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The impact of skin diseases on quality of life at two teaching tertiary hospitals in Dar es Saalam, Tanzania

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Abstract

Background: Most skin diseases exert powerful negative impact on quality of life. The study aimed at describing types of skin diseases and their impact on quality of life among medical patients.

Methodology: Hospital based cross-sectional study among adult dermatology patients. Socio-demographic, clinical, laboratory, histological and quality of life data were recorded in all patients.

Results: 608 subjects were enrolled; 580(95.4%) outpatients and 28(4.6%) inpatients. Eczematous dermatitis (42.4%) and infections/infestations (25.2%) were commonest among outpatients compared to autoimmune disorders (32.1%) among inpatients. Mean dermatology life quality index scores among inpatients and outpatients were 17.5(\pm 7.8) and 10.41(\pm 6.82) respectively. The proportion of patients with dermatology life quality index scores of >10 was 67.9% for inpatients compared to 47.1% among outpatients ($p=0.012$). Females had higher mean dermatology life quality index scores compared to males among outpatients 11.05(\pm 6.8) vs 9.58 (\pm 6.7), $p = 0.023$.

Conclusion: Different types of skin diseases varied on effect of quality of life.

Keywords: Skin diseases, Quality of life, Dermatology life quality index, Length of hospital stay

1. Introduction

Dermatology is an immense field with numerous potential abnormalities -comprising about 1500 distinct diseases and many variants according to International Classification of Disease 10 (ICD 10) [1]. Skin diseases are highly prevalent in developing countries and cause high morbidity [2-6]. The types of skin diseases between countries and even within a country differs due to different prevailing factors like genetic constitution, climate, socioeconomic status, occupation, education, hygiene, standards, customs, nutritional status and quality of medical care [7-11]. Studies done in the 1970s in different parts of Tanzania estimated skin disease to account for between 20% and 60% of all medical problems with the majority of conditions being infective [10-12]. Non-infectious dermatoses have been reported in different regions to have surpassed infectious dermatoses occurrence [13-16].

Most skin conditions do not constitute a direct threat to life, but their chronic and incurable nature has a powerful negative impact on the quality of life of the afflicted patients [17-19]. A number of studies have demonstrated the impairment of life quality due to skin disease [20-22]. As it is the case in other branches of medicine, health-related quality of life assessment is needed in dermatology for it provides additional measures of disease status relevant to the patient for clinical decision-making; it offers an ability to effectively look into both existing and novel management techniques; and it gives a way of comparing with systemic diseases when arguing for more resources for dermatology. Dermatology life quality index (DLQI), a validated tool, was used to assess health related quality of life in patients with skin disease [23]. DLQI scoring system describes how skin disease affect quality of life.

There is scarcity of information on types of skin diseases and their impact on the quality of life in patients attending health care facilities in Tanzania. Hence, the present study aimed at determining the current disease burden and spectrum. Knowledge on the types of common skin disease seen in hospitals and their respective impacts on quality of life is essential to guide patient management and to guide policy makers in aligning resources accordingly.

Methodology

This was a descriptive hospital based cross-sectional study conducted at Muhimbili national hospital (MNH) and MUHAS Academic Medical Center (MAMC) in Dar es Salaam,

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Tanzania between July 2018 and December 2018. The later hospital was newly established University Hospital at time of data collection. Patients attending dermatology services at these two hospitals come mainly from the city itself, neighboring districts and even from all over the country. There is bidirectional flow of patients between the two facilities and the same team of dermatologists provided clinical care at both facilities. All adult medical patients admitted on account of skin disease regardless of number of admissions and first time attendees of adult OPD skin clinic plus all patients referred from other hospitals were consecutively enrolled. Socio-demographic and clinical data was collected using a structured questionnaire which captured demographics of the patients, reason for clinic attendance or admission, comorbidities, number of previous admissions, clinical diagnosis, complications and referrals to other departments, and duration of hospital stay and the final outcomes. Diagnoses were made clinically and verified by dermatologists. Appropriate laboratory investigations were done where necessary to confirm the diagnosis. Diseases were categorized as summarized in Table 3 and 4. Dermatology life quality index (DLQI) questionnaire was used to assess the impact of skin disease on quality of life. DLQI questionnaire has 10 questions on different domains on quality of life. Each question was scored on a four point (0-3) scale as follows:- very much=3, a lot=2, a little=1, and

not at all=0. The DLQI score is calculated by summing the score of each question resulting in a maximum of 30 and a minimum of 0. The higher the score, the more quality of life is impaired. Data was entered and analyzed using Statistical Package for the Social Sciences (SPSS) windows programme version 20. Summary statistics and frequency tables were produced and Chi-square tests and fisher's exact test were used to compare proportions of categorical variables. An independent t-test was used to compare means. The level of statistical significance used was p value less than 0.05.

Ethical clearance was obtained from the Institutional Review Board (IRB) of the Muhimbili University of Health and Allied Sciences (MUHAS). Permission to conduct the study was granted by the respective hospital authorities. Fully informed verbal and written consent and assent were requested and obtained from every participant in the study.

Results

During the 6 months study period, 608 patients were seen at the two teaching hospitals of which 580(95.4%) were attending the outpatient skin clinics for the first time. Inpatients comprised of 4.6% (28/608) patients of which 82.1% (23/28) were females. The mean age (\pm SD) of the study population was 38.75 s(\pm 17.2) years with a range of 14 years to 88 years. The socio-demographic characteristics of the study participants were as shown in Table 1.

Table 1: Demographic characteristics of 608 study respondents

Characteristics	Male n = 258	Female n = 350	p value
Age (Years)			
Mean (SD)	39.9 (18.5)	37.9 (16.1)	
14-23	60 (23.3)	68 (19.4)	0.219
24-33	61 (23.6)	96 (27.4)	
34-43	42 (16.3)	65 (18.6)	
44-53	31 (12.0)	54 (15.4)	
54+	64 (24.8)	67 (19.1)	
Marital status			
Single	92 (35.7)	121 (34.6)	0.849
Married	126 (48.8)	182 (52.0)	
Divorced	8 (3.1)	9 (2.6)	
Widow	32 (12.4)	38 (10.9)	
Education			
No formal	1 (0.4)	5 (1.4)	<0.001*
Primary	33 (12.8)	96 (27.4)	
Secondary	97 (37.6)	135 (38.6)	
College/University	127 (49.2)	114 (32.6)	
Household size			
1-3	31 (12.0)	51 (14.6)	0.016
4-6	163 (63.2)	228 (65.1)	
7-9	53 (20.5)	69 (19.7)	
10-12	11 (4.3)	2 (0.6)	
Occupation			
Self employed	94 (36.5)	105 (30.0)	<0.001*
Employed	81 (31.4)	76 (21.7)	
Unemployed	83 (31.5)	169 (48.3)	
Patient status			
Outpatient	253 (98.1)	327 (93.4)	0.007
Inpatient	5 (1.9)	23 (6.6)	
Facility			
MNH	194 (75.2)	225 (64.3)	0.004*
MAMC	64 (24.8)	125 (35.7)	

SD, standard deviation; MNH, Muhimbili National Hospital; MAMC, Muhas Academic Medical Center; * p \leq 0.05

Table 2 shows the clinical characteristics seen among the 608 study subjects. About 38.3% (233/608) of patients had received prior treatment before clinic visit. Only 2.5%

patients presented with complications from skin disease which included eye complications, neuropathic pain, lymphedema, renal failure, pericardial effusion and anemia.

The complications were seen more in female than male patients (3.7% vs 0.8%, $p=0.031$). The other clinical

characteristics were seen in the two genders with no significant difference.

Table 2: Clinical characteristics among 608 study respondents

Variable	Male n= 258	Female n=350	Total	p value
Previous treatment	109 (42.2)	124 (35.4)	233 (38.3)	0.57
Presence of comorbidity				
Hypertension	10 (3.9)	15 (4.3)	25 (4.1)	0.918
HIV	11(4.3)	12 (3.4)	23 (3.8)	0.968
Diabetes	8 (3.1)	7 (2.0)	15 (2.5)	0.412
Asthma	2 (0.8)	10 (2.9)	12 (2.0)	0.081
Others	15 (5.8)	24 (6.9)	39 (6.4)	0.832
Disease duration				
<1 month	78 (30.2)	119 (34.0)	197 (32.4)	0.372
Local remedy use	38 (14.7)	36 (10.3)	74 (12.2)	0.98
More than one skin disease	34 (13.2)	54 (15.4)	88 (14.5)	0.255
Complications	2 (0.8)	13 (3.7)	15 (2.5)	0.031*
Sleep disturbance	146 (56.6)	222 (63.4)	368 (60.5)	0.099

* $p \leq 0.05$

Table 3 and 4 displays breakdown of various categories of skin diseases seen. The tables show that eczematous dermatitis was the most prevalent (42.4%) condition in our setting followed by infections/infestations (25.2%). The proportions of the common specified diseases among the

580 outpatients were as follows: atopic dermatitis 31.2%, acne 13.6%, pityriasis versicolor 8.3%, tinea 7.4%, seborrheic dermatitis 5.0%, keloids 4.8%, urticaria 4.0%, vitiligo 3.8% and unspecified eczema 3.1%.

Table 3: Various categories of skin diseases among 580 outpatients

Disease category	Male n = 253	Female n = 327	Total n = 580	p value
Eczematous dermatitis	85 (33.6)	161 (49.2)	246 (42.4)	0.002*
Infections/Infestations	77 (30.4)	69 (21.1)	146 (25.2)	0.023*
Skin appendages disorders	38 (15.0)	49 (15.0)	87 (15.0)	0.750
Papulosquamous disorders	27 (10.7)	20 (6.1)	47 (8.1)	0.066
Benign neoplastic skin disease and fibrous tumours of skin	19 (7.5)	20 (6.1)	39 (6.7)	0.730
Inflammatory dermatoses	11 (4.3)	17 (5.1)	28 (4.8)	0.969
Pigmentary disorders	14 (5.5)	13 (3.9)	27 (4.7)	0.093
Autoimmune disorders	6 (2.4)	16 (4.9)	22 (3.8)	0.005*
Cutaneous malignancies	3 (1.2)	6 (1.8)	9 (1.6)	0.349
Nutritional Skin Disorders	1 (0.4)	2 (0.6)	3 (0.5)	0.564
Disorders of abnormal keratinization	1 (0.4)	1 (0.3)	2 (0.3)	1.000
Genetic disorders	1 (0.4)	0 (0)	1 (0.2)	1.000
Miscellaneous skin disorders	9 (3.5)	12 (3.7)	21 (3.6)	0.752

* $p \leq 0.05$

Table 4: Categories of skin diseases and their breakdown among 580 outpatients

Disease	Males (n = 253)	Females (n = 327)	Total (n = 580)	p value
Eczematous dermatitis	85	161	246	
Atopic dermatitis	65 (76.5)	116 (72.0)	181 (73.6)	0.030*
Contact dermatitis	3 (3.5)	3 (1.9)	6 (2.4)	1.000
Photodermatitis	0 (0.0)	6 (3.7)	6 (2.4)	0.261
Seborrheic dermatitis	9 (10.6)	22 (13.7)	31 (12.6)	0.176
Exfoliative dermatitis	2 (2.4)	0	2 (0.8)	0.436
Lichen Simplex chronicus	2 (2.4)	0	2 (0.8)	0.190
Unspecified eczema	4 (4.7)	14 (8.7)	18 (7.3)	0.089
Papulosquamous disorders	27	20	47	
Psoriasis	21 (77.8)	14 (70.0)	35 (74.5)	0.065
Lichen planus	5 (18.5)	3 (15.0)	8 (17.0)	0.305
Lichen nitidus	0	1 (5.0)	1 (2.1)	1.000
Pityriasis rosea	1 (3.7)	2 (10.0)	3 (6.4)	1.000
Inflammatory dermatoses	12	16	28	
Urticarial disorders	11 (91.7)	12 (75.0)	23 (82.1)	0.860
Erythema multiforme minor	1 (8.3)	0	1 (3.6)	0.047
Adverse drug eruptions	0	4 (25.0)	4 (14.3)	0.57
Skin appendages disorders	38	49	87	
Acne	33 (86.8)	46 (93.9)	79 (90.8)	0.990
Alopecia totalis	1 (2.6)	1 (2.0)	2 (2.3)	1.000
Miliaria profunda	0	1 (2.0)	1 (1.1)	1.000

Hyperhidrosis	4 (10.5)	1 (2.0)	5 (5.7)	0.190
Infections/Infestations	77	69	146	
Viral Infections	10 (13.0)	4 (5.8)	14 (9.6)	
Warts	8 (10.4)	2 (2.9)	10 (6.8)	0.012*
Molluscum contagiosum	1 (1.3)	2 (2.9)	3 (2.1)	1.000
Herpes simplex	(1.3)	0	1 (0.7)	0.436
Bacterial Infections	13 (16.9)	5 (7.2)	18 (12.3)	
Leprosy	2 (2.6)	2 (2.9)	4 (2.7)	1.000
Folliculitis	7 (9.1)	1 (1.4)	8 (5.5)	0.091
Cellulitis	3 (3.9)	1 (1.4)	4 (2.7)	0.190
Others	1 (1.3)	1 (1.4)	2 (1.4)	1.000
Fungal Infections	50 (64.9)	53 (76.8)	103 (70.5)	
Candidiasis	0	3(4.3)	3 (2.1)	0.261
Pityriasis versicolor	23 (29.9)	25 (36.2)	48 (32.9)	0.568
Intertrigo	5 (6.5)	2 (2.9)	7 (1.2)	0.015
Tinea	20 (26.0)	23 (33.3)	43 (29.5)	0.716
Others	2 (2.6)	0	2 (1.4)	1.000
Parasitic Infestation	4 (5.2)	7 (10.1)	11 (7.5)	
Scabies	4 (5.2)	7 (10.1)	11 (7.5)	0.763
Pigmentary disorders	14	13	27	
Vitiligo	10 (71.4)	12 (92.3)	22 (81.5)	0.707
Albinism	1 (7.1)	1(7.7)	2 (7.4)	1.000
Idiopathic guttate hypomelanosis	2 (14.3)	0	2 (7.4)	0.190
Melasma	1 (7.1)	0	1 (3.7)	0.436
Cutaneous malignancies	3	6	9	
Squamous Cell Carcinoma	1 (33.3)	1 (16.7)	2 (28.6)	0.436
Kaposi's Sarcoma	(66.7)	5 (83.3)	7 (71.4)	0.039*
Autoimmune disorders	3	19	22	
Mixed connective tissue disorders	2 (66.7)	3 (15.8)	5 (22.7)	1.000
Lupus erythematosus	1 (33.3)	10 (52.6)	11 (50.0)	0.038*
Systemic sclerosis	0	3 (15.8)	3 (13.6)	0.261
Dermatomyositis	0	1 (5.3)	1 (4.5)	1.000
Pemphigus Vulgaris	0	2 (10.5)	2 (9.1)	1.000
Benign neoplastic skin disease and fibrous tumours of skin	19	20	39	
Syringoma	1 (5.3)	2 (10.0)	3 (7.7)	0.507
Steatocytoma multiplex	1 (5.3)	0	1 (2.6)	0.436
Keloids	13 (68.4)	15 (75.0)	28 (71.8)	0.897
Seborrheic Keratosis	2 (10.5)	0	2 (5.1)	0.190
Actinic keratosis	1 (5.3)	1 (5.0)	2 (5.1)	1.000
Dermatofibroma	1 (5.3)	2 (10.0)	3 (7.7)	1.000
Genetic disorders	1	0	1	
Xeroderma pigmentosum	1 (100.0)	0	1 (100)	0.436
Disorders of abnormal Keratinization	1	1	2	
Darriers disease	0	1 (100.0)	1 (50)	1.000
Keratosis pilaris	1 (100.0)	0	1 (50)	0.436
Nutritional skin disorders	1	2	3	
Pellagra	0	2 (100.0)	2 (66.7)	0.190
Vitamin A deficiency	1 (100.0)	0	1 (33.3)	1.000
Miscellaneous skin disorders	9	12	21	
Panniculitis	2 (22.2)	2 (16.7)	2 (9.5)	1.000
Prurigo Nodularis	1 (11.1)	7 (58.3)	8 (38.1)	0.144
Erythema marginatum	1 (11.1)	0	1 (4.8)	0.436
Xerosis cutis	1 (11.1)	1 (8.3)	2 (9.5)	1.000
Pyogenic granuloma	1 (11.1)	0	1 (4.8)	0.436
Oral mucositis	0	1 (8.3)	1 (4.8)	0.436
Pruritic papular eruption of HIV	3 (33.3)	1 (8.3)	4 (19.0)	0.323

*p \square 0.05

Table 5 shows the breakdown of various categories of skin diseases and length of hospital stay among admitted patients. Autoimmune disorders comprised mainly of lupus erythematosus (55.6%) and immunobullous disorders (22.2%). Inflammatory dermatoses group had Stevenson's Johnson Syndrome (60.0%) and adverse drug eruption (40.0%). Kaposi's sarcoma, squamous cell (SCC) and basal

cell carcinoma (BCC) were the only cutaneous malignancies seen. The average length of hospital (LOS) stay was 12.32(\pm 8.07) days, with a median stay of 10 days and a range of 1 to 35 days. The reasons for admission were as follows; severe illness (65.4%), for observation/investigations (26.9%) and concurrent medical problem (7.7%).

Table 5: Categories of skin disease and associated length of hospital stay (LOS) (days)

Disease category	n = 28	LOS mean (±SD)	Range
Autoimmune disorders	9 (32.1)	22.18 (±9.7)	8 – 35
Inflammatory dermatoses	5 (17.9)	18.2 (±5.1)	4– 22
Eczematous dermatitis	4 (14.3)	12.05 (±5.7)	6 – 18
Malignancies	5 (17.9)	9.56 (±3.7)	4 – 14
Infections	3 (10.7)	7.36 (±0.5)	7 – 8
Others	2 (7.1)	9.18 (±2.7)	1 – 10

DLQI scores ranged from 1 to 30 and the mean DLQI score among outpatients was 10.41(±6.82) indicating a large effect of skin diseases on patient’s quality of life (QoL). Females had high mean DLQI scores than males (11.05 vs 9.58, p=0.023). The highest mean scores were seen in questions of feelings (1.97), symptoms (1.50), work and school (1.39) while lowest mean scores were seen in questions of personal relationships (0.68), treatment (0.53)

and sexual activity (0.38). The distribution of levels of effect of skin disease on patient life are displayed in Figure 1 and 2. Table 6 summarizes mean DLQI scores per skin disease category among outpatients. High mean DLQI scores were seen in inflammatory dermatoses, autoimmune disorders, and eczematous dermatitis and papulosquamous disorders.

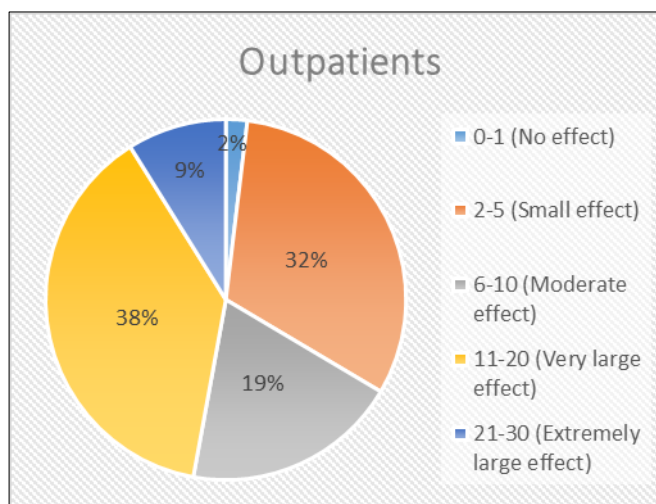


Fig. 1: Levels of effect of skin disease among outpatients

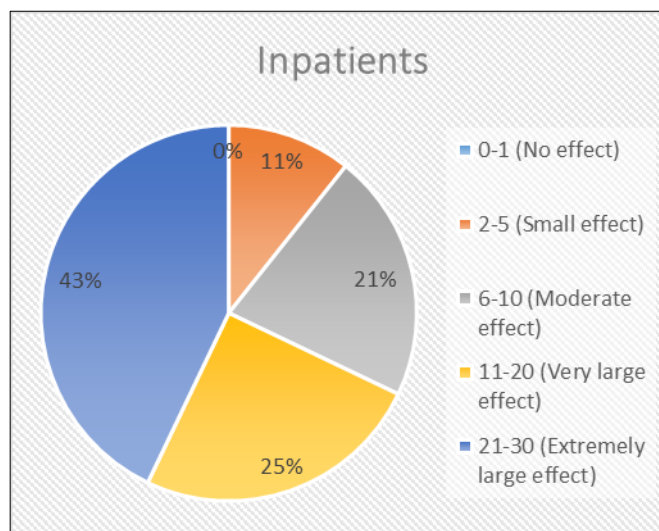


Fig. 2: Levels of effect of skin disease among inpatients

Table 6: Skin disease category and their effect on quality of life (QoL) among 573 outpatients

Disease category	Effect on QoL n (%)			Mean DLQI(±SD)
	DLQI≤5	DLQI>5≤10	DLQI>10	Total
Inflammatory dermatoses (n=25)	-	1 (4.0)	24 (96.0)	19.6 (±4.61)
Autoimmune disorders (n=15)	1 (7.1)	-	13 (92.8)	15.8 (±4.9)
Eczematous dermatitis (n=208)	16 (7.7)	52 (25.1)	139 (67.1)	12.8 (±5.36)
Papulosquamous disorders (n=45)	9 (20.0)	11 (24.4)	25 (55.6)	12.2 (±6.59)

Infections/Infestations (n=131)	65 (49.6)	34 (26.0)	32 (24.4)	7.92 (\pm 6.60)
Skin appendages disorders (n=66)	49 (74.2)	7 (10.6)	10 (15.1)	5.29 (\pm 4.3)
Benign neoplastic and fibrous tumours (n=25)	24 (80.0)	2 (6.7)	4 (13.3)	5.1 (\pm 4.86)
Pigmentary skin disorders (n=27)	23 (85.2)	2 (7.4)	2 (7.4)	4 (\pm 4.38)
Other diseases (n=27)	3 (11.5)	4 (15.4)	19 (73.0)	13.6 (\pm 5.76)

SD, standard deviation; DLQI, disability quality life index; QoL, quality of life

Among admitted patients, the mean DLQI score (SD) was 17.5(\pm 7.8). There was no difference in mean DLQI scores between male and female patients 17.9(\pm 8.4) vs 15.8(\pm 4.1), $p=0.594$. The distribution of levels of effect on QoL are shown in Figure 1 and 2. The mean DLQI scores (SD) per disease category were high in inflammatory dermatoses 25.6(\pm 1.1), autoimmune disorders 22.4(\pm 3.3), dermatitis 16.25(\pm 7.8) and infections 10.6(\pm 3.4). Females had significantly high mean DLQI scores (SD) than males among outpatients (11.05(\pm 6.8) vs 9.58(\pm 6.7), $p=0.023$) than inpatients (17.9(\pm 8.4) vs 15.8(\pm 4.1), $p=0.594$). The proportion of patients with DLQI scores >10 was high among admitted patients as compared to outpatients (67.9% vs 47.1%, $p=0.012$). The proportion of inpatients with sleep disturbance was high compared to outpatients (78.6% vs 59.2%, $p=0.041$).

Discussion

Skin diseases may have a serious impact on quality of life of patients and significant burden to developing countries.

The present study had an overall DLQI mean scores (\pm SD) of 10.41(\pm 6.82) signifying large impairment on QoL. Females had significantly higher DLQI scores compared to males. The findings of this study are similar to what has been reported in the literature from elsewhere [24-29]. In general females are more conscious of their body image than men. Secondly, in many cultures females are expected to have attractive looks and the skin is central in this regard. Furthermore females have a higher threshold to changes/abnormalities on the skin than men which makes them to seek medical care more. As in our study, uncomfortable physical symptoms, embarrassment and self-consciousness about body appearance were noted to be the chief reasons for patients seeking dermatology care in Klang, Malaysia²⁴. The high occurrence of comorbidities in our study might have also contributed to QoL impairment.

Eczematous dermatitis was the commonest condition seen in the two facilities (42.4%) among outpatients which is similar to reports by Rweyemamu *et al* in Tanzania (31.7%) [25], Aman S, *et al* in Pakistan (31.07%) [26], and other studies in Nigeria [27-29]. Atopic dermatitis was the commonest cause of eczematous dermatitis, a finding which correlates with other studies [25, 30]. It was particularly predominant among females and young patients. Similar findings have been reported in Tanzania and Iran [25, 29]. The prevalence of contact dermatitis was low (1.0%) compared to studies in Greece (30%) [31] and Pakistan (22.5%) [26]. High occurrence of contact dermatitis has been reported in some Nigerian regions mainly attributed to the high density of Petro-chemical industries and other irritants [30, 32]. It is possible that we misdiagnosed some patients with contact dermatitis since allergy tests were not done routinely at the two skin clinics hence the low prevalence of this condition. The quality of life was significantly impaired in patients with eczematous dermatitis. As reported by previous studies, eczematous dermatitis has high symptomatic impairment [33-37]. The common physical symptoms seen included dryness, redness, swelling, cracking, blistering,

pain and severe itching further leading to psychological stress and sleep disturbance. The chronic, recurrent nature plus acute severe exacerbations of eczematous dermatitis explains the associated poor quality of life. Patients with eczema like chronic hand or feet eczema will be more likely unable to work and perform daily activities just like in other inflammatory dermatoses.

Infections and infestations were the second largest group of observed disorders. This is different to initial findings decades ago when infections and infestation were the commonest skin disease in most regions of the country, and other parts of Africa [7, 10]. Not only that but also our finding shows a lower percentage of infections and infestations (25.2%) as compared to Rweyemamu *et al* (36.2%) [25] and Komba *et al* (30.4%) [38]. The difference might be explained by the fact that our study excluded children. Nevertheless, the high frequencies is probably attributed to the warm and highly humid climate, overcrowding, and poor personal and environmental hygiene in the city. Fungal infections were the most common type of infection in our study (17.8%) which is comparable to previous studies in Tanzania (36.1%) and Nigeria (23.8%) [25, 32]. We have observed an increase in cases of leprosy despite it being eliminated. We noted few cases of bacterial, viral and parasitic infections which might be due to such conditions being easily identified and treated in the communities and peripheral hospitals plus existence of designated sexually transmitted infection clinics. The QoL impact of infections and infestations was low as compared to eczematous dermatitis as the majority of skin infections in this study were not severe.

Psoriasis was the commonest diagnosis among papulosquamous disorders which is similar to other regions [25, 39, 40]. The majority of patients with psoriasis were aged above 34 years which is similar to a report by Noorbala *et al* in Iran [29]. Papulosquamous disorders had a high impairment on QoL with similar findings in previous reports [33-35, 37, 41]. Psoriasis is chronic condition associated with relapses and hugely affects body outlook. Not only that but also it is an example of a disorder that is associated with multiple comorbidities that significantly affects QoL [42]. Psoriasis affects the skin, scalp, nails, and joints. It has comparable common physical symptoms to eczematous and inflammatory dermatoses which include itching, irritation, burning, stinging, sensitivity, and pain. The skin lesions associated with it affects significantly the body outlook.

The high occurrence of acne has also been reported in South Africa (44.3%) [43], India (12.4%) [40] and Tanzania [25]. The high acne figures might be explained by its high occurrence among the young populations. Keloids and vitiligo were the most frequent diagnoses among benign tumours and pigmentary disorders seen commonly among our sample. This trend has been reported in other regions of Africa and Asia [20, 25-26]. Vitiligo cases are seemingly on the increase probably due to the cosmetic impact patients and fear of more sinister underlying diseases [28]. These conditions affects the normal appearance which hinders a normal social and professional life. Previous literatures already

demonstrated that impairment of quality of life in skin diseases like acne is comparable to that of chronic diseases like diabetes, hypertension or asthma [44].

We observed a low percentage of urticarial disorders which is similar to what has been observed previously in Tanzania (4.3%) [25] and Pakistan (4.06%) [26]. The study reported low frequency of adverse drug eruptions (0.3%) compared to other studies from Nigeria (5.8%) [45] and Greece (2.3%) [13, 46]. Drugs commonly incriminated were sulphonamides, antibiotics and anticonvulsants. These inflammatory dermatoses showed very large impairment to QoL just as other studies have reported [33-35, 41] which has been attributed to the high symptomatology of these conditions. HIV associated Kaposi's sarcoma (KS) (1.2%) followed by albinism associated malignancies (0.6%) were commonest among cutaneous malignancies (1.6%) with similar trends seen in previous studies in Tanzania [39] and Nigeria [45]. The low frequency of non HIV associated cutaneous malignancy in this study might be explained by the presence of dark complexion in almost all of the patients, which provides sufficient protection from sun light [17]. Lupus erythematosus was the autoimmune disorder that was commonly seen particularly among females and had high mean DLQI scores. Similar to other studies, these conditions are associated with both high symptomatic impairment and high psychosocial impairment [33-35, 41]. The only genodermatosis observed in this study was a case of xeroderma pigmentosum (XP). XP is a very rare skin disorder where a person becomes highly sensitive to sunlight, has premature aging of skin and is at high risk of developing cancers. We observed sleep disturbance among patients with eczematous dermatitis, infections/infestations, papulosquamous disorders, autoimmune disorders and inflammatory dermatoses which might be due to physical symptoms like pruritus, pain and also comorbidities associated with.

Inpatient treatment remains an important and sometimes crucial therapeutic option for some patients with dermatological problems. The majority of patients were admitted on account of autoimmune skin disorders, cutaneous malignancies and inflammatory dermatoses similar to reports from other studies [14, 53-54]. Different to what we found, studies in United Kingdom (UK), United States of America and Scotland reported psoriasis as the common reason of admission [47-49]. In Iran, bullous skin disorders and psoriasis were the common reasons for hospitalization [50]. The striking differences in pattern of common diseases found in this study compared to that reported from, UK and Iran is likely due to different genetic constitution, climate, age and HIV prevalence. Inflammatory dermatoses and autoimmune disorders were associated with high mean DLQI scores probably due to highly symptomatic nature of such conditions. As reported in other studies [51], severity of illness was the commonest reason of hospitalization in our study. Autoimmune disorders and inflammatory dermatoses were seen to have longest mean hospital stay days. In Iran, Razi hospital (50), neoplasms had the longest mean hospital stay followed by infectious diseases while in Saõo Paulo, Brazil [52] it was immunobullous diseases. As noted, the majority of inpatients had severe illness associated with higher symptomatic impairment on quality of life. This might explain the high proportion of inpatients with high DLQI scores and sleep disturbance as compared to outpatients.

Conclusion

This study provides useful information about the spectrum of dermatological disorders in patients seeking medical care at the two specialized teaching hospitals. Eczematous dermatitis and autoimmune disorders were most common skin diseases seen among outpatients and inpatients respectively. A large impact on QoL was observed among patients with skin disorders. Different types of skin diseases varied on effect of QoL. Further studies are needed to pinpoint the root causes of the current disease spectrum as well as to widen up knowledge on inpatient dermatology.

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