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Original Research Article

A pattern of skin diseases in a tertiary hospital in Djibouti: a retrospective study between January 2018 and December 2021

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ABSTRACT

Background: Skin diseases differ in various countries and social, hygiene, and weather conditions are contributing factors as well. We aim to describe, for the first time, the frequency of the skin disease spectrum in the Djiboutian population. The aim was to find out the spectrum of cutaneous diseases in relation to age, sex, origin, and season variation.
Methods: This was a single-center, retrospective study on new patients attending a dermatology tertiary hospital in Djibouti between January 2018 and December 2021. Disease frequencies and prevalence by sex, seasons, and age group were recorded.
Results: There were 9114 new patients. The male/female ratio was 0.55, with 5897 females (64.70%) and 3217 males (32.45%). The mean age was 23.1 years, ranging from 3 weeks old to 97 years old. The most common diagnoses were scabies 12.83% (n=1169), contact dermatitis 10.97% (n=1000) and dermatophytosis 7.93% (n=723). Skin infections were the commonest diagnostic group and amounted to 43.65% (n=3978).
Conclusions: We found a higher prevalence of infectious dermatoses, with scabies dominating. In order to design both preventive and curative healthcare services, appropriate public health policy necessitates an understanding of skin disease epidemiology.

Keywords: Skin diseases, Public health, Djibouti

INTRODUCTION

The skin is the largest organ in the human body and dermatology consultation accounts for 15% to 30% of outpatient medical care in health systems all over the world.[1-2] The diversity of skin diseases seen in a dermatology clinic varies with the composition of the population and depends on social, economic, racial, and environmental factors.[3] The Republic of Djibouti is a small African country located in the Horn of Africa, it covers an area of 23.000 km^2 and had 520 km of land border with Eritrea, Ethiopia, and Somalia. Djibouti has a tropical desert climate on the coast and in the north, and a semi-arid climate in the central-southern highlands. Usually, we have 2 seasons: The cool season from October to April and the hot season from June to August. The mean temperature of Djibouti is 30°C.[4] The aim of the study was to describe, for the first time, the frequency of the skin disease spectrum in the Djiboutian population.

METHODS

This is a single-center retrospective study. We reviewed the records of all patients aged 0-97 years, who were examined at the dermatologic clinic of the Balbala hospital, Djibouti, during the period January 2018 to December 2021. Epidemiologic data (age, sex, nationality), family and personal history, and diagnosis were extracted from the patient's medical records. When indicated, the diagnoses reported on the medical records

were based on clinical features and were confirmed by laboratory tests or skin biopsy. Patients were grouped according to sex (M and F) and age group as follows: (0-9 years), (10-19 years), (20-29 years), (30-39 years), (40-49 years), (50-59 years), (60-69 years), (70-79 years), (80-89 years), (>99 years). Reports on the monthly average values of the high and low temperatures and humidity were collected from the local meteorological agency. Skin disease patients were identified using the international statistical classification of diseases and related health problems 10th revision codes (L100-L99).

RESULT

Between January 1st 2018 and December 31st 2021, 9914 new patients were included in the research. The male/female ratio was 0.55, with 64.70% (n=5897) of female and 32.45% (n=3217) of male. The mean±standard deviation age of our study was 23±10.1 years. The patient's age ranged between 3 weeks and 97 years old. The group aged (20-29) years had the most patients with 29.34% (n=2674) persons, followed by the group aged (20-39) years with 15.37% (n=1401) persons (Figure 1). Female patients had a higher prevalence of 17.88% (n=1630) among the group aged (20-39) years, while men prevalence was 11.45% (1045). Similar female patient's higher ratio was observed in the others age group, except in the group aged (0-9) years where male ratio patients were higher than female ratio, respectively 5.12% (n=467) versus 4.11% (n=375). The majority of the patients 64.79% (n=5905) presented at the hospital in the fresh season with the remaining 35.21% (n=3209) presenting in the dry season. During the fresh season, all skin diseases leaded to manifest more frequently. We classified skin diseases in 8 categories, as mentioned in Table 1. The prevalent groups of skin diseases were infections 43.65% (n=3978), followed by hypersensitivity 19.66% (N=1949), inflammatory 10.50% (n=1041), miscellaneous 6.57% (n=599) and auto immune 2.31% (n=229). The most common skin disease was scabies 12.83% (n=1169) which was also the highest ratio of infectious skin diseases. Others common skin diseases were contact dermatitis 10.97% (n=1000), dermatophytosis 7.93% (n=723), acne 4.29% (n=391), urticaria 3.55% (n=324), tinea capitis 3.31% (n=302), prurigo 2.75% (n=251), pityriasis versicolor 2.11% (n=192), intertrigo 2.08% (n=190), warts 2.07% (n=189), folliculitis 1.84% (n=168), palmo-plantar keratoderma 1.78% (n=162), impetigo 1.66% (n=151), seborrheic dermatitis 1.62% (n=148), furuncles 1.60% (n=146) and psoriasis 1.37% (n=125) (Table 2). Among the first five common skin diseases mentioned above, female ratio was higher than male in scabies 61.84% (n=723) versus 38.15% (n=446), contact dermatitis 64.40% (n=644) versus 35.60% (n=356), dermatophytosis 80.77% (n=584) versus 19.22% (n=139), acne 78.77% (n=308) versus 7.29% (n=83) and urticaria 68.51% (n=222) versus 31.67% (n=102) (Figure 2). Among the group aged (30-39) years, all the five most common skin diseases as scabies (n=550), contact dermatitis (n=381), dermatophytosis (n=364), acne (n=301), and urticaria (n=154) were more prevalent. The second most common age group was the group aged (20-29) years and was prevalent in contact dermatitis (n=283), dermatophytosis (n=151), acne (n=61), and urticaria (n=124) except in scabies (n=251). In scabies, the second most common age group was the group aged [10-19] years (Figure 3). Scabies was more prevalent during the fresh season 9.90% (n=902) compared to the dry season 2.93% (n=267) whereas acne was more common in dry season 2.81% (n=256). Skin infections were the commonest diagnostic group and amounted to 43.65% (n=3978) in our study, among which fungal dermatoses occurred in 43.87% (n=1745) followed by parasitic dermatoses 29.39% (n=1169), bacterial dermatoses 10.78% (n=429), and viral dermatoses 6.66% (n=265). The more frequent fungal dermatoses were dermatophytosis 18.17% (n=723) while folliculitis 4.22% (n=168) was the most common among bacterial dermatoses and warts 4.75% (n=189) among viral dermatoses (Table 3).

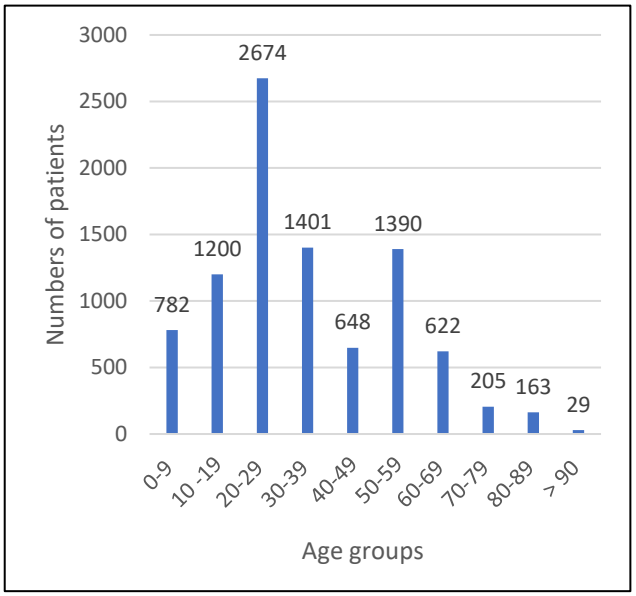

Figure 1: Number of new patients according to age.

Table 1: Prevalence of skin diseases by disease category.

Skin diseases	N (n=9114)	Percentages (%)
Infectious diseases	3978	43.65
Hypersensitivity diseases	1949	19.66
Inflammatory diseases	1041	11.42
Miscellaneous diseases	617	6,22
Autoimmune diseases	229	2.51
Scars diseases	173	1.75
Tumors diseases	63	0.64
Genodermatosis diseases	29	0.29
Other disorders of the skin	1040	11,41

Table 2: Most common skin diseases among Djiboutian patient.

Skin diseases	N=9114	Percentages (%)
Scabies	1169	12.83
Contact dermatitis	1000	10.97
Dermatophytosis	723	7.93
Acne	391	4.29
Urticaria	324	3.55
Tinea capitis	302	3.31
Prurigo	251	2.75
Pityriasis versicolor	192	2.11
Intertrigo	190	2.08

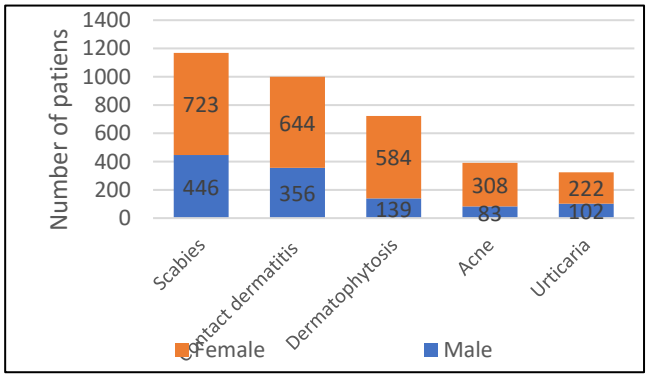

Figure 2: Most common skin diseases according sex.

Table 3: Most common skin infectious diseases.

Skin infectious diseases	N (n=3978)	Percentages (%)
Scabies	1169	29.39
Fungal	1745	43.87
Dermatophytosis	723	18.17
Tinea capitis	391	9.83
Bacterial	429	10.78
Folliculitis	168	4.22
Impetigo	151	3.79
Viral	265	6.66
Warts	189	4.75
Herpes Zoster	102	2.56

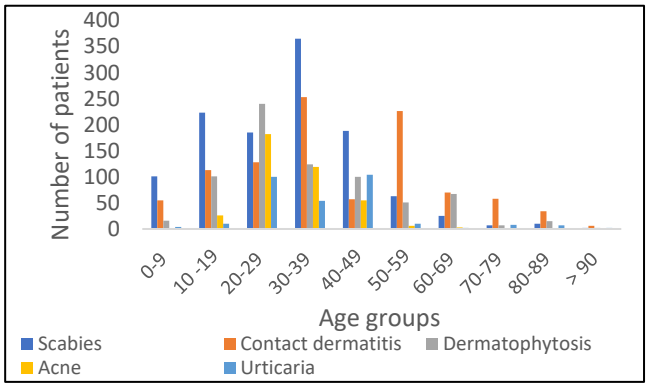

Figure 3: Most common skin diseases according to group age.

Figure 4 (A and B): Xeroderma pigmentosum and neurofibromatosis.

Figure 5 (A and B): Dermatophytosis and contact dermatitis.

DISCUSSION

The global burden of dermatoses has continuously increased, with total DALYs from the skin and subcutaneous disorders growing from 1.21% in 1990 to 1.76% in 2017.[5] Our findings revealed that disease frequencies and prevalence differed by age, gender, and season. Despite the single-center design of our study,

several strengths must be considered, including a large sample size and a long duration of follow-up. This current study documented 9114 new patients, which was higher than the Jamaican cohort but was similar to Bangladesh, Brazil, and Turkish cohort.[6-9] The high female ratio seen in our study was also reported in most studies except in Bangladesh where men represented 50.98% (n=189) of the sample.[6-8] This female predominance could be explained by the fact that women care more about their appearance and present themselves more often for consultation.[7] We reported a high proportion of patients among the group aged [20-29] years, followed by the aged group [30-39] years and the group aged [50-59] years. Likewise, most patients were among the group aged [20-29] years in turkey and Jamaica.[8,9] Similar to the results of our study, females were more prevalent in each age group in Jeddah except among children.[10] While in Turkey men were more prevalent among children, among the group aged [50-59] years and among the group aged [60-69] years.[8] In Bangladesh, authors reported a high proportion of males among patients aged more than 60 years and females among the group aged [41-60] years.[7] The majority of the patients 64.79% (n=5905) presented at the hospital in the fresh season with the remaining 35.21% (n=3209) presenting in the dry season. During the fresh season, all skin diseases leaded to manifest more frequently. Infectious dermatoses were the first group of skin diseases in our study and amounted to 43.65% (n=3978). Others studies in Nigeria and India have also described this high prevalence rate.[11,12] The warm, humid climate and the low socio-economical level was explaining the high incidence of infectious dermatoses. Among skin infections, fungal dermatoses were predominant and occurred in 43.87% (n=1745). In Brazil, Bertanha et al noted that superficial mycosis was predominant among cutaneous infections and occurred in 43.87% of the case.[9] We found scabies to be the most commonly diagnosed skin disease and the second infectious dermatoses group in Djibouti. Likewise in Cairo, scabies amounted to 78.31% (n=697) and was reported to be the first dermatoses among parasitic dermatoses.[13] It is a parasitic skin disease caused by a mite (*Sarcoptes scabiei* var. *hominis*) and was considered a neglected tropical disease by the world health organization (WHO). As Cox et Al, scabies is one of the foremost common skin disorders reported across the world.[14] It is a very contagious and itchy skin condition whose malnutrition, low socioeconomic level, lack of sanitization, and household overcrowding are the most important risk factor. In our study, scabies was more prevalent during the fresh season 9.90% (n=902) compared to the dry season 2.93% (n=267) probably because of a high proportion of patients seen in this season. Moreover, according to Sokolova et al a high mite fertility index value was observed in September to December and a much lower in January to July.[15] All studies conducted in Turkey and Japan reported a much lower prevalence of scabies (1.5% and 0.14 % respectively).[10,16] In our study hypersensitivity, skin disease was the second group disease whereas hypersensitivity skin disease was reported in Jeddah and Ghana as the common group skin disease.[10,17] Contact dermatitis was the most frequent skin disease in Bangladesh and Brazil (37.79% and 18.1% respectively).[7,8] Elsewhere in Saudi Arabia, contact dermatitis was the highest ratio of dermatitis skin disease.[18] Contact dermatitis is a special interest among occupational dermatitis due to the frequency in which it occurs, occupying the first place.[19] In Djibouti, further studies are needed to establish the prevalence of contact dermatitis among occupational dermatitis. Acne amounted to 4.29% (n=391) and was the fourth most skin disease in our study. Other studies were corroborated by some results in our study as in South Africa, where the highest prevalence of acne was observed in patients who were between the ages of 13 and 24 years and among females 48%.[20] Likewise, an Angolan study showed that acne was the first motive of consultation in adults and have a high prevalence rate among women and Angolan younger than 25 years old.[21]

CONCLUSION

In this population-based study, the largest to date in Djibouti, we described epidemiological features in all skin diseases. Our observations may guide dermatologists in counseling patients who are seeking care in hospitals. The Ministry of health should be attentive to the observed increased prevalence of scabies and elucidate the risk factors that underlie them.

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Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

REFERENCES

1. Burns T, Breathnach S, Cox N, Griffiths C. Rook's textbook of dermatology. End. 7th. Oxford: Blackwell Science. 2004;4190.
2. Hay RJ, Johns NE, Williams HC, Bolliger IW, Dellavalle RP, Margolis DJ et al. The global burden of skin disease in 2010: an analysis of the prevalence and impact of skin conditions. J Invest Dermatol. 2014;134:1527-34.3.
3. Seth D. Global Burden of Skin Disease: Inequities and Innovations. Curr Dermatol Rep. 2017;6(3):204-10.
4. National Tourism Office of Djibouti. Official guidebook.
5. Chu S, Mehrmal S, Uppal P, Giesey RL, Delost ME, Delost GR. Burden of skin disease and associated socioeconomic status in Europe: An ecologic study from the Global Burden of Disease Study 2017. JAAD Int. 2020;1(2):95-103.
6. East-Innis ADC, Chung-Stanley MM, McNish AJS, Fitz-Henley MSA. the spectrum of skin diseases seen in a Jamaican tertiary academic medical center. JAAD. 2021;4:59-64.

7. Moniruzzaman KM, Ahsan K, Nazrul M, Mahjabeen T. The pattern of skin diseases in patients attending OPD: A study in Dhaka Birdem general hospital, Dhaka Bangladesh. Br J Res. 2019;(3):6:3-49.
8. Bilgili ME, Yildiz H, Sarici G. Prevalence of skin diseases in a dermatology outpatient clinic in Turkey. A cross-sectional, retrospective study. J Dermatol Case Rep. 2013;4:108-12.
9. Bertanha F, Nelumba EJP, Freiberg AK, Zamorano LP, Festa Neto C. Profile of patients admitted to a triage dermatology clinic at a tertiary hospital in São Paulo, Brazil. A Bras Dermatol. 2016;91(3):318-25.
10. Alshamrani HM, Alsolami MA, Alshehri AM, Salman AK, Alharbi MW, Alzuhayri AJ et al. Patterns of skin diseases in a university hospital in Jeddah, Saudi Arabia: age and sex distribution. Ann Saudi Med. 2019;39(1):22-8.
11. Henshaw EB, Olasode OA. Skin diseases in Nigeria: the Calabar experience. Int J Dermatol. 2015;54:319-26.
12. Kar C, Das S, Roy AK. Pattern of skin diseases in a tertiary institution in Kolkata. Indian J Dermatol. 2014;59(2):209.
13. El-Khateeb EA, Imam AA, Sallam MA. Pattern of skin diseases in Cairo, Egypt. Int J Dermatol. 2011;50:844-53.
14. Cox V, Fuller LC, Engelman D. Estimating the global burden of scabies: what else do we need? Br J Dermatol. 2021;184:237-42.
15. Sokolova TV, Radchenko MI, Lange AB. The seasonality of scabies, morbidity, and the fertility of the itch mite Sarcoptes scabiei de Geer as an index of the activity of a population of the causative agent. Vestn Dermatol Venerol. 1989;11:5-12.
16. Furue M, Yamazaki M, Jimbo K, Tsuchida T, Masayuki A, Toshihiro T et al. Prevalence of dermatological disorders in Japan: A nationwide, cross-sectional, seasonal, multicenter, hospital-based study. J of Dermatol. 2011;38:310-20.
17. Rosenbaum BE, Klein R, Hagan PG, Seadey MY, Quarcoo NL, Hoffmann R, Robinson M, Lartey M, Leger MC. Dermatology in Ghana: a retrospective review of skin disease at the Korle Bu Teaching Hospital Dermatology Clinic. Pan Afr Med J. 2017;26:125.
18. Almohideb M. Epidemiological Patterns of Skin Disease in Saudi Arabia: A Systematic Review and Meta-Analysis. Dermatol Res Pract. 2020;27:5281957.
19. Mota Melo MGM, Villarinho ALCF, Leite IC. Sociodemographic and clinical profile of patients with occupational contact dermatitis seen at a work-related dermatology service, 2000-2004. An Bras Dermatol. 2019;94(2):147-56.
20. Dlova C, Mankahla A, Madala N, Grobler A, Tsoka-gwegweni J, Bichons B et al. The spectrum of skin diseases in a black population in Durban, KwaZulu-Natal, South Africa. Int J Dermatol. 2014;54:319-26.
21. De Luca DA, Maianski Z, Averbukh M. A study of skin disease spectrum occurring in Angola phototype V-VI population in Luanda. Int J Dermatol. 2018;7:849-55.

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