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RESEARCH ARTICLE

SKIN INFECTIOUS DISEASES PATTERN AMONG PATIENTS ATTENDING KING FAHAD HOSPITAL –AL-BAHA SAUDI

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ABSTRACT

Introduction: The frequency and pattern of different skin infections are influenced by many factors including overcrowded populations, low hygiene standards and climatic conditions among others.

Objective: to determine the prevalence and pattern of skin disorders among patients attending King Fahd Hospital in Albaha, Southern Saudi for the period of two years 2014-2016. ***Method***: observational, cross-sectional retrospective study was designed. Age, gender and clinical presentation were reviewed, the target population was selected by the available complete records among all patients attending dermatology clinic at KFH in Al-Baha, (total number of 1370 patients).

Results: Saudis constitute the majority of the patients (95 %); male patients with infectious skin diseases constitute (53.2%). Almost three quarters (70.0%) of the study population were aged below 36 years***;*** viral infections were the most common skin disorder accounting for 70.3 % while bacterial infections constitute the least prevalence among the attendant patients (4.6%); viral warts accounts for the highest prevalence (50.1%) of the cases among our study. The prevalence is higher in male patients (53.2%) compare female patients (46.8%) (p=<0.001), especially in cases of viral warts, herpes infection, leishmaniosis, impetigo and leprosy. The prevalence of skin infectious diseases were higher among patients below 37 years of age (61.6%) than those above the age of 37 years (38.4% (p=<0.000).

Conclusion: Skin infectious diseases constitute major portion among other diseases, the general practitioners and family physicians at the primary health care should be able to diagnose and manage these common skin disorders.

INTRODUCTION

The pattern of skin diseases can be influenced by genetic, environmental, racial, occupational, nutritional and habitualfactors[1,2,3] In addition, the diagnostic competence of doctors, expertise of dermatologists and availability of the latest diagnostic facilities play a crucial role[4].Skin infectious diseases are globally common causes of patient's referral to dermatology clinics, and impose a significant burden on the global health services in both low and middle income countries[5] , in some regions of the world may constitute 64% of the entire infectious cases[6,7].

The frequency and pattern of different skin infections are influenced by many factors including overcrowded populations, low hygiene standards and climatic conditions among others. Implementation of effective public health strategies may lead to desirable changes in the pattern of some skin infections through promotion of health standards, appropriate public training programs or changes in life styles[8]. Our study is conducted in Al-Baha that located in the south west region of Saudi Arabia and is divided geographically into three distinct parts: Sarah, which contains the high mountains characterized by temperate weather and rich plant cover due to relatively high annual rainfall, Tehama which is the lowland coastal area to the west of the Sarah characterized by very hot and humid weather and very little rainfall average, and the eastern hills characterized by an altitude of 1550 to 1900 meters above sea level with cool winters, hot summers and sparse plant cover. Accordingly, the incidence of skin diseases differs widely in various geographical locations, probably due to influence of diverse environmental as well as racial factors the factors potentiating the occurrence and dissemination of

skin diseases, can be viewed as an addition to the library of medical geography

The aims and objectives of the study were to determine the prevalence and pattern of skin disorders among patients attending King Fahd Hospital in Al-Baha, Southern Saudi for the period of two years 2014-2016.

MATERIALS AND METHODS

This was an observational, cross-sectional retrospective study designed to review the skin infectious diseases material in the archives of Dermatology Clinic, King Fahd Hospital (KFH), Al-Baha,KSA over the last 2 years, starting from January 2015 until January 2016. Age, gender and clinical presentation were reviewed.The target population was selected by the available complete records among all patients attending dermatology clinic at KFHin Al-Baha, (total number of 1370 patients).The medical records of the study population at the archive of the dermatology clinics during the study period were identified and reviewed by the help of record personnel. Data included incidence of various skin infectious diseases, age, gender and nationality were collected from the medical records by using a designed questionnaire. Data obtained were analyzed using Statistical package for Social Sciences (SPSS) version 18. Variables are described in frequency distribution. This study is approved by the Al-Baha University scientific and ethics committee.

Conflict of interest: None of the authors have any competing interests in the manuscript

RESULTS

During the study period about 1370 records were reviewed. The results were as follow:

Nationality: Saudis constitute the majority of the patients (95 %) while non-Saudi patients were only 5% of the targeted population (Table: 1)

Table 1 Nationality of the Patient

	Frequency	Percent
Saudi	1301	95%
Non Saudi	69	5%
Total	1370	100%

Sex: among the study population, male patients with infectious skin diseases constitute (53.2%) which show a slight preponderance over females patients (46.8%) with no statistically significant difference p>0.05.(Figure 1)

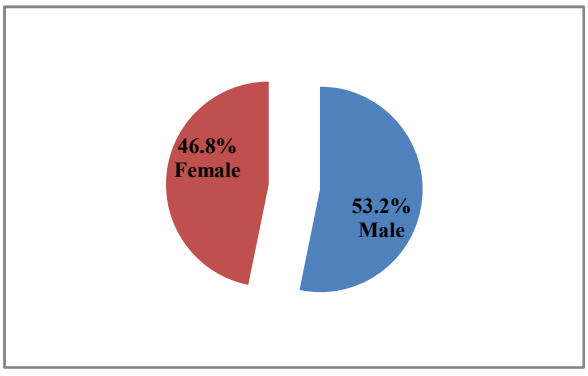

Figure 1 Sex of the Patient

Age: reviewed data showed that Almost three quarters (70.0%) of the study population were aged below 36 years i.e. with the highest prevalence of infectious skin diseases, while the least age group affected was those above 54 years(10.7 %) of cases (Table2).

Table 2 Age of the Patients

Age range	Frequency	Percentage
Less than 18 years	407	29.7%
18-36 year	552	40.3%
37-54 year	264	19.3%
More than 54 year	147	10.7%
Total	1370	100%

Prevalence of infectious skin diseases according to the causative microorganism: Table(3) showed that viral infections were the most common skin disorder accounting for 70.3 % while bacterial infections constitute the least prevalence among the attendant patients (4.6%).

Table 3 Causative Microorganism

Type of skin	Percentage
Viral	70.3%
Fungal	14.7%
Bacterial	4.6%
Parasitic	10.4%
Total	100%

Pattern of the diagnosed skin infectious diseases

Among the skin infectious diseases diagnosed at dermatology clinic , viral warts accounts for the highest prevalence (50.1%) of the cases among our study, followed by herpes infections, tinea infections, and leishmaniosis with prevalence of 16.4%, 12.7% and 9.5% respectively, while impetigo, chickenpox, candidiasis, pediculosis and leprosy constitute the least prevalence among the attendees as shown at Table 4 below:

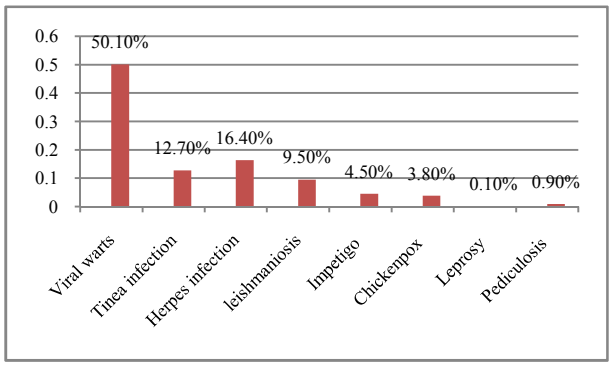

Figure 2 Prevalence of Diagnosed Skin Infections

Association of diagnosed skin infections and the sex of the patients

The pattern of skin infectious diseases vary between male and female, the prevalence is higher in male patients (53.2%) compare female patients (46.8%) (p=<0.001), especially in cases of viral warts, herpes infection, leishmaniosis, impetigo

Table 4 Prevalence of Skin Infections in relation to Sex of Patients

Diagnosis	Total	Males	Females
Viral wart	686	(53.9%)	(46.1%)
Tinea	174	(46.6%)	(53.9%)
Herpes infection	225	(52.9%)	(47.1%)
Leishmaniosis	130	(66.2%)	(33.8%)
Impetigo	61	(60.7%)	(39.3%)
Chickenpox	52	(38.5%)	(61.5%)
Leprosy	2	(100%)	(0.0%)
Pediculosis	13	(30.8%)	(69.2%)
Candidiasis	27	(37%)	(63%)
Total	1370	729 (53.2%)	(46.8%)

Association of diagnosed skin infections and the age of the patients

Table(5) below revealed that prevalence of skin infectious diseases were higher among patients below 37 years of age (61.6%) than those above the age of 37 years (38.4% (p=<0.000).

Table 5 Prevalence of Skin Infections in relation to the Age of Patients

Diagnosis	Total	Less than 18 years	18-36 years	37-54 years	Above 54 years
Viral wart	686	(31.6%)	(45.9%)	(16.8%)	(5.7%)
Tinea	174	(31.6%)	(33.9%)	(25.3%)	(9.2%)
Herpes	225	(3.5%)	(35.1%)	(27.1%)	(34.2%)
Leishmaniosis	130	(45.4%)	(31.5%)	(15.4%)	(7.7%)
Impetigo	61	(59.0%)	(13.1%)	(23%)	(4.9%)
Chickenpox	52	(11.5%)	(77.0%)	(11.5%)	(0%)
Leprosy	2	(0%)	(0.0%)	(0%)	(100%)
Pediculosis	13	(69.2%)	(30.8%)	(0%)	(0%)
Candidiasis	27	(63.0%)	(22.2%)	(14.8%)	(0%)
Total	1370	407 (29.7%)	552 (31.9%)	264(15.3%)	174(10.1%)

DISCUSSION

Current available studies on the pattern of skin infectious diseases from Albaha, Saudi Arabia are limited if not present. This is may be for many reasons such as no implemented dermatological programs, limited diagnostic facilities and lack of academic institutions previously. Our study findings offer an essential and basic data for the burden and patterns of various skin infectious diseases (number and type of referred cases to dermatology clinics.) since there is no similar studies done at the area. The prevalence of various skin diseases varies according to geographical area and is related to racial, environmental and socioeconomic factors of the population.[9] This is clear at Al-Baha which shows such factors. With reference to the nationality our findings showed that Saudi patients were infected with skin infectious diseases more than non-Saudi in which the ratio of infection was (19 to1) or (95%to 5%). This may be because of large number of Saudi patients visited the Clinic comparing to non-Saudi and also due to increase the concern against any infection affect skin among Saudi.

Our study findings revealed that most of the attendee (53.2%) to dermatology clinics was male patients. This finding is the same in many other studies from Saudi Arabia [10,11,12,13], this finding may reflect some social barriers regarding females visiting to hospitals and again women were less frequently exposed to risk factors for skin infectious diseases . The study revealed that more than two thirds (70%) of our population were at young age i.e. less than 37 year old which show highest prevalence of skin infectious diseases specially those at the age range 18- 36 years old (40.3%), this finding is supported by a study done at Qassim region of Saudi Arabia23. Those at age more than 55 year old were the least to be affected by skin infectious diseases (10.7%) this finding support a finding by a study done at in Jeddah city, Saudi Arabia,(2012)[14]

The most commonly encountered infectious agent causing skin infectious disease among the reviewed patient registry was viral agent (70.3%) , this may reflect that human viral infections transmissibility is influenced by the environment in which pathogen and host meet 25, specifically the effect of humidity and low temperature at our study setting (Albaha region). Among viral skin infections, warts were the leading presentations (50.1%) with males (53.9%) outnumbering females (46.1%) and the most common age group affected was 18-36 years (45.9%). This relation between viral warts and this age group can be related to the frequent movements of this group and the sexual activity of the same group as the human papilloma virus the causative agent of warts is the most common sexually transmitted infection, and also is transmitted through direct skin-to-skin contact 26.Our finding is supported by a study done by Nadia *et al*. which found viral infections (15.7% on 1997and 16.9% on 2007) as the most common skin infectious disease in Tunisia[15]. Our finding showed that the prevalence rate of warts in the present study (50.1%) was higher than the rate reported from Riyadh,[16]Abha,[17] and Jeddah[18]. Fungi usually make their homes in moist areas of the body where skin surfaces meet: between the toes, in the genital area, and under the breasts. The warm, humid condition of human skin allows dermatophytes to thrive, as surface temperatures of 25–28°C are ideal for growth, this temperature is the same as of Albaha region. In our study fungal infections cause by tinea (dermatophytes) and candida constitute about 12.7% and 2.0% of the study sample respectively. Bacterial infections constitute the lowest prevalence among our study population (4.6%)

CONCLUSION

Skin infectious diseases constitute major portion among other diseases, the general practitioners and family physicians at the primary health care should be able to diagnose and manage these common skin disorders , and not to refer such a case to be seen in the dermatology clinics We recommend that a training programs for diagnosing and managing common skin disorders should be initiated for primary health care physicians and other general practitioners which will lead to a decrease in referrals to the hospital dermatology clinics.

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