

Original article

The prevalence of skin and venereal diseases among the geriatric patients attending in a tertiary care Hospital in Dhaka, Bangladesh

Mohd. Nurul Alam¹, Md. Anwar Husain², Ayesha Siddiqua³ Zahir Uddin Mohammad Babar⁴, Md. Rashidul Hasan⁵

Abstract

Background: The prevalence of skin and venereal diseases among geriatric populations generally differ in different countries and within various regions of a country depending upon social, economic, racial & environmental factor. The morbidity in elderly associated with skin and venereal diseases makes them an important public health problem. Very scanty literature was found on this geriatric problem in our country which is either disease based, community based or specified population group based. **Objective:** To assess the dermatological & venereal complaints of the elderly attending a dermatology outpatient department in a tertiary care hospital. **Materials and Methods:** We retrospectively analyzed a total of 1303 geriatric patients who were 60 years and above and came to the OPD of dermatology & venereology department of Ibn Sina Medical College Hospital, Dhaka, Bangladesh, over a period of 3½ year from January, 2014 to June, 2017. Data were collected on special proforma and analyzed with appropriate method. **Results:** Among 1303 patients 676 (51.88%) were male and 627 (48.12%) were female and most of the patients belonged to the age group 60-69 year (73.6%), mean age being 66.8 ± 7.06 year. The most commonly presented skin complaints were eczematous dermatitis (42.6%), fungal infection (19.14%), generalized pruritus (5.06%), seborrheic dermatitis (5.06%), urticaria (4.75%) and viral infections (4.29%) respectively. Tinea corporis (29.3%) was the most common of fungal infections and herpes zoster (82.14%) was the most frequent of viral infections. **Conclusion:** Eczematous dermatitis was found to be the most common noninfectious disease and fungal infection was the most common infectious disease in all age groups and genders.

Keywords: Skin diseases, geriatric, eczema, infections.

Bangladesh Journal of Medical Science Vol. 18 No. 01 January'19. Page : 130-135
DOI: <https://doi.org/10.3329/bjms.v18i1.39563>

Introduction

With the advancement of medical science, the size and ratio of the elderly population has been increasing in both developed and developing countries. Aging is a progressive degeneration process that leads to a decrement in the function and the reserve capacity of the whole body system, including skin system.¹

The reasons for this are complex and not well understood.² Cell replacement capacity, barrier function, chemical clearance capacity, sensory perception, mechanical protection, wound healing, immune responsiveness, thermoregulation, sweat production, sebum production, vitamin D production and capacity to repair DNA results in some inevitable

1. Dr. Mohd. Nurul Alam, Assistant Professor, Department of Dermatology & Venereology, Ibn Sina Medical College, Dhaka.
2. Dr. Md. Anwar Husain, Associate Professor & Head, Department of Dermatology & Venereology, Ibn Sina Medical College, Dhaka.
3. Dr. Ayesha Siddiqua, Associate Professor, Department of Dermatology & Venereology, Delta Medical College, Dhaka
4. Dr. Zahir Uddin Mohammad Babar, Junior consultant (Dermatology & Venereology), Nangolkot Upzilla health complex, Comilla.
5. Dr. Md. Rashidul Hasan, Associate Professor, Department of Dermatology & Venereology, US Bangla Medical College, Dhaka

Correspondence to: Dr. Mohd. Nurul Alam, Assistant Professor, Department of Dermatology and Venereology, Ibn Sina Medical College & Hospital, 1/1-B, Kallyanpur, Mirpur, Dhaka, Bangladesh.

E-Mail: sumondmc58@yahoo.com

changes, such as roughness, wrinkling, laxity of the skin and atypical presentations of dermatological diseases.¹² Due to these changes, their chances of developing skin disorders increases.⁴ Most of these dermatologic diseases are not life threatening, but affect the quality of life. In this study, we tried to evaluate the frequency as well as the age and gender distribution of the skin and venereal disorders in patients of 60 years and above of age.

Materials & Methods

This study was undertaken in the outpatient department of Dermatology & Venereology, Ibn Sina Medical College, Dhaka, Bangladesh. We retrospectively analyzed a total of 1303 geriatric patients who were 60 years and above and came to the OPD of dermatology & venereology department, from January, 2014 to June, 2017. The total study period was 3½ year. The inclusion criteria were age more or equals to 60 years, patients must have approached the dermatology OPD, the presence of accurate diagnosis in the medical records. Patients of less than 60 years of age, with inadequate data or without a definitive diagnosis were excluded. The patients were categorized according to their gender, age and dermatological & venereological diagnoses. Data were collected on special proforma and analyzed with appropriate method.

Ethical clearance: The study was approved by Ethics Committee of Ibn Sina Medical College, Dhaka, Bangladesh prior to publication.

Results

A total of 1303 geriatric patients attended the dermatology & venereology OPD over a 3½ year period. Of these 676 (51.88%) were male and 627 (48.12%) were female. The age range was from 60 to 100 years; and the mean age was 66.8 ± 7.06 year. The male to female ratio was 1.08.

Most of the patients 959 (73.6%) were belonged to age group 60-69 year, 279 (21.4%) patients were in age group 70-79 year, and 65 (4.98%) patients were in the 80 year and above age group. Ages along with gender distribution were also noted (Table-1 & Table-3).

The most commonly found skin diseases were eczematous dermatitis (42.6%), Fungal infections (19.08%), Generalized pruritus (5.06%), Seborrheic dermatitis (5.06%), Urticaria (4.75%), Viral infections (4.29%) respectively.

In male patients the five most frequent dermatological

complaints were Eczematous dermatitis (20.26%), Fungal infections(10.05%), Erectile dysfunction & Premature ejaculation(4.14%), Seborrheic dermatitis(3.22%), Urticaria(3.22%). However in females the most frequent complaints were Eczematous dermatitis(22.33%), Fungal infections (9.02%), Generalized pruritus(2.9%), Urticaria (2.22%), Viral infections (2.11%) (Table-2).

The commonly found fungal infections were tinea corporis (29.3%), candidiasis (26.5%), tinea cruris (19.8%), onychomycosis (11.24%), tinea pedis (9.64%), pityriasis versicolor (4.02%) respectively. The frequently seen viral infections were herpes zoster (82.14%), wart (10.7%) and herpes simplex virus infection (7.14%). Of bacterial infections pyoderma (furunculosis- 91.67%, impetigo- 8.3%) is the most common.

Among the neoplastic diseases, benign neoplasia was 3.22% and malignant neoplasia was 0.46% of total dermatological presentations. Of malignant neoplasia, the frequency of basal cell carcinoma was 82.3%, squamous cell carcinoma was 12% and melanoma was 3.7%. Among papulosquamous disorders psoriasis (2.76%) and lichen planus (0.084%) were the main diseases found in 47 patients. Immunobullous disorders found in 6 (0.46%) patients. 54 patients (4.14%), all males, came to our OPD with the complaints of erectile dysfunction & premature ejaculation. Among pigmentary disorders, vitiligo patients were slightly more (1.15%) than melasma patients (0.997%). Very few geriatric patients (0.38%) came to us for their alopecia problem (Table-2).

In the age groups of 60-69 year and 70-79 year, the most frequent diseases are almost same. These are eczematous dermatitis, fungal infections, viral infections. In the age group of 80 year and above, eczematous dermatitis, viral infections(specially herpes zoster) and fungal infections were most frequently found (Table-3).

Table-1: Gender distribution according to age group (n=1303)

Age groups	Male (%)	Female (%)	Total (%)
60-69 years	487 (37.38)	472 (36.22)	959 (73.6)
70-79 years	153 (11.54)	125 (9.67)	279 (21.4)
≥ 80 years	36 (2.76)	29 (2.22)	65 (4.98)
Total	676 (51.88)	627 (48.12)	1303 (100)

Table-2 : Distribution of skin diseases according to gender

Diseases	Total		Male		Female	
	No	%	No	%	No	%
Dermatitis & Eczema	55	42.6	264	20.26	291	22.33
Seborrheic dermatitis	66	5.06	42	3.22	26	2.0
Photodermatitis	11	0.84	5	0.38	06	0.46
Urticaria	62	4.75	33	2.53	29	2.22
Generalized Pruritus	66	5.06	14	1.07	38	2.9
Psoriasis	36	2.76	21	1.60	15	1.15
Lichen Planus	11	0.84	06	0.46	05	0.38
Melasma	13	0.997	3	0.23	12	0.92
Vitiligo	15	1.15	6	0.46	09	0.7
Benign Tumour	42	3.22	29	2.22	13	0.99
Malignant Tumour	06	0.46	03	0.23	03	0.23
Drug reaction	12	0.92	06	0.46	06	0.46
Bullous disease	06	0.46	03	0.23	03	0.23
Acne	03	0.23	00	00	03	0.23
Alopecia	05	0.38	05	0.38	00	00
Fungal diseases	249	19.11	131	10.05	118	9.05
Tinea corporis	73	5.6	34	2.60	39	2.99
Tinea cruris	48	3.68	37	2.84	11	0.84
Tinea pedis	24	1.84	16	1.23	08	0.6
Onychomycosis	28	2.14	19	1.46	09	0.67
Candidiasis	66	5.06	19	1.46	47	3.7
Pityriasis versicolor	10	0.76	06	0.46	04	0.3
Bacterial diseases	24	1.84	16	1.21	15	1.15
Furunculosis	22	1.68	14	1.07	12	0.9
Impetigo	02	0.15	02	0.15	03	0.23
Viral diseases	56	4.29	31	2.38	28	2.15
Herpes zoster	46	3.53	22	1.69	24	1.24
Wart	06	0.46	06	0.46	03	0.23
Herpes simplex infection	04	0.30	03	0.23	01	0.07
Scabies	11	0.84	04	0.3	07	0.53
Erectile dysfunction & PE	54	4.14	54	4.14	00	00
Total	1303	100	676	51.88	627	48.11

Table-3: Distribution of skin diseases according to age group

Diseases	Total		60-69 years		70-79 years		≥ 80 years	
	No	%	No	%	No	%	No	%
Dermatitis & Eczema	555	42.59	416	31.92	112	8.59	27	2.07
Seborrheic dermatitis	66	5.06	50	3.83	12	0.92	02	0.15
Photodermatitis	11	0.84	09	0.69	01	0.07	00	00
Urticaria	62	4.75	47	3.60	09	0.69	02	0.15
Generalized Pruritus	66	5.06	34	2.60	16	1.22	02	0.15
Psoriasis	36	2.76	20	1.53	13	0.99	03	0.23
Lichen Planus	11	0.84	10	0.76	01	0.07	00	00
Melasma	13	0.99	11	0.84	02	0.15	00	00
Vitiligo	15	1.15	13	0.99	02	0.15	00	00
Benign Tumour	42	3.22	34	2.60	06	0.46	02	0.15
Malignant Tumour	06	0.46	04	0.30	02	0.15	01	0.07
Drug reaction	12	0.92	10	0.76	03	0.23	01	0.07
Bullous disease	06	0.46	00	00	06	0.46	00	00
Acne	03	0.23	02	0.15	01	0.07	00	00
Alopecia	05	0.38	04	0.30	00	00	01	0.07
Fungal diseases	249	19.11	186	14.27	52	4.00	11	0.84
Tinea corporis	73	5.60	56	4.29	13	0.99	04	0.30
Tinea cruris	48	3.68	32	2.45	11	0.84	05	0.38
Tinea pedis	24	1.84	19	1.45	05	0.38	00	00
Onychomycosis	28	2.14	25	1.91	03	0.23	00	00
Candidiasis	66	5.06	47	3.60	17	1.30	02	0.15
Pityriasis versicolor	10	0.76	07	0.53	03	0.23	00	00
Bacterial diseases	24	1.84	19	1.46	05	0.38	00	00
Furunculosis	22	1.68	18	1.38	04	0.30	00	00
Impetigo	02	0.15	01	0.07	01	0.07	00	00
Viral diseases	56	4.29	35	2.69	12	0.92	09	0.69
Herpes zoster	46	3.53	26	1.99	11	0.84	09	0.69
Wart	06	0.46	05	0.38	01	0.07	00	00
Herpes simplex infection	04	0.30	04	0.30	00	00	00	00
Scabies	11	0.84	07	0.53	02	0.15	02	0.15
Erectile dysfunction & PE	54	4.14	48	3.68	04	0.30	02	0.15
Total	1303	100	959	73.60	279	21.42	65	4.98

Discussion:

All over the world as well as in Bangladesh, the elderly population has been increasing.⁵ The number of aged population has increased from 1.38 million to 7.59 million from the year of 1974-2001.⁶ Bangladesh is the seventh largest populated (152.51 million) and most densely (1015 person live per

square kilometers) country.⁷ According to world population aging report 2013, world's population 60+, 65+, and 80+ were 840628, 570459 and 120199 respectively. Moreover this number were 468549, 307699 and 57576 in Asia, 60033, 38513 and 5248 in Africa, 169874, 125152 and 33239 in Europe.⁸ In our study, the most frequent dermatological

complaints of elderly people were eczematous dermatitis (42.6%). Most of these eczematous dermatitis in these cases were asteatotic dermatitis. The higher prevalence is due to excessive bathing with hot water and strong soap, increased sensitivity to the irritants and allergen due to epidermal barrier dysfunction.⁹ Besides, the eczematous lesions are medically resistant in such patients.¹⁰ Other studies¹¹⁻¹⁴ have shown frequency of dermatitis ranging from 16.3% to 58.7%, which is compatible with the findings of our study.

Fungal infections were the most common infections in our study, similar to other studies.^{11,15} In our study frequency of fungal and viral infection is 19.06% and 4.29% respectively. The frequency of these infections were 38% and 12.3% respectively in one study,¹¹ but 3.4% and 4.0% respectively in another study.¹⁴ In our study the most frequent fungal infections were tinea corporis (29.3%), candidiasis (26.5%), tinea cruris (19.28%), onychomycosis (11.24%), tinea pedis (9.64%) respectively. But another study¹⁷ shows, most commonly found fungal infections were tinea pedis (48.5%), tinea unguium (28.4%), tinea corporis (13.6%), pityriasis versicolor (5.7%) respectively.

Among viral infections, herpes zoster (82.14%), and wart (10.7%), herpes simplex infection (7.14%) were most frequently seen. The frequency of herpes zoster, warts and herpes simplex infections were 78.4%, 16.4%, 4% respectively in one study,¹² and were 52.1%, 33.8%, 13.9% in another,¹¹ which are nearly similar to our study. but in another study¹⁷ wart (44%) was found more than herpes zoster (35.5%). The reactivation of varicella zoster virus usually causes herpes zoster infection in elderly patients.^{1,18} Pruritus was usually the most frequent complaint in dermatological survey in the elderly. In previous studies.^{19,20} The frequency of pruritus was found from 1.2% to 14.2% in different studies.¹¹⁻¹⁴ The frequency of generalized pruritus was 5.06% in our study.

The risk of developing melanoma and nonmelanoma skin cancers significantly increases with aging mainly due to decreased DNA-repair capacity, decreased immune surveillance and accumulation of carcinogenic material during aging.¹ In previous studies, the incidence of benign tumour was 3.22% and malignant tumour was 0.46%. In previous studies, the incidence of 12.6%.¹¹⁻¹⁴ The frequency of malignant neoplasm in our study is somewhat lower than that of previous studies. The low prevalence may

be due to the fact that, they present more commonly in surgery outdoor instead of dermatology outdoor. The incidence of bullous disease was 0.46% in our study, which was much lower than other studies.^{21,22} May be most of the bullous disease patient went to medicine department through emergency, instead of dermatology OPD.

The frequency of drug reaction is increased in the elderly population because of multiple drug use.¹⁰ Besides, drug induced autoimmune skin diseases such as pemphigus, bullous pemphigoid and lupus erythematosus. The most common drug reactions in skin are itching, exanthema and urticaria in geriatric persons.¹ In our study the drug reaction frequency was 0.92%. In one study¹¹ the drug reaction frequency in elderly population was 0.5% and another¹² shows 1.4%. So our study result is compatible with the previous studies.

Total 1303 patients of age 60 years and above were included in our study. Our study shows slight male predominance (male : female) = (1.08:1). This is similar with the findings of other studies^{3,16,21} and contrary to a study.²⁰ Most of the population belonged to the age group 60-69 year (73.6%), this was in accordance with other studies.^{15,21}

Conclusion :

The objective of this study was to find out the percentage of common dermatological problems of geriatric patients, so that we can prevent, diagnose and treat them. Most of the diseases found by the study could have been prevented by protective measures. Health education programme to be formulated about dermatological problems to include general and practical preventive information. These would improve the quality of life among the elderly population.

Conflict of interest: Authors declared no conflict of interest

Author's contributions:

Data gathering and idea owner of this study: Mohd. Nurul Alam , Md Anwar Husain

Study design: Mohd. Nurul Alam, Ayesha Siddiqua

Data gathering: Mohd. Nurul Alam, Md Anwar Husain, Zahir Uddin Mohammad Babar, Md.

Rashidul Hasan

Writing and submitting manuscript: Mohd. Nurul Alam , Ayesha Siddiqua, Md. Rashidul Hasan

Editing and approval of final draft: Mohd. Nurul Alam , Md Anwar Husain

References:

1. Yaar M, Gilchrest BA. Aging of skin. In: Wolff K, Goldsmith LA, Katz SI, Gilchrest BA, Paller As, Leffell DJ, eds. Fitzpatrick's Dermatology in General Medicine. &the d. New York: McGraw-Hill, 2008; pp 963-73
2. Schienfeld N. Infections in the elderly. *Dermatology online J* 2005;**11**:8.
3. Durai PC, Thappa DM, Kumari R, Malathi M. Aging in elderly: chronological versus photoaging. *Indian J Dermatol Venereol* 2012;**57**:343-52.
4. Beers MH, Jones TV (eds): Demographics. The Merck Manual of Geriatrics. Merck, 200, sect 1, chap 2, pp 9-24.
5. Barikdar A, Ahmed T, Lasker SP. The situation of the elderly in Bangladesh. *Bangladesh J bioethics* 2016;**7(1)**:27-36.
6. Bangladesh bureau of statistics (BBS) 2003.
7. Population and housing census report 2011, Bangladesh.
8. World population aging 2013, department of economic and social affairs, population division, United Nations, New York,2013.
9. Prakash Av, Davis MD. Contact dermatitis in older adults: a review of the literature. *Am J Clin Dermatol* 2010;**11**:373-81.
10. Farage MA, Miller KW, Berardesca E, Maibach HI. Clinica implications of aging skin: cutaneous disorders in the elderly. *Am J Clin Dermatol* 2009;**10**:73-86.
11. Liao YH, Chen KH, Tseng MP, Sun CC. Pattern of skin diseases in a geriatric patient group in Taiwan: a 7-year survey from the outpatient clinic of a university medical center. *Dermatology* 2001;**203**:308-13.
12. Yalcin B, Tamer E, Toy GG, Ozta P, Hayran M, Alli N. Prevalence of skin diseases in the elderly: analysis of 4009 geriatric patients. *Int J Dermatol* 2006;**45**:672-6.
13. Young AW Jr. Dermatologic complaints presented by 330 geriatric patients. *Geriatrics* 1958;**13**:428-34.
14. Adam JE, Reilly S. The prevalence of skin disease in the geriatric age group. *Australas J Dermatol* 1987;**28**:72-6.
15. Grover S, Narasimhalu C. A clinical study of skin changes in geriatric population. *Indian J Dermatol Venereol Leprol* 2009;**75**:305-6.
16. Droller H. Dermatologic findings in a random sample of old persons. *Geriatrics* 1955;**10**:421
17. Bilgili SG, Karadag AS, Ozkol HU, Calka O, Akdeniz N. The prevalence of skin diseases among the geriatric patients in eastern Turkey. *J Pak Med Assoc* 2012;**62(6)**:535-9.
18. Weinberg JM, Scheinfeld NS. Cutaneous infections in the elderly: diagnosis and management. *Dermatol Ther* 2003;**16**:195-205.
19. Thaipisuttikul Y. Pruritic skin diseases in the elderly. *J Dermatol* 1998;**25**:153-7.
20. Beaugard S, Gilchrest BA. A survey of skin problems and skin care regimens in the elderly. *Arch Dermatol* 1987;**123**:1638-43.
21. Chowdhury J, Das S, Roy AK. Skin diseases in elderly population from eastern India-an observational study. *J Pak Assoc Dermatol* 2016;**26(4)**:318-21.