ORIGINAL ARTICLE

CAN OUT-PATIENT DEPARTMENT OF A TERTIARY CARE HOSPITAL PROVIDE AN INSIGHT INTO THE PREVALENCE OF COMMONEST DERMATOSES?

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ABSTRACT

Objective: To determine the frequency of five commonest dermatoses among patients presenting to the Dermatology outpatient department (OPD) of a tertiary care hospital.

Meterials and Methods: This cross-sectional study was conducted in the department of Dermatology Hayatabad Medical Complex (HMC), Peshawar, KP, from January 1st, 2021 to 31st December 2021. Non-probability consecutive sampling technique was used. Ethical approval was taken from the hospital's ethical committee. Patients of either gender or age were included in this study. The diagnosis was classified according to the International Classification of Diseases (ICD-10). Statistical analysis was performed using SPSS version 22.0.

Results: A total of 4807 patients were registered for this study. Male patients outnumbered females. The maximum number of patients were 20 to 29 years old. Eczema was the commonest disease, followed by acne. Three hundred eighteen patients, whose diagnosis could not be ascertained in out-patient department, were admitted for establishing a diagnosis or further investigations.

Conclusion: An outpatient department of a tertiary care hospital can provide first-hand insight into the prevalence of various dermatological conditions.

Keywords: Outpatient department, Skin diseases, Tertiary care hospital

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INTRODUCTION

Skin diseases are an important disease group in almost all communities of the world, and are influenced by both internal and external factors.[1] The commonest external factors are socioeconomic status, personal habits, geographic location, and climate.[2] Internal factors influencing skin disease are age, gender, and heredity. These factors are usually responsible for the difference in the prevalence of skin diseases among various regions.[2]

Data regarding the prevalence of any disease, including skin diseases, is essential for planning both preventive and therapeutic healthcare services. Population-based studies are useful in this context. This present study was performed in a tertiary care hospital in Peshawar, Khyber Pakhtunkhwa (KP), Pakistan, with a population of 4.26 million.[3] However Afghan refugees also live in KP in sizeable numbers and many come to Peshawar from Afghanistan for treatment purposes. If these diseases are not diagnosed timely they can be a cause of significant morbidity and have economic implications for our province.

There is limited information on the frequency of various skin diseases in our country. Therefore this particular study was designed to estimate the frequency of various skin diseases in KP. The objective of this study was to identify five dermatoses that can be most commonly seen among patients presenting to the Dermatology outpatient department (OPD) of a tertiary care hospital. The results of this study will be shared with health authorities for a large-scale study on this subject and planning prevention strategies if some preventable skin diseases were identified.

MATERIAL & METHODS

This cross-sectional study was conducted in the department of Dermatology Hayatabad Medical Complex (HMC), Peshawar, KP, from January 1st, 2021 to 31st December 2021. Ethical approval was taken from the hospital ethical committee (Ref No: 367/HEC/B&PSC/2020). A nonprobability consecutive sampling technique was used for this study. Patients of both gender and age coming

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to the outpatient department of the Dermatology Unit of HMC were included in this study. These patients were diagnosed by a senior consultant Dermatologist having at least five years of experience as a consultant. Where needed appropriate laboratory tests, wood's lamp examination, dermoscopy, and histopathological examinations were done for confirmation of diagnosis. The dermatoses were classified according to the International Classification of Diseases (ICD-10). Statistical analysis was performed using SPSS version 22.0

RESULTS

A total of 4807 patients were registered from only one consultation desk of the Dermatology outpatient department of the Hayat Abad medical complex. Male patients outnumbered females by 1.28:1 (Fig 1). The maximum numbers of patients were in the age range of 20 to 29 years (27.81%), while the minimum numbers of patients were in the age range of 40 to 49 years (8.94%) (Table 1). Eczema was the commonest disease seen among the enrolled patients, followed by acne, seen in 642 and 543 patients respectively (Table 2). The third most commonest dermatosis was fungal infection seen in 525 patients. Various types of bacterial infections were seen in 346 patients. It was followed by scabies which were seen in 327 patients (Table 2). Three hundred eighteen patients were seen whose diagnosis could not be ascertained in the outpatient department. Therefore these patients were either admitted for establishing a diagnosis or further investigations were advised for this purpose. Various other dermatoses seen are shown in table 2.

Table 1: Age of enrolled patients

Age range (years) N (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
0-9	87	124	120	85	93	87	34	59	36	52	44	24	845 (17.57)
10-19	137	167	167	76	97	70	61	51	61	45	45	29	1007 (20.94)
20-29	126	174	201	140	168	83	78	62	82	91	85	47	1337 (27.81)
30-39	89	98	100	89	71	53	43	41	40	35	50	29	738 (15.35)
40-49	70	67	63	53	34	16	27	20	22	27	22	09	430 (8.94)
≥ 50	57	60	71	52	52	34	18	21	26	19	25	15	450 (9.36)
Total	566	691	722	495	515	343	261	254	267	269	271	153	4807 (100)

Table 2: List of diseases

	Disease	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	Eczema	59	100	100	84	84	42	22	23	36	45	32	13	642
2	Acne	64	74	66	58	57	38	40	20	35	37	30	23	542
3	Tinea	58	72	54	42	48	27	22	22	15	14	15	06	395
4	Candida	9	9	14	4	11	3	2	3	4	2	5	1	67
5	Versicolor	6	5	4	4	8	6	8	5	5	6	4	2	63
6	Scabies	50	51	62	22	26	24	28	13	11	14	15	11	327
7	Folliculitis	10	10	08	09	07	05	06	13	08	06	02	04	88
8	Ecthyma	2	2	2	1	2	2	0	2	1	0	3	1	18
9	Furunculosis	10	12	15	07	6	9	3	14	8	4	7	2	97
10	Sycosis	1	2	1	1	0	0	0	0	0	0	0	0	05
11	Abscess	3	6	5	1	2	0	0	3	0	0	1	0	17
12	Impetigo	5	12	7	5	7	11	5	13	10	10	2	3	90
13	Erysipelas	2	5	3	6	7	4	0	1	1	0	1	1	31

14	Viral. Ex	1	2	3	1	7	5	0	1	0	1	3	0	24
15	Warts	14	28	21	19	8	6	8	0	6	6	8	0	124
22	Chicken pox	11	03	13	04	13	15	06	01	01	02	01	01	71
23	Herpes Zoster	7	6	6	5	8	3	2	1	3	3	4	0	48
24	Herpes Simplex	2	2	5	1	0	4	0	0	2	0	2	0	18
25	Molluscum Contagiosum	1	4	6	6	2	1	1	0	1	0	0	1	23
26	Lupus Vulgaris	1	2	2	0	0	0	0	0	0	0	3	0	08
27	Melasma	10	26	40	35	33	14	14	12	17	15	09	04	229
28	Psoriasis	10	12	11	10	9	8	1	2	3	8	2	4	80
29	Seborrhoeic Dermatitis	32	38	21	19	08	06	08	00	06	06	08	00	152
30	Alopecia Areata	11	12	09	10	02	04	02	03	06	02	06	00	67
31	Diffuse Hair loss	16	21	15	11	11	05	15	04	09	10	02	05	124
32	Androgenic Alopecia	4	5	5	2	2	1	0	4	5	2	2	0	32
33	Miscellaneous	28	48	39	26	35	29	15	25	10	18	36	09	318
34	Ulcers	1	3	2	2	4	3	0	0	1	1	0	0	17
35	Peri anal fistula	1	0	0	0	0	0	0	0	0	0	0	0	1
36	Pityrosporum Folliculitis	3	1	1	2	2	1	0	0	1	0	0	1	12
37	SLE	1	3	0	1	1	1	0	0	1	0	3	1	12
38	Diabetic Dermopathy	1	0	0	0	0	0	0	1	0	1	0	0	03
39	Acute Urticaria	10	15	30	19	17	11	3	7	3	4	3	3	125
40	Chronic Urticaria	8	3	11	6	8	3	1	6	1	3	3	1	54
41	Cholinergic Urticaria	8	4	4	1	0	0	0	0	1	0	2	0	20
42	Aquagenic Urticaria	1	0	1	1	0	1	0	0	0	0	0	0	04
43	Paronychia	6	8	4	1	3	3	2	4	3	1	2	0	37
44	Infertility	6	2	12	1	4	0	0	0	1	0	2	0	28
45	Post Herpetic Neuralgia	3	0	2	5	2	1	0	1	0	0	0	0	14
46	Sex Problems	4	7	11	2	5	1	1	2	4	2	1	3	43
47	Pemphigus vulgaris	3	0	0	4	2	2	0	1	1	0	2	0	15

48	Nodular Prurigo	3	1	1	2	1	1	0	1	0	2	0	0	12
49	Pityriasis Rosea	3	2	4	0	0	3	0	1	0	0	0	2	15
50	Pediculosis capitis	3	1	5	1	1	3	1	0	0	2	0	2	19
51	Xerosis	6	6	19	3	5	3	1	0	6	0	6	3	58
52	Callus	1	2	3	0	0	0	0	0	0	0	0	0	6
53	Keloid/Hypertrophic scar	4	1	6	1	1	1	1	3	1	2	2	0	23
54	Gen. pruritus	4	7	2	3	6	2	4	0	2	1	2	0	33
55	Diabetic bullae	1	0	1	0	0	0	0	0	0	0	0	0	2
56	Fixed Drug Eruption	1	3	0	2	1	1	1	1	1	0	3	0	14
57	EM/SJS/TEN	1	1	3	0	0	0	0	2	1	2	0	0	10
58	Lichenoid drug rash	1	0	0	0	0	0	0	0	0	0	0	0	01
59	Perniosis	29	8	1	0	0	0	0	0	0	0	3	0	41
60	Dermatosis Papulosa Nigra	1	0	0	0	0	0	0	0	0	0	0	0	01
61	Cutaneous Leishmaniasis	7	9	6	3	9	1	4	1	1	3	5	3	62
62	Sebaceous Cyst	1	1	0	0	0	0	0	0	0	0	0	0	02
63	Inect Bite Reaction	3	4	6	7	7	5	2	5	5	4	1	0	49
64	Leucocytoclastic Vasculitis	1	0	0	0	0	0	0	0	0	0	0	0	01
65	Striae	1	0	3	1	0	1	0	0	0	1	0	0	07
66	Amyloidosis	3	5	5	3	4	0	0	0	1	2	0	0	23
67	Nail dystrophy	1	0	0	0	0	3	2	3	1	2	3	3	18
68	Vitiligo	2	3	7	3	7	2	1	4	6	3	1	1	40
69	Lichen Planus	8	8	20	12	07	4	4	3	6	7	7	6	92
70	Colloid Milium	2	0	0	0	0	0	0	0	0	0	0	0	2
71	Milia	0	5	2	1	2	2	0	0	0	0	1	0	13
72	Chronic granulomatous diseases	3	3	1	3	2	0	0	0	2	0	1	0	15
73	Schamb.disease	1	0	1	0	0	0	0	0	0	0	0	0	2
74	Burns	1	1	1	3	0	1	1	1	1	1	1	0	12
75	Erythema ab igne	1	0	0	0	0	0	0	0	0	00	0	0	01

76	BCC	1	2	1	2	1	1	0	1	0	1	0	2	12
77	Keratosis Pilaris	1	1	2	3	0	1	0	1	0	2	2	0	13
78	Pemphigus Herpetiformis	1	0	1	0	0	0	0	0	1	1	0	0	04
79	Hyperhydrosis	1	0	1	2	0	0	1	0	0	0	0	0	05
80	HSP	1	0	1	0	0	0	0	0	0	0	2	0	04
81	Ichthyosis	1	3	0	2	0	0	0	0	0	2	1	1	10
82	Miliaria	0	0	0	0	4	8	5	23	4	1	0	0	35
83	Erythroderma	1	0	0	0	0	0	0	0	0	1	2	0	04
84	Malanoc.naevi	2	6	1	0	5	1	0	3	1	1	1	1	22
85	Pyoderma Gagrenosum	1	0	1	0	0	0	0	0	0	0	0	0	02
86	Linear morphea	1	1	0	0	0	0	1	0	0	1	0	0	04
87	PEPregnancy	1	1	0	0	1	0	0	0	1	0	0	1	05
88	Maculopapular drug rash	1	4	7	2	2	1	0	1	1	3	4	0	28

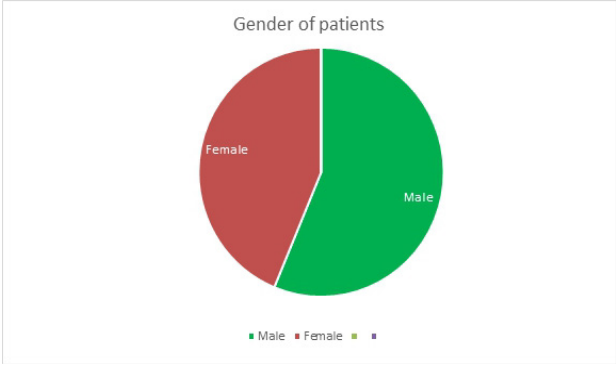

Fig 1: Gender of patients

DISCUSSION

This study was conducted in the outpatient department of HMC, Peshawar, to document the prevalence of various skin diseases in the population visiting this hospital. HMC is a tertiary care hospital in Peshawar, Khyber Pakhtunkhwa Province. Patients from all over the province visit this hospital for the treatment of various ailments. Hence statistics from this hospital give an approximate guide to the prevalence of diseases in the entire province.

Among enrolled patients, male patients were more as compared to females. Singhal and his colleagues from India reported a similar trend.[1] The plausible reason for this could be that as per the population consensus of 2017, the number of males in KP is more than females.[3] Hence there are more chances of disease burden among the male population. The second reason could be that the predominant dermatosis noticed was eczema. Since the male population of our province is mostly responsible for earning livelihood for their families hence the chances of sensitization leading to eczema are more in the male population. This fact was highlighted by Bonamonte and Kanton and their colleagues who stated that occupation along with environmental factors, socio-economic status, literacy, and age of the patients was responsible for various dermatological diseases.[4'5] So the number of male patients visiting our outpatient department was more as compared to females. Also in KP male dominance is more as compared to other provinces. Females can't seek treatment without a male accompanying them. Since males are mostly out of their homes for earning a livelihood therefore many females don't go to the hospital despite suffering from various skin diseases.

Almost 50% of the patients suffering from various skin diseases were in the third and second decades of their lives respectively (Table 1). In an International study, it was reported that the majority of their patients were in the second and fourth decades of their lives.[6] The reason for similar observation of having more patients in the second to fourth decade of their lives could be due to the reason that most of the patients in the two studies were working-class suffering from eczema. Hence more patients

were in the second and third decades of their lives because our working class mostly belongs to this age group.

Eczema was the commonest dermatosis among enrolled patients (Table 2). Earlier Asian studies also reported eczema to be the commonest skin disease.[7] The reason for higher local as well as global burden of eczema as compared to other dermatoses in Asian countries is due to a higher number of patients having allergic contact dermatitis.[7] The reason for high percentage of eczema among our patients could be that they are exposed to various occupational allergens and chemicals but they do not indulge in protective measures. Moreover, use of artificial jewelry in females and footwear allergy in both genders owing to hot and humid climate are contributing factors as well.[8] Similarly females in our province have more chances of allergic sensitization as they are responsible for cooking, washing and other house hold activities.[9] Thus females have more chances of allergic as well irritant contact dermatitis.[9]

Second commonest skin disease noted was acne (Table 2). We are aware of the fact that acne is more commonly seen in teenage and third decade. In our study majority of our enrolled patients were in the second and third decades of their lives. Hence we observed a sizeable number of patients having acne. According to study conducted by Alshammrie, acne is the commonest disease and the highest cause of disability-adjusted life year in developed countries.

It is particularly prevalent during the late adolescent period, which many sources regard as being between the ages of 15 and 18 years, most likely initiated by the onset of puberty.[10] Reason for acne in teenage is that the cellular mechanisms at play during this time frame mostly involve an increase in androgens capable of stimulating an intra-nuclear receptor and activating the proliferation of cells within the pilosebaceous unit.[11] Also diet including meats, dairy, and high glycemic index foods, can also influence this same pathway by inactivating the regulator of the androgen receptor.[12]

The 3rd most frequently seen disease was fungal infection including superficial fungal infections like pityriasis versicolor, candida, and tinea. In a Nigerian study a prevalence of superficial fungal infection was seen in a much higher percentage of their enrolled patients while it was 10.2% in our study. [13] It has been suggested that differences in the prevalence of superficial fungal infection in different regions may be due to variation in climatic and environmental conditions of the areas being studied. There was no case of tinea pedis found in this Nigerian study, unlike our study which had tinea pedis being the commonest fungal infection. This is probably due to the age group that was being studied. Tinea pedis has been found more in older age groups as documented by Khudadadi.[14]

Bacterial infections were the fourth most common disease category encountered in our outpatient department (table 2). These were localized mostly in lower limbs and a possible reason could be the presence of Staphylococcus aureus and/or beta-hemolytic streptococcus in toe webs, leg erosions or ulcers, and/or prior splenectomy. These factors independently correlate with the development of skin and soft tissue infections of the lower leg.[15] Among bacterial infections commonest was furunculosis (table 2), the reason for it could be the frequent presence of its risk factors in our community which is anemia, previous antibiotic therapy, diabetes mellitus, and poor personal hygiene.[16]

Scabies was 5th commonest disease seen in our out-patient (table 2). Nocturnal itching was the presenting complaint in almost every patient. Similarly, in a study conducted by Chandler nocturnal itching was the most frequently cited element in the patient history.[17] Frequency of scabies in our study was 6.8% which is almost equal to a study conducted by Pasha and his colleagues that showed the frequency of scabies as 7%.[18] Reason for this similarity could be the same living and environmental conditions in both regions. A study conducted by Alberfikani in Iraq showed a prevalence of 45% which is higher than our frequency through their time period and the sample of the study was smaller but a reason could be that it was conducted in a rural area where poverty could be a contributory factor.[19] Secondly this study also included quite a higher number of internally displaced persons which could be another reason for a higher prevalence.[19]

The health department should conduct workshops for doctors working in rural areas for educating those doctors so that they can treat or refer these patients to tertiary care hospitals for timely treatment of these patients.

Being a single center is the main limitation of this study. Large multicenter trials are required for the generalization of the findings.

CONCLUSION

Out-patient departments of our tertiary care hospitals can help us identify commonest dermatoses in our province. Communication of this data to our health department can help in educating our masses about prevention of these diseases through electronic and print media.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

Khan AR: Conceiving the data, data collection

Khan SR: Literature search writting up the article, & statistical analysis

Faizullah F: Literature search

Jalal D: Bibliography

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.