FREQUENCY AND PATTERN OF SKIN DISEASES AMONG UNIFORMED PERSONNEL AT UNITED NATIONS LEVEL III HOSPITAL-DARFUR, SUDAN

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ABSTRACT

Objective: The objective of the study was to determine the frequency and pattern of skin diseases among uniformed personnel at a United Nations peace-keeping mission Level III hospital at Darfur, Sudan.

Design: A descriptive study

Place and Duration of Study: This study was conducted at dermatology outpatient department of United Nations peace keeping mission (UNAMID) level III Hospital at Darfur, Sudan from Jan 2010-Jan 2011.

Patients and Methods: All soldiers/policemen of either gender reporting to dermatology department of the hospital for the first time during the study period were registered after informed consent. A specially designed proforma was filled for each patient separately. In addition to date of reporting, demographic profile and disease information were noted. The data was managed and analyzed using SPSS-14.

Results: There were a total of 438 uniformed personnel of the age ranging from 20-52 years (mean of 34.30 ± 6.43). Eczema in various forms was the most common disease (21.9%), followed by fungal infections (10%) and melasma (08.9%). One hundred and seventy five (40.0%) patients had the disease 02 months to >30 years before their deployment, whereas 263 (60%) developed the disease 03 days to 01 year after deployment.

Conclusion: Eczema, fungal infections and melasma were the commonest skin problems among uniformed personnel. Forty percent of these had dermatological problems before deployment.

Keywords: Skin disease, Dermatological problem, United Nations mission, troops

INTRODUCTION

The African Union/UN Hybrid operation in Darfur (UNAMID), currently the largest peacekeeping mission in the world was established with the adoption of Security Council resolution 1769 on 31 July 2007[1]. It has 23,394 total uniformed personnel from around 50 mostly African and Asian countries in addition to 4498 international civilian personnel, local civilian staff and United Nations Volunteers[2]. These personnel are dependent on one Level III hospital, three Level II hospitals and multiple Level I hospitals located throughout the mission area. Dermatology services are available only at Level III hospital situated at Nyala, the capital of South Darfur.

Darfur is situated at latitude 12 01 N and longitude 024 52 E. The temperature ranges from 22.8^{0}C in Jan to 30.6^{0}C in May with an average temperature of 25.6^{0}C for the year. Average amount of precipitation for the year is 439.4 mm with max precipitation of 144.8 mm in Aug and min precipitation of 00 mm in Jan[3].

Multinational peacekeepers are often deployed to areas of the world where significant health threats are endemic. Skin diseases are common occurrences among troops deployed in United Nations missions[4-7]. There could be multiple reasons for prevalence of skin diseases among deployed forces including geographical, environmental and physical factors, inadequate acclimatization and improper pre-deployment selection and training of troops[8] for the mission area.

The objective of the study was to note the frequency and pattern of skin diseases among uniformed personnel at a United Nations peace-keeping mission Level III hospital at Darfur, Sudan.

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MATERIAL AND METHODS

This descriptive study was conducted at dermatology outpatient department of United Nations peace keeping mission (UNAMID) level III Hospital at Darfur, Sudan from Jan 2010-Jan 2011 after approval from the ethics committee of the hospital.

All deployed soldiers/policemen of either gender reporting to dermatology department of the hospital for the first time during the study period were registered after informed consent. A specially designed proforma was filled for each patient separately. In addition to date of reporting, this proforma included demographic profile and disease information. Demographic profile included age, gender, nature of duty and country of origin. Disease information included diagnosis, duration of the disease, onset of the disease whether before or after deployment in the mission area and source of referral.

The data was managed and analyzed using SPSS-14. Descriptive statistics (mean, percentages and frequency distribution) were used to evaluate the results.

RESULTS

A total of 438 uniformed personnel reported to dermatology out-patients department of the hospital for different skin problems during the study period. Age of the patients ranged from 20-52 years with a mean of 34.30 + 6.43. Number of patients month-wise ranged from 57 (13%) patients during the month of Sep to 21 (04.8%) during the month of Oct. Demographic features are shown in Table 1.

Eczema in various forms was the most common disease in 96 patients (21.9%), followed by fungal infections in 44 (10%) and melasma (08.9%) (Table-2). The commonest presentations of eczema were Lichen simplex chronicus, Asteatotic eczema and seborrhoeic dermatitis. Out of these 96 patients, 29 (30.2%) had the disease before deployment whereas 67 (69.8%) developed the disease afterwards. Forty four (10%) patients reported with fungal infections, the commonest among these being pityriasis versicolor (n=18, 40.9%), followed by onychomycosis (n=9, 20.4%). The third most common skin problem was melasma (08.9%). Out of these 36 (92.3%) were males whereas 03 (07.7%) were females. Majority of the patients were Asian n=34, (87.2%). Twenty nine (74.3%) had the disease before coming to the mission area whereas 10 (25.7%) patients developed melasma sometime after reaching darfur.

Table-1: Demographic profile of uniformed personnel having skin diseases at UN level III hospital, darfur (n=438).

S.no	Variable	n (%)
1	**Gender**	
	Males	408 (93.2)
	Females	30 (06.8)
2	**Origin**	
	Asians	253 (57.8)
	Africans	185 (42.2)
3	**Employment**	
	General duty	93 (21.2)
	Policemen	74 (16.9)
	Security	67 (15.3)
	Drivers	54 (12.3)
	Technicians	35 (08.0)
4	**Deployment**	
	Near level III hosp	375 (85.6)
	Away from level III hosp	63 (14.4)

Table-2: Frequency of skin diseases at UN Level III hospital, darfur (n=438).

S.no	Dermatological problem	n (%)
1	Eczema	96 (21.9)
	Lichen simplex chronicus	31
	Asteatotic eczema	12
	Seborrhoeic eczema	11
2	Fungal infections	44 (10.0)
3	Melasma	39 (08.9)
4	Photodermatitis	37 (08.4)
5	Viral infections	30 (06.8)
6	Acne	29 (06.6)
7	Lichen planus	16 (03.6)
8	Urti caria	15 (03.4)
9	Keloids	13 (02.9)
10	Alopecia areata	12 (02.7)

One hundred and seventy five (40.0%) patients had the disease 02 months to over 30 years before their deployment in the mission area, whereas 263 (60%) developed the disease 03 days to 01 year after deployment. One hundred and three (40.7%) Asians and 72 (38.9%) Africans had the disease before deployment, whereas 150 (59.3%) Asians and 113 (61.1%) African developed the disease after deployment.

DISCUSSION

Disease and non-battle injuries do afflict troops deployed in various parts of the world in United Nations peace keeping missions adversely affecting the manpower. Skin disease is a common occurrence among the deployed troops[5,9,10]. There may be multiple reasons for that; reactivation, aggravation or exacerbation of the pre-exiting disease, poor acclimatization and inadequate pre-deployment selection and training to cope with the suddenly changed climate, environmental and geographical factors.

Although UNAMID troops had been reporting to Level III hospital for different skin problems throughout the year, maximum number of patients in any single month was during Sep; this was the time when change over of most of the contingents took place. Many of these patients were those who had completed their tour of duty and were leaving for their countries. The reasons for reporting here before leaving probably were manifold; dermatology services in some countries may not be easily available or well developed, consultation and treatment in many countries is not free of cost and people probably had more time in the mission area for consultation. The others were those who just joined the mission area and being new in the area, their susceptibility to various diseases was probably at its maximum.

Over half of the patients were those employed on general duties like security, police etc. where nature of their duty was not specific or predictable and they had to move around or change their location for different tasks.

Although more Asian patients reported with skin disease than African patients, the percentage of both Asians and Africans who had skin disease before deployment or developed skin disease afterwards was almost equal. The reasons for more Asians reporting with skin problems at Level III hospital, Darfur could have two explanations; Asians coming from different climatic and geographical conditions were new to this area. Moreover, most of the Asian contingents were from South Asian region and the hospital staff was also from the same region, sharing similar socio-cultural traditions and minimal language barrier.

As much as 40% personnel from both Asian as well as African regions had skin disease prior to the deployment in mission area. This high figure clearly indicates that troops and policemen were not properly screened and selected within the country of origin before dispatching them to the mission area. Although such ailments do not preclude them for deployment in mission area[8], persistence or episodic nature of these conditions certainly adversely affect efficiency of the deployed troops. Croft and Hopkins[11] have also highlighted the importance of pre-deployment fitness screening as 04.3% British troops were repatriated to their country during the first 06 months of Operation Resolute in Bosnia.

Eczema in its various forms was the most common disease[12]. Although patients in this study presented with different forms of eczema, lichen simplex chronicus and asteatotic eczema were the most common forms. Lichen simplex chronicus is a common skin disorder characterized by lichenification of the skin as a result of excessive scratching and this has been related with stress[13]. Majority of the patients developed this problem after deployment and this finding again speaks of inadequate selection, inadequate training and probably inadequate living environment. Driver et al[14] reported dermatological disease prevalence of approximately 20% among British troops deployed in Afghanistan during Operation

Herrick. Eczema was found to be one of the commonest skin diseases.

Fungal infections were the next common cause for presentation in the present study. Although approximately 60% patients already had the disease most commonly pityriasis versicolor and onychomycosis, before deployment, most of the remaining patients presented during the rainy months of May-Sep.

Melasma was the third most commonly reported skin problem. Majority of these were Asian males who already had the problem prior to the deployment in mission area. Melasma is a relatively common problem in South Asian males and chronic ultraviolet radiation exposure plays an important role in its development[15,16].

Although Korzeniewski and Skórczewski[5] showed a high prevalence of skin diseases, upto 22.7%, in Polish troops deployed in Chad, individual skin diseases were not highlighted. Similarly Korzeniewski[17] reported 7.4% skin diseases among Polish troops deployed in Democratic Republic of Congo in 2006.

The data indicates that approximately 86% patients were referred either from other departments of Level III hospital itself or from the mission areas in close proximity to the hospital and only 14% patients were referred from mission areas away from Level III hospital. Moreover, as many as 40% patients had skin disease prior to the deployment in mission area. This probably indicates that ease of reporting sick to dermatology unit of Level III hospital even with pre-existing trivial and cosmetic skin problem might have been the reason for so many patients. The burden of skin problems can be reduced if troops are properly selected and trained back at home before deployment abroad in UN mission areas.

CONCLUSION

Eczema, fungal infections and melasma had been the commonest skin problems among uniformed personnel reporting at United Nations Level III hospital Darfur-Sudan from Jan 2010 to Jan 2011. Forty percent of these had been having dermatological problems before deployment.

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