

# Dermatological Disorders being Overlooked among patients admitted in medical wards and allied in Sheikh Zayed Hospital, Lahore, Pakistan

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## ABSTRACT

**Background:** Dermatological diseases are overlooked by most clinicians despite being common in clinical practice. Many hospitalized patients have co-existing dermatological conditions which may not be detected and managed by the concerned doctors.

**Aim:** To determine the extent of overlooked dermatological disorders among patients admitted to the medical wards and allied in Sheikh Zayed Hospital Lahore.

**Methods:** 141 Patients were simultaneously recruited from all medical wards and allied. After introduction patients were interviewed about any dermatological problem followed by a complete physical examination. Dermatological diagnoses were made mainly clinically and labs were performed where necessary. Proforma and SPSS were used to collect and calculate results.

**Results:** One hundred and forty one patients admitted to medical wards and allied were enrolled into the study of whom, 68(48.22%) were females. The mean age was 51.49 (range 13-93 years). Overall, 107/141 patients (75%) had co-existing dermatological disorders with 28.36 % (40/141) having one, 25.53% (36/141) two and 9 patients (6.38%) with three and 5 patient (3.54%) having four. A wide range of co -existing skin diseases was encountered, the mostly non-infectious conditions which together accounted for 56.73% (80/141) while infectious dermatoses accounted for 19.14% (27/141). The leading infectious skin diseases were superficial fungal infections accounting for 14.89% (21/141). Generalized pruritus, ecchymosis and bruises at injection sites and xerosis were the most common non-infectious conditions, each accounting for 31.91, 28.36, 14.18% respectively.

**Conclusion:** Dermatological disorders are common among admitted patients and many are not detected by their referring or admitting physicians at admission or during admission. Basic dermatological education should be emphasized to improve knowledge and awareness among clinicians and nursing care should be improved.

**Keywords:** Dermatological disorders, overlooked, medical ward and allied.

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## INTRODUCTION

Dermatology is usually considered as an outpatient service with very little attention given to admitted patients. One reason of less medical importance of skin diseases in indoor patients may be the severity of their systemic illness but this cannot be justified as we know that skin is the mirror of our internal organs.

Skin diseases are quite common in developing countries, ranging from 20% to 80% and most of them result from infections and infestations<sup>1-4</sup>. Dermatological diseases affect all ages and both sexes but children are more vulnerable<sup>1,5-8</sup>. Due to high prevalence of dermatological disorders in the general population they are expected to be more common even among hospitalized patients but this should not mean that they are of less importance

than other systemic diseases. There are relatively few studies about dermatological disorders in hospitalized patients.<sup>9-13</sup> Dermatological diseases being primary reason for hospital admission include Stevens Johnson syndrome (SJS), toxic epidermal necrolysis (TEN), autoimmune blistering diseases, erythroderma, necrotizing fasciitis, leg ulcers, dermatological malignancies and psoriasis in developing as well as the developed countries<sup>14,15</sup>. Most skin diseases which either co-exist with other medical illnesses or be specific markers/manifestations of underlying systemic diseases may be overlooked by health professionals. Some systemic diseases that can be suspected through cutaneous manifestations include chronic renal failure, endocrine disorders, connective tissue diseases, lymphomas, cardiovascular diseases, nutritional deficiencies and HIV/AIDS. The objective of this study was therefore to evaluate the burden of co-existing dermatological disorders among patients admitted to medical wards and allied of Sheikh Zayed

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*Dermatological conditions in intensive care: a secondary analysis of the Intensive Care National Audit & Research Centre (ICNARC) Case Mix Programme Database. Critical Care 2008, 12:S1.*

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Hospital, Lahore and document the tendency of being overlooked either by their attending doctors at admission and during admission.

**MATERIALS AND METHODS**

This was a hospital-based cross sectional descriptive study conducted in all medical wards and all specialities of medicine including neurology, nephrology, gastroenterology, cardiology, pulmonology, rheumatology, psychiatry of Sheikh Zayed Hospital, Lahore. Sheikh Zayed hospital is the largest tertiary referral and teaching hospital receiving patients especially suffering from gastrointestinal, renal and rheumatological problems from all regions of the country. Patients admitted in all medical wards and allied were simultaneously recruited into the study. Patient’s clinical data was obtained by history and hospital files were scrutinized to obtain any dermatological diagnoses by referring or attending doctor. Complete physical examination was carried out to find any dermatological problem and to confirm previous diagnosis. Final dermatological diagnosis was made by a dermatologist panel consisting of two consultant dermatologist and where necessary and feasible, appropriate laboratory investigations were arranged e.g., fungal scraping, skin scraping for scabies mites, skin biopsy and PCR. Ethical clearance was obtained from the ethical clearance board of the Federal postgraduate medical institute, Sheikh Zayed Hospital, Lahore. Permission to conduct the study in the medical wards and allied of Sheikh Zayed Hospital (SZH) was sought from the hospital authority. Fully informed verbal and written consent was obtained from every patient who participated in the study. Data analysis was done using SPSS version 17. Frequency and percentages was calculated for qualitative data while mean and standard deviation was calculated for quantitative data.

**RESULTS**

A total of 141 patients admitted to medical wards and allied were recruited into the study. The demographic characteristics and prevalence of dermatological disorders among these patients has been shown in table 1. The mean age of the patients was 51.49±16.10 (range 13-93) with the majority (49.64%) being aged 35-65 years. A good number of females were observed i.e., 48.22% (68/141). Overall, 107/141 patients (75.88%) had co-existing dermatological disorders with 28.36% (40/141)

having one, 25.53% (36/141) two and 9 patients (6.38%) three and 5 patients (3.54%) with four. Patients in age groups 51-65 years (31.20%) and 36-50 years (18.43%) had the highest frequency than the other age groups. Table 2 shows the dermatological disorders among patients admitted to medical wards and allied.

Table 1: The prevalence of dermatological disorders among patients distributed by age and sex (n=141)

Variable	All patients	Patients with dermatological disorder
Male	73( 51.77%)	56(52.33%)
Female	68( 48.22%)	51( 47.66%)
Age(years)		
10-20	7(4.96%)	5 (4.67%)
21-35	19(13.47%)	15 (14.01%)
36-50	38(26.95%)	26 (24.29%)
51-65	55(39.00%)	44 (41.12%)
66-95	22(15.60%)	17 (15.88%)
Total	141	107

Table 2: Dermatological disorders among patients admitted to medical wards (n=141)

I: Non-infectious dermatological disorder:
-Generalized pruritus 45(31.91%)
-Ecchymosis and bruises at injection sites 40(28.36%)
-Xerosis 20(14.18%)
-Non specific dermatosis 13(9.21%)
-Postinflammatory hyperpigmentation 12( 8.51%)
-nail changes 6(4.25%)
Atopic eczema 5(3.54%)
-Acne vulgaris 4(2.83%)
-post-inflammatory scarring/burn scar 4(2.83%)
-bed sores 4(2.83%)
-seborrheic warts 3(2.12%)
-age spots 3(2.12%)
-Seborrheic dermatitis 3(2.12%)
-melasma 3(2.12%)
-acquired ichthyosis 3(2.12%)
-Prurigo nodularis chronicus 2(1.41%)
-Urticaria 2(1.41%)
-Lichen simplex chronicus 2 (1.41%)
- hypomelanosis 2(1.41%)
-purpura/petechiae 2(1.41%)
-deep vein thrombosis 2(1.41%)
-Oral ulcers 2(1.41%)
- Generalized hyperpigmentation of skin 2(1.41%)
-gangrenous foot 1(0.70%)
-freckles 1(0.70%)
-pityriasis alba 1(0.70%)
-hypertrichosis 1(0.70%)
-Erythema multiforme 1(0.70%)
-neuropathic ulcers 1(0.70%)
-palmoplantar keratoderma 1(0.70%)
II: Infectious dermatological disorder
-Tinea unguium 10(7.09%)
-Tinea pedis 1(0.70%)
-Oral candidiasis 6(4.25%)
-Pityriasis versicolor 3(2.12%)
-candidal intertrigo 1(0.70%)
-ichthyma 2(1.41%)
-Cellulitis 2(1.41%)
-Herpes simplex 1(0.70%)
-Scabies 5(3.54%)

## ORIGINAL ARTICLE

Table 3: Dermatological disorders diagnosed at pre admission, admission and post admission periods among patients admitted to medical wards (n = 141) Time of diagnosis

Dermatological disorder	Pre-admission	Admission	Post-admission
All types	6	5	12
I: Non-Infectious disorders			
Urticaria	2		
Bed sores			4
erythema multiforme			1
cutaneous small vessel vasculitis			1
gangrenous feet			1
necrotic ulcer	1		1
deep vein thrombosis	2	2	
ITP	1	1	
Hypertrichosis		1	
Non specific lesion			
II: Infectious disorders			
-Fungal infections			
Tinea pedis			1
Oral candidosis			2
-Bacterial infections			
Cellulitis		1	1

Table 4: The frequency of co-existence of dermatological disorders with systemic diseases among patients admitted to medical wards and allied (n=141)

Systemic disease	Frequency among admitted patients	Frequency of co-existing dermatological disorders%
Cardiovascular diseases	75 (53.19%)	40 (53.33%)
Diabetes mellitus	54 (38.29%)	35 (64.81%)
Renal diseases	42(29.78%)	30 (71.42%)
Gastrointestinal diseases	22(15.60%)	15 (68.18%)
Neurological diseases	15 (10.63%)	7 (46.66%)
Pulmonary disorders	10 (7.09%)	5 (50%)
Solid malignancies	6 (4.25%)	2 (33.33%)
Hematological diseases	4 (2.83%)	3(75%)
Connective tissue diseases	3 (2.12%)	2 (66.66%)

A wide range of skin diseases was encountered, the most diverse being non-infectious conditions which put together accounted for 56.73% (80/141), while infectious dermatoses accounted for 19.14% (27/141). The common non infectious skin diseases were generalized pruritus present in 31.19% (45/141), ecchymosis and bruises at injection sites in 28.36% (40/141), xerosis in 14.18% (20/141), post-inflammatory hyper and hypo pigmentation in 10.63% (15/141) followed by non specific dermatosis, acne and prurigo, all present in 11.34%. The common infectious dermatoses were superficial fungal infections at a prevalence of 14.89% (21/141) with tinea 7.80% (11/141), pityriasis versicolor 2.12% (3/141) and oral thrush 4.25% (6/141). The

commonest dermatophytoses were tinea unguium (10/141) with prevalence of 7.09%. Bacterial skin infections were seen in 4.25% (6/141), viral infections in 0.70% (1/141) and 5 patients (3.54%) had scabies. Six patients with solid organ malignancies were found but no one with cutaneous neoplasm. Table 3 shows the pattern of dermatological disorders as detected at pre-admission, admission and post-admission periods. Out of 141 admitted patients, 6(4.25%) were reported as having dermatological disorders preadmission. At admission, 3.54% (5) were reported as having dermatological disorders, the leading diagnoses being deep vein thrombosis, cellulitis and necrotic ulcer in 3.54%. In the post-admission period, a total of 12/141(8.51%) patients were found to have dermatological disorders which developed during hospital stay. In general, of the 107/141 patients with dermatological disorders, 68/107 (63.55%) and 79/107 (73.83%) had been overlooked by the referring and admitting doctors respectively. Table 4 shows the pattern of co-existence between dermatological disorders and other medical diseases. Overall, fifty four patients were admitted due diabetes mellitus and 35 of them (64.81%) had co-existing dermatological disorders commonly generalized pruritis, xerosis, tinea lesions 71.42% (15/21), neuropathic ulcer and gangrenous feet 1.25% (1/80) each. Among 75/141(53.19%) patients with cardiovascular diseases, 40(53.33%) had co-existing dermatological disorders. Four patients (2.83%) were admitted due to hematological diseases like deep vein thrombosis and idiopathic thrombocytopenic purpura and 75% (3/4) had co-existing dermatological disorders. Among 42(29.78%) patients with renal diseases, 30(71.42%) had coexisting dermatological disorders while of the 22 patients (15.60%) admitted due to gastrointestinal diseases, 15 (68.18%) had co-existing dermatological disorders, mostly xerosis and generalized pruritus. Six patients (4.25%) were admitted due to solid malignancies and of these, 2(33.33%) had co-existing dermatological disorders.

## DISCUSSION

There is a common perception that dermatology is an outpatient specialty associated with low mortality.<sup>15</sup> This concept could lead to less dermatological attention given to hospitalized patients by some of their attending physicians which may allow most of the skin diseases to run a chronic course with significant effects on the general health as well as the quality of life of the affected individual. Certain systemic disorders can be suspected through cutaneous symptoms and signs. This study has described the extent of co-existing dermatological disorders among patients admitted to medical wards and allied. Almost all forms of skin diseases (infectious, noninfectious encountered although at different frequencies. When specific types of dermatological disorders were analyzed, the most common were generalized pruritus (%), infections (%), and xerosis (%). Many studies conducted in developing tropical countries have described infectious dermatological disorders, especially fungal and bacterial infections as being the most commonly encountered.<sup>11</sup> The pattern of co-existence between dermatological and other medical conditions in our study demonstrated that, over three-quarters of patients with generalized pruritus, infections, xerosis and non specific dermatosis. In our study we have also observed that, a wide variety of systemic diseases co-existed with dermatological conditions. Systemic diseases which demonstrated high frequency of dermatological disorders (>50%) included cardiovascular, diabetes mellitus, chronic kidney disease, hematological disorders hepatic diseases and neurological diseases. Cellulitis was found in only 1.41% of admitted patients in our study, while cellulitis is considered as one of the frequent causes of admission in developed countries may not be surprising since in our set up, because mild forms of cellulitis would normally be managed at peripheral hospitals while severe cellulitis which is usually associated with dermal necrosis and fasciitis would be admitted to surgical (and not medical) wards for surgical interventions. The prevalence of dermatological disorders at preadmission (referral) and admission periods, was grossly underestimated for all disorders except for deep vein thrombosis, cellulitis, and a big necrotic ulcer. Most skin diseases were overlooked by the referring and admitting doctors reason being health professionals unawareness regarding the burden of dermatological diseases<sup>5</sup>. On the other hand, it is also a fact that the majority of patients presenting to hospitals for various diseases, may not complain about their accompanying dermatological problems probably due to the assumption that skin diseases are a mere cosmetic nuisance, not associated with any serious suffering. All these factors may lead to delays in

diagnosis of the underlying serious and even life threatening systemic diseases.

## CONCLUSION

Dermatological disorders are very common and diverse among patients admitted to medical wards and allied but they are rarely documented as primary or additional diagnoses by their referring or admitting physicians. Dermatological education should be emphasized to the health care workers to improve their knowledge and better nursing care should be provided to the indoor patients.

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