	Trophic Ulcer	17 (26.56)	12 (13.18)	29 (18.70)
4	Vitiligo	06 (9.37)	07 (7.69)	13 (8.38)
5	Polymorphic Light Eruption	04(6.25)	04(4.39)	8(5.16)
6	Prurigo Simplex	01(1.56)	02(2.19)	03(1.93)
7	Prurigo Nodularis	01(1.56)	02(2.19)	03(1.93)
8	Actinic Chelitis	01(1.56)	02(2.19)	03(1.93)
9	Hereditary Hemorrhagic Telangiectasia	0	01 (1.09)	01 (0.6)

- Miscellaneous dermatoses were seen in 38.75% (155) of patients of which 32.82%(64) of patients were males and 44.39%(91) of patients were females.
- Among miscellaneous dermatoses lichen simplex chronicus 33.54%(52) followed by melasma was seen in 43 (27.74%) patients followed by trophic ulcer in 29 (18.70%) of patients.
- One patient presented with hereditary hemorrhagic telangiectasia

Table No: 11 Gender Wise Distribution of Nail Changes in the Study Group (N=435)

S.No	Nail Changes	Male N=242(%)	Female N=193(%)	Total N=435(%)
1	Loss of Luster	102 (42.18)	88(45.59)	190 (43.67)
2	Ridging	50 (20.66))	42 (21.76)	92 (21.14)
3	Thinning	32 (13.22)	18 (9.32)	50(9.52)
4	Loss of Cuticle	24 (9.91)	18 (9.32)	42 (9.65)
5	Nail Dystrophy	13 (5.37)	14 (7.25)	27 (6.20)
6	Subungual Hyperkeratosis	14 (5.78)	13 (6.73)	27 (6.20)
7	Beau's Lines	07 (2.89)	0	07 (1.60)

*Total doesn't correspond to 400 as multiple nail changes coexisted in some patients

- Nail changes seen in 85%(340) of patients in the study group,45 % (180) of patients were males and 40%(160) of patients were females.
- Loss of luster seen in 43.67%(190) of patients was the commonest nail change followed by ridging in 21.14% (92) of patients.
- Loss of luster of nails was seen in 52.35 (102)of males and 45.15(88) of females.
- Ridging of nails was seen in 25.6%(50) of males and 20.4%(42) of females.

Table No: 12 Gender Wise Distribution of Hair Changes in the Study Group (N=671)

S.No	Hair Changes	Males N=377(%)	Female N=294(%)	Total N=671(%)
1	Grey Hair	182 (48.27)	200 (68.02)	382 (56.92)
2	Diffuse Thining	118 (31.29)	76 (25.85)	194 (28.91)
3	Male Pattern Baldness	92 (16.44)	04 (1.36)	96 (9.83)
4	Alopecia Areata	15 (3.97)	14 (4.76)	29 (4.32)

*Total doesn't correspond to 400 as multiple hair changes coexisted in some patients

- Hair changes were seen in 95.5%(382) of patients of which 47.5%(190) of patients were males and 48%(192) of patients were females.
- Grey hair seen in 55.43% (372) of patients was the commonest hair change followed by diffuse thinning of hair in 30.40%(204) of patients.
- Grey hair was seen in 93.3%(182) of males and 92.6%(190) of females.

Table No: 13 Gender Wise Distribution of Oral Mucosa & Teeth Disorders in the Study Group (N=389)

S.No	Oral Mucosa & Teeth Disorders	Male N=189(%)	Female N=200(%)	Total N=389(%)
1	Dental Caries	69(36.50)	62(31.00)	131(33.67)
2	Loss Of Teeth	60(31.74)	70(35.00)	130 (33.41)
3	Staining Of Teeth	38(20.10)	52(26.00)	90 (23.13)
4	Oral Mucosa Hyperpigmentation	07(3.70)	09(4.5)	16 (4.11)
5	Oral Lichen Planus	09(4.76)	03(1.5)	12 (3.08)
6	Oral Candidiasis	06(3.17)	04(2.00)	10 (2.57)

- Among teeth disorders dental caries in 33.67% (131) of patients was the commonest, followed by loss of teeth in 33.41% (130) of patients.
- Dental caries was seen in 35.3%(69) of males and 30.2%(62) of females.
- Among oral cavity disorders oral mucosa hyperpigmentation seen in 4.11% (16) was the commonest followed by oral lichen planus seen in 3.08% (12) of patients.

Table No: 14 Gender Wise Distribution of Associated Systemic Illness in the Study (N=295)

S.No	Systemic Illness	Male N=153(%)	Female N=142(%)	Total N=295(%)
1	Hypertension	74(28.75)	49(28.87)	123(41.41)
2	Diabetis Mellitus	38(24.83)	38(26.76)	76 (25.76)
3	Cataract	34(22.22)	26(18.30)	60(20.33)
4	Htn +Dm	16(10.45)	22(15.49)	38(12.81)
5	Renal Disease	12(7.84)	9(6.33)	21(7.11)

6	Ischeamic Heart Disease	6(3.92)	2(1.40)	08 (2.71)
7	Hypothyroidism	03(1.96)	04(2.81)	07(2.37)

- Systemic illness were seen in 57.5%(229) of patients in the study group.
- In systemic illness hypertension was seen in 41.41% (123) patients, diabetes mellitus in 25.76% (76) and patients with both hypertension and diabetes mellitus in 12.81% (38) patients is present.
- Hypertension was seen in 37.9+%(74) of males and 23.9%(49) of females.
- Diabetes mellitus was seen in 19.4%(38) of males and 18.5%(38) of females.
- Cataract was seen in 20.33%(60) of patients.

DISCUSSION

Present Study included four hundred patients who had various physiological skin changes or pathological dermatoses. The age groups of elderly individuals included in different studies done in this regard are variable. The present study included all the geriatric population with males aged 60 years & above and females aged 50 years & above. Female patients were chosen at a younger age, as in them the hormonal changes after menopause influences the aging skin changes, which starts around their 50s. This is comparable to study done by Durai PC etal,^[1] where the geriatric population with males above 60 years and females having age of 50 years and above included in the study. In the study group all patients had one or more physiological skin changes unlike pathological dermatoses. In the present study 48.75%(195) of patients were males, 51.25% (205) of patients were females. In the present study majority of patients (54.0%) belonged to the age group of 60-69 years, followed by 24% in age group of 70-79 years. Our study was comparable to that of Durai PC etal.^[1] The mean age of elderly patients in the present study (64.48 years) which is close to the study of Durai PC etal,^[1] (63.45 years). In the present study male to female ratio was 0.95:1, which is comparable to the study group of Durai PC etal,^[1] with 0.74:1. In present study and Durai PC etal,^[1] study, females aged 50 were included showed similar male to female ratio. Xerosis is the commonest physiological change seen in the present study in 91.25% (365) patients. Xerosis was noted in 93% of patients by Raveendra L,^[11] which is comparable to present study. High number of patients with xerosis could be attributed to less use of emollients and usage of harsher soaps by the subjects of the study who mostly hail from rural areas. Wrinkling seen in 87% (348) patients in the present study is comparable to study by Raveendra L,^[11] with wrinkling in 88%(176) of patients. Most of the wrinkling seen in this study was on sun exposed areas like the face, neck, forearms and dorsum of hands. Idiopathic Guttate Hypomelanosis is seen in 23% (92) of patients in the present study compared to other studies. Infections and infestations of skin were seen in 37.5%(150) patients. The incidence of infections and infestations in studies of Patange & Fernandez,^[12] and Raveendra L,^[11] are 34.5% and 32% respectively, which are comparable to the present study. In all these studies fungal infections are the commonest infections seen as noted in the present study? Higher frequency of infections in the elderly in the present study may be because most patients are agricultural labourers.

In the present study, eczematous conditions are seen in 20.5% (82) patients comparable to study by Durai PC etal,^[1] with 24.2%(121) of patients. The incidence of seborrhoeic

dermatitis in the present study is 15.4% (23) which is in concordance with the study by Raveendra L,^[11] observed in 16.1% of patients. The increased incidence stasis dermatitis in our study may be because of the increased xerosis in the patients in the present study.

In present study, papulosquamous disorders are seen in 17.25% (69) patients, comparable to Grover & Narasimhalu study with 17 % (34) of patients.^[3]

Vesiculobullous disorders in the present study were in 4.75 % (19) patients comparable to study by Durai PC et al,^[1] with 4.4% (22) of patients.

Incidence of pemphigus vulgaris in present study was 1.75% (7 patients) comparable to study by Durai PC et al,^[1] with 1.8% (9) patients.

Bullous pemphigoid was noted in 1%(4) patients comparable to Raveendra L study with 1.5% (3) patients.^[11]

Benign tumours in the present study were in 76.25% (305) patients which was comparable to study by Grover & Narasimhalu,^[3] 74.5%(149) of patients but less than study by Pavithra S et al ²⁴ 80.5%(338) of patients. In the present study, incidence of Dermatoses papulosa nigra 72.5% (290) is comparable to that of the study by Grover & Narasimhalu 74.5% (149).^[3] In present study, malignant tumors were in 1.5% (6) when compared to study by Durai PC et al,^[1] with 1% (5) of patients. The higher incidence in the present study may be explained on the basis of genetic variability; occupations (most are agricultural labourers who work for long hours in sunlight). In present study Melasma was seen in 10.75% (43) patients compared to study by Raveendra L 5% (10) of patients.^[11] This slight higher incidence could be because of inclusion of female patients aged 50 and above in present study in contrary to 65 years and above in study by Raveendra L.^[11] Lack of luster in thenails was the commonest physiological change noticed in 47.5%(190) comparable to Durai PC et al,^[1] study with 50.8%(254) and Raveendra L,^[11] with 44% (88) of patients. Longitudinal ridging of nails seen in 23% (92) cases comparable to Durai PC et al study of 24.85(124) of patients. Greying of hair is seen in 95.5%(382) patients comparable to Durai PC et al,^[1] Grover & Narasimhalu,^[3] and Raveendra L,^[11] with 97.8%(489), 98%(196) and 90% (180) of patients respectively. The most common finding in the present among teeth disorders was dental caries observed in 32.75% (131) compared to 73.4%(186) of individuals in study by Durai PC et al.^[1] Loss of teeth observed in 32.5% (130) patients compared to 110(45.4%) individuals by Durai PC et al.^[1] The finding of lesser teeth disorders in the study could be as the study population are from rural area with their food habits with low sugar etc. Oral lichen planus was seen in 3%(12) cases comparable to 2.7% (6) in a study by Durai PC et al,^[1] In present study systemic illness were seen in 57.5% (229) patients compared to 64.5%(129) of patients in the study by Grover & Narasimhalu,^[3] and 54% (108) of patients in the study by Raveendra L.^[27] Hypertension in 30.75% (123) patients is the commonest systemic illness as is seen in studies done by Raveendra et al,^[11] (25%) and Grover & Narasimhalu (40%).^[3]

CONCLUSION

- In conclusion, the present study results indicate that among geriatric skin conditions, physiological skin conditions were more common manifestations when compared to pathological conditions.
- Among physiological conditions wrinkles, senile xerosis, idiopathic guttate hypomelanosis, Senile comedones, occur commonly in geriatric age group because of

the constant prolonged exposed to the sunlight which requires simple measures like protection from sunlight, by applying topical sun screens and emollients.

- Among pathological conditions benign tumours were the commonest followed by infections and infestations.
- Among infections & infestations, fungal infections were the commonest.
- Rare conditions like malignant melanoma and hereditary hemorrhagic telangiectasia were also observed in our study.
- High incidence of various skin changes in females reflects the influence of hormonal changes after menopause leading to early cutaneous aging.
- The present attempts to bring forth the regional and ethnic variations among various geriatric dermatosis up to this rural areas of the state.
- The differences seen in various studies underscore the genetic makeup, racial influences, geographic location, skin colour and duration of sun exposure, which may underlie these aging skin changes
- Different patterns of dermatoses in various studies help in better understanding of the prevalent skin diseases in a particular region.
- With increasing geriatric population, better understanding of the physiological changes occurring with age and various dermatoses occurring with increased frequency in the elderly is required for provision of better dermatological health care.
- More epidemiologic investigations concerning dermatologic diseases in the elderly population are needed to complement the information in this study, which presents an interesting profile of the various skin diseases.

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