International Journal of Scientific Reports
Assefa GT et al. Int J Sci Rep. 2021 May;7(5):261-265
http://www.sci-rep.com
pISSN 2454-2156 | eISSN 2454-2164
DOI: https://dx.doi.org/10.18203/issn.2454-2156.IntJSciRep20211453

Original Research Article

Pattern of skin diseases among patients attending Hawassa university comprehensive specialized hospital, Hawassa, Ethiopia

Girum T. Assefa*, Adane C. Koster, Nura K. Nurhussein

Department of Dermatovenereology, College of Medicine and Health Science, Hawassa University, Hawassa, Ethiopia

Received: 26 August 2020
Accepted: 26 February 2021

***Correspondence:**
Dr. Girum T. Assefa,
E-mail: girumt79@gmail.com

ABSTRACT

Background: Spectrum of skin diseases varies from region to region due to several factors such as genetics, socioeconomic and environmental. This study aimed to determine the pattern of various skin disorders appearing in the dermatology department of a tertiary care hospital.
Methods: All patients attending the dermatology clinic of the Hawassa university comprehensive specialized hospital, from January 2017 to December 2018 were included in this retrospective analysis. The medical records of the patients were obtained from registry books.
Results: A total of 7727 patients attended the dermatology clinic of HUCSH. Out of these samples, 18.1% of patients repeatedly came to the hospital for a follow up visit related to their diseases, while 81.9% were enrolled as new cases. There were more males (51.9%) than females. More than three quarter of the cases were aged above 16 years while less than a quarter were children below 16 years. Eczema was diagnose in 2734 (35.4%), being the most common cause for attendance, followed by infectious disease (23.3%) and disease of the skin appendages (12.1%).
Conclusions: Eczema was the most common skin disease seen in our study, followed by infectious disease and disease of the skin appendages. Concerted effort need to be made to control these conditions and training of the primary health care providers and education of General Practitioners in Dermatology must emphasize these common conditions, with the aim of improving primary health care and alleviating the burden of hospital care.

Keywords: Prevalence, Pattern, Skin diseases, Dermatology, Ethiopia

INTRODUCTION

Skin diseases are very much prevalent in the developing countries.[1] According to WHO, prevalence studies of the general population in developing countries reported high prevalence figures for skin diseases (21-87%).[1] The vicious cycle of ignorance, poverty and disease plays a prominent role in the prevalence of many skin diseases. Skin and subcutaneous diseases were the 18th leading cause of global DALYs (disability adjusted life year) in global burden of disease 2013. Excluding mortality, skin diseases were the fourth leading cause of disability worldwide.[2] These diseases range from simple acne and scabies to various serious disorders such as Stevens Johnson syndrome, toxic epidermal necrolysis and purpura fulminans. The pattern of skin diseases varies from country to country and even from region to region within a country due to different ecological factors, genetics, hygienic standards, migration and social customs.[3]

Eczema has been reported to be the predominant skin disease in developed countries, whereas infections and infestations are predominant in developing countries.[4] Because skin disease is so common, a little bit of morbidity affecting a lot of people can add up to far more than a lot of morbidity affecting only a few people. It is this product of high prevalence time's moderate

morbidity that makes skin disease very important from the public health point of view.[5] Although its effect on quality of life can be intriguingly undesirable, most of the skin diseases are preventable, treatable and rarely fatal. Therefore, it is important that the knowledge of the incidence and pattern of skin diseases in our environment would aid the health-care provider to appropriately plan and execute policies that would help to assist and ameliorate the suffering of our people. It is very important to remember that skin manifestations may be a clue as to the patient's internal disease, but literature on the pattern of skin diseases is deficient. Early identification of skin disease is important not only for treating patients but also for preventing the spread of communicable diseases.[3] Improvements to environmental sanitation, education of the general public and good nutrition can help to reduce the incidence of skin disorders in any community. Although there have been some studies on the pattern of skin diseases in the general global population, there is a paucity of such work in developing countries.

The present study was planned to have insight into the frequency and types of skin disorders in that appear a tertiary care hospital to determine the burden of these diseases in our set up.

METHODS

A retrospective analysis of all dermatological patients seen in the dermatology clinic of Hawassa university comprehensive specialized hospital (HUCSH) over two year period from January 2017 to December 2018 was carried out. The patients were referred from the outpatient clinics of HUCSH, from medical facilities in southern nation and nationalities regional state and form all neighboring regions in southern Ethiopia.

HUCSH is located in Hawassa, the capital city of southern nation and nationalities regional state with a population of more than 400,000. Data obtained from the hospital dermatology outpatient register included age, gender, place of residence, diagnosis and patient New/follow up status. Diagnoses were made mainly on clinical grounds and confirmatory laboratory investigation was carried out when necessary. Bacteriological, mycological, parasitological or histological studies were performed as appropriate. Different pattern of skin disorders were noted and compared using the data from different countries. A uniform data abstraction sheet was prepared to collect the relevant data from the registers. The Epi info 7 software was used to enter data and statistical package for social sciences (SPSS) version 20 was used to do descriptive statistics.

RESULTS

A total of 7727 patients attended the dermatology clinic of HURH, within the period under review. There were more males (4011-51.9%) than females (3716-48.1%) the difference was statistically insignificant (p>0.05). Out of them, 1401 patients repeatedly came to the hospital for a follow-up visit related to their disease, while 6326 were enrolled as new cases. Out of 7727 patients, 9.1% (704 patients) of them had two or more skin diseases identified (Table 1).

Table 1: Frequencies and proportion of skin diseases among patients attending dermatology department at HUCSH in Southern Ethiopia (total number of cases=8129), January 2017 to December 2018.

Diagnosis	N	%
Eczema	2734	33.6
Atopic dermatitis	1008	12.4
Seborrheic dermatitis	570	7
Contact dermatitis	280	3.4
Other Eczema	876	10.8
Infection	1798	22.1
Bacterial	706	8.7
Fungal	770	9.5
Viral	270	3.3
Protozoal	26	0.3
Sexually transmitted infection	125	1.5
Disease of skin appendages	936	11.5
Acne vulgaris	547	6.7
Rosacea	158	1.9
Perioral dermatitis	12	0.15
Alopecia areata	68	0.84
Folliculitis decalvans	80	1.0
Papulo squamous disease	711	8.75
Psoriasis	300	3.7
Lichen planus	273	3.4
Pityriasis rosea	89	1.1
Pigmentary disorders	700	8.6
Vitiligo	481	5.9
Melasma	156	1.9
Miscellaneous	63	0.8
Urticaria and drug reaction	334	4.1
Urticaria	254	3.1
Fixed drug eruption	57	0.7
Erythema multiforme	6	0.07
Morbilliform drug	11	0.1
Eruption TEN/SJS	9	0.1
Scabies	237	2.9
Connective tissue disease	71	0.9
Autoimmune bullous disease	44	0.54
Skin tumours	37	0.46
Genodermatoses	20	0.25
Miscellounous	507	6.24
Total	8129	100

The age range noted was 2 days to 90 years with a mean of 24.66 years. More than half of patients (55.8%) belonged to the 15-30 years of age range. More than 60%

of patients came from rural area while the rest came from urban and sub urban areas around Hawassa (Figure 1-2).

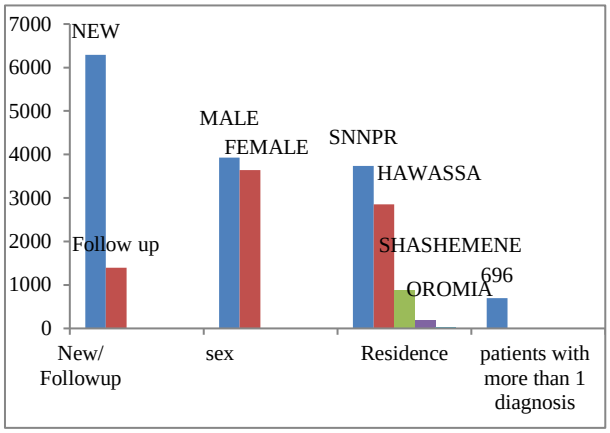

Figure 1: Demographic characteristic of patients attending dermatology department of HUCSH in Southern Ethiopia, January 2017 to December 2018.

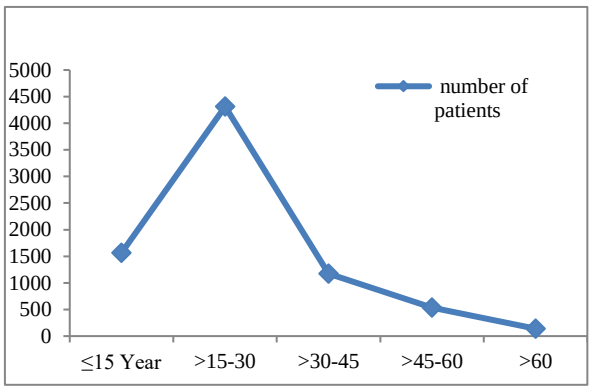

Figure 2: Age distribution of patients attending dermatology department of HUCSH in Southern Ethiopia, January 2017 to December 2018.

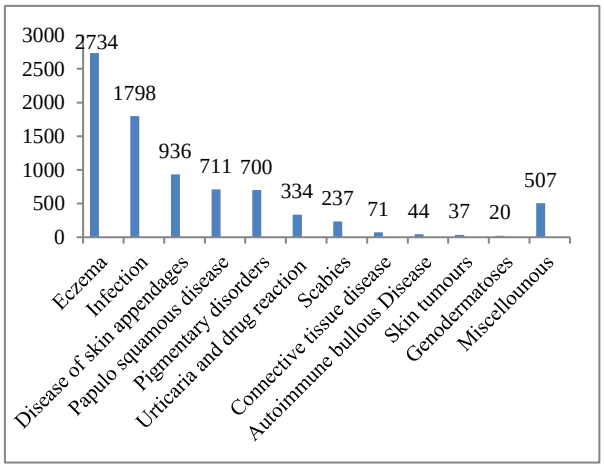

Figure 3: Distribution of the most common Skin diseases category among patients attending dermatology department of HUCSH in Southern Ethiopia, January 2017 to December 2018.

Eczema (2734 cases, 35.4%) was the most common cause for attendance, followed by infectious diseases (1798 cases, 23.3%) and disease of skin appendages (936 cases, 12.1%) (Figure 3). A breakdown of eczema subtypes showed that atopic dermatitis is the most common (1008 cases, 36.8% of eczema), and commonly seen in children, followed by seborrheic dermatitis (570 cases, 20.8% of eczema) and contact dermatitis (280 cases, 10.2% of eczema) (Table 1).

Fungal infection (770 cases, 42.8% of infection) was the most common skin infection followed by bacterial (706 cases, 39.2% of infection) and viral infection (270 cases, 15% of infection) (Table 1). Sexually transmitted infections (STIs) such as syphilis, gonorrhea and lymphogranuloma venereum were noted in 1.5% (125 cases) of patients and scabies was seen in 2.9% (237 patients) of cases (Table 1). Acne was seen in 6.7% (547) of the cases, and other disease of the skin appendages commonly encountered are Rosacea (158 cases, 1.9% of all cases), alopecia areata (98 cases, 0.84%) and folliculitis decalvans (80 patients, 1%). Psoriasis was the most common papulosquamous disorder accounting for 45.3% (300 patients) of the cases in that group followed by dermatoses due to lichen planus (41.2%, 273patients) and pityriasis rosea (13.4%, 89 patients).

Out of the pigmentary disorders, vitiligo accounted for 68.7% (481 cases) of the total cases in this group while melasma account for 21.5% (151 cases) and other miscellaneous causes of dyspigmentation account for 10% of all cases of pigmentary disorders (Table 1). Urticaria was found in 3.1% (254 cases) of patients. Drug reactions were seen in 1% (83 cases) of patients. Drugs commonly incriminated were sulphonamides, antibiotics and antiretroviral drugs. The types of drug eruptions noted were, fixed drug eruptions, erythema multiforme, morbilliform drug eruption and Stevens Johnson syndrome/toxic epidermal necrolysis (Table 1).

Connective tissue disorders were diagnosed in 71 (0.9%) patients; autoimmnune bullous disease in 44 patients (0.54%), skin tumor in 37 (0.46%), and genodermatoses in 20 (0.25%) patients contributed to the rest of cases. Miscellaneous group in current study comprised 6.24% (507 cases) of patients and included sarcoidosis, neutrophilic dermatoses, dermatological manifestations of systemic diseases and other rare conditions.

DISCUSSION

Ethiopia is located in the Horn of Africa and is the third most populous country in sub Saharan Africa with more than 100 million inhabitants, of whom more than 80% live in rural areas. The country has approximately 80 different ethnic groups and is considered a lower-middle-income country with a GDP per capita of USD 706 per annum.[5]

Ethiopia's main health problems are said to be communicable (contagious) diseases worsened by poor sanitation and malnutrition. Over 44 million people do not have access to clean water. These problems are exacerbated by the shortage of trained doctors (2.6 per 100,000 population 2003) and nurses and health facilities.[6] Health service coverage is estimated at approximately 64%, with the majority of the population served through primary health care facilities.[5]

Hawassa university comprehensive specialized hospital is situated in Hawassa, capital of the southern nation and nationalities region. Patient's attending the outpatient department of this hospital come mainly from the city itself and neighbouring districts. The current study is the first to describe the pattern of skin diseases in Hawassa university comprehensive specialized hospital. Although this study was limited to a single hospital we believe that the results represent a rough estimate of the incidence of skin diseases in south region and that the distribution of dermatoses according to age and sex reflect the true incidence.

The present study indicated that, even if statistically insignificant,male (51.9%) patients outnumbered their female counterparts. Even if female outnumber male in many studies, study done by Ashtekar et al in Eastern India and Finoteselam, Ethiopia also report male patients greater than females, this may be attributed to different socioeconomic factors.[3,7-10] The age distribution was comparable to similar other studies.[8, 9]

The most commonly encountered disease group among the 77,727 skin diseases diagnosed in the study was dermatitis (33.6%). Dermatitis and eczema were most commonly encountered skin diseases reported in Ethiopia, Pakistan, Nigeria and Greece.[3,7,8,11-13] The prevalence of 33.6% was higher than 22%, 25.5% and 29.5% prevalence in a similar study done in other parts of Ethiopia (Mekelle, Addisababa and Finoteselam respectively) and Nigeria (23.3%) and India (31.9%).[3,7,9,11] Maternal, paternal and personal asthma, hay fever histories, maternal atopic dermatitis history, age of child and age of weaning were independent predicators of atopic dermatitis.[14,15] Three skin diseases (fungal infections, other skin and subcutaneous diseases, and acne) were amongst the 10 most common diseases globally, and another five (eczema, pruritus, molluscum/warts, impetigo and scabies) appeared in the top 50.[16]

Infections were the second largest group of observed disorders; this trend is similar to those observed in other studies.[3,7,11] It has been suggested that low socioeconomic status, favorable tropical weather, neglect and poor hygiene, Overcrowding, and inadequate nutrition may account for the high incidence of this disorder. Although we did not substantiate the role played by these factors in our patients, as we did not inquire about their living conditions and nutrition habits, we believe that this might be a possibility, considering population living condition. The incidence of infections/infestations skin diseases might have been overtaken by eczematous dermatitis but its high percentage occurrence is still a thing of worry. To sustain the gain of reduction in prevalence of infectious skin diseases, government need to maintain their bit by providing more good houses, clean drinking/ bathing water and availability of drugs such as anti-microbial. Fungal infections were the most common type of infection in our study, and they appeared at a rate comparable with other studies.[1]

The low incidence of STIs (1.5%) noted in the present study is comparable with previous studies; this may be because such patients prefer to attend the private clinics or visit traditional healers due to the social stigma associated with these diseases.[1]

Acne is a common skin disease that affects pilosebaceous follicles mainly among adolescents. In current study, acne was found in 6.7% of cases and rosacea account for 1.9% of all cases. This observation correlates well with other studies.[11,15] In our opinion, excessive use of cosmetics, steroid preparations, psychological aspects and emotional stress may be the key factors that cause this skin condition especially in females.[3] Inflammatory disorders represent mostly diseases with a chronic and relapsing course. Although it is rarely life threatening, its effect on quality of life can be devastating to the patients. Psoriasis was the leading cause of dermatological consultation for papulosquamous diseases, seen in 3.7% of the total cases examined, followed by lichen planus and pityriasis rosea. This trend is in accordance with other studies in Ethiopia and Nigeria.[7,15]

Pigmentary disorders were the fifth most common skin disorder and accounted for 8.6% of all case, among which vitiligo was the most frequent presentation. The figure is high compared to study done in Pakistan (3.82%) and Nigeria (3.75%) but lower than report from Mekelle (10.8%) and Finoteselam (11.9%), Ethiopia.[3,8,9,11] Urticaria (3.1%) and drug reaction (1%) accounted for 4.1% of cutaneous disorders in this study. The figure is lower than noted in studies in Pakistan (10%).[3] The low figure in our study may be due to the likely hood of most of patients to present to emergency and medical OPD rather than the skin clinic.

The incidence of scabies was relatively high in our study (2.9%) in contrast to other studies in Pakistan (2.1%) but lower than report from Mekelle, Ethiopia (7.3%).[3,11] In current study scabies was the only infestation diagnosed. This may be due to the fact that pediculosis and tungiasis are mostly considered to be clinically insignificant, and patients do not visit health institution. The preponderance of scabies may be explained by overcrowding, close contact, global warming and poor socioeconomic status of patients.[3] There are many other skin disorders noted in current study, but the numbers of patients presenting with these diseases were few. We suggest further studies to

determine the burden of skin diseases in various regions of our country that will help in the prevention and control of such coetaneous disorders.

CONCLUSION

Since eczema and infections account for large volume of patient's attendance, concerted effort should be made at all level to train health workers in the diagnosis and treatment of these more common dermatological conditions. We believe that current study also provides a basis for future health planning and helps in monitoring the epidemiology of skin disorders in future.

Funding: This research was funded by Hawassa University, office of Vice president for research and technology transfer, Norad project.
Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

REFERENCES

1. Kataria U, Chillar D. Pattern of skin diseases among patients attending a tertiary care teaching hospital in Kerala. Indian J Dermatol Venereol Leprol. 2009; 75(5):517-8.
2. Karimkhani C, Dellavalle RP, Coffeng LE, Flohr C, Hay RJ, Langan SM, et al. Global skin disease morbidity and mortality: an update from the global burden of disease study 2013. JAMA Dermatol. 2017;153(5):406-12.
3. Shahbaz A, Muhammad N, Khalid M, Ghafoor MB. Pattern of skin diseases among patients attending a tertiary care hospital in Lahore. Pak J Taibah Uni Med Sci. 2017;(5):392-6.
4. Samson KK, Julia WM, John EM. Skin diseases in pediatric patients attending a tertiary dermatology hospital in Northern Tanzania: a cross-sectional study. BMC Dermatol. 2015;15:16.
5. Abraham GK, Philip O, Anthony JR, Efa AB, Wondewosen L, Dessu BK. Pattern of skin diseases in children attending a dermatology clinic in a referral hospital in Wolaita Sodo, southern Ethiopia. BMC Dermatol. 2019;19:5.
6. Information on Ethiopia. Available at: http://www.en.wikipedia.org/wiki/Ethiopia. Accessed on 20 September 2020.
7. Shibeshi D. Pattern of skin diseases at the university teaching hospital, Addis Ababa, Ethiopia. Int J Dermatol. 2000;39(11):822-5.
8. Sani H, Abubakar AB, Bakari AG. Prevalence and pattern of skin diseases in patients with diabetes mellitus at a tertiary hospital in Northern Nigeria. Niger J Clin Pract. 2020;23(7):970-4.
9. Sintayehu WA. Pattern of skin disease among clients attending dermatologic clinic at Finote Selam Hospital, West Gojjam Zone, Amhara Region, Ethiopia 2017. Am J Health Res. 2017;5(6):178-82.
10. Ashtekar R, Purandare CS, Kumbhar S, Kulkarni AP. Study of pattern of skin diseases among patients attending opd of dermatology, venereology & leprosy department at Bharati Vidhyapeeth deemed university medical college & hospital, Sangli. Int J Health Biomed Res. 2016;4(4):30-4.
11. Accorsi S, Barnabas GA, Farese P, Padovese V, Terranova M, Racalbuto V, et al. Skin disorders and disease profile of poverty: analysis of medical records in Tigray, northern Ethiopia, 2005-2007. Transact Royal Soc Trop Med Hygien. 2009; 103(5):55-9.
12. Ukonu BA, Eze EU. Pattern of skin diseases at university of benin teaching hospital, Benin City, Edo State, South-South Nigeria: A 12 Month Prospective Study. Global J Health Sci. 2012;4(3): 85-9.
13. Symvoulakis EK, Krasagakis K, Komninos ID, Kastrinakis I, Lyronis I, Philalithis A, et al. Primary care and pattern of skin diseases in a Mediterranean island. BMC Fam Pract. 2006;7:6.
14. Kelbore AG, Alemu W, Shumye A, Getachew S. Magnitude and associated factors of Atopic dermatitis among children in Ayder referral hospital, Mekelle, Ethiopia. BMC Dermatol. 2015;15:15.
15. Olumayowa AO, Olasode OA, Onayemi O, Ajani AA. The Prevalence and pattern of skin disorders at a university teaching hospital in Ile-Ife and Ilesha, Nigeria. Clin Med Insight Dermatol. 2014;7:45-9.
16. Rooks-Tony B, Breathnach S, Cox N. Christopher Griffiths Rook's; textbook of dermatology. 8th ed. United States: Blackwell Publishing house; 2010.

Cite this article as: Assefa GT, Koster AC, Nurhussein NK. Pattern of skin diseases among patients attending Hawassa university comprehensive specialized hospital, Hawassa, Ethiopia. Int J Sci Rep 2021;7(5):261-5.