

Epidemiology of infectious skin disorders among out patient in a tertiary care hospital, Srinagar, Uttarakhand

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Abstract

Background: The epidemiology of skin morbidity in an area depends on climate, geography, socio economic status, nutrition, genetic and habits of the community. The objective of the present study was to describe the morbidity profile of infectious disease of the skin and subcutaneous tissue patients attending dermatology outpatient department in a tertiary care centre of Garhwal hills, north India. **Methodology:** It is a record based study done using the morbidity registers maintained for outpatients at dermatology department, HNB hospital, VCSGGMS&RI, Uttarakhand, North India. **Results:** The totals of 47465 new episodes of illnesses were treated in the skin outpatient department during 2009-14. 15481 (32.6%) patients presented with infections of the skin and subcutaneous tissue. Males and females were nearly equal. Overall the fungal infections of the skin and subcutaneous tissue were the most common (35.8%) followed by scabies. Viral diseases of skin, bacterial diseases of skin and tinea versicolor were most commonly encountered. **Conclusion:** This information will help in planning customize health services for patients health care.

Keywords: Skin, pattern, Morbidity, Infectious disease, Subcutaneous tissue, Fungal, Tinea

Introduction

The epidemiology of infectious disease of the skin and subcutaneous tissue in an area depends on its climate and geography, the socio economic status, nutrition, genetic and habits of the community [1]. The prevalence of dermatological disorders in the population varies from 6.3% to 11.2% [2]. In addition, poor hygiene, lack of basic amenities, overcrowding, also play significant role in occurrence of infectious disease of the skin and subcutaneous tissue [3, 4]. Moreover, profile of infectious disease of the skin and subcutaneous tissue among patient is determined by the distance needed to travel to seek health care in hilly terrains [5]. Uttarakhand is a hilly state situated in northwest region of India. Veer Chandra Singh Government Medical Sciences and Research Institute, Srinagar is one of the referral centers for Garhwal

division. It has different ethnic, racial and culture of the population, which affects the pattern of the infectious disease of the skin and subcutaneous tissue [6].

A in-depth knowledge of the distribution and magnitude of infectious disease of the skin and subcutaneous tissue is critical in providing customized health services to the community [7]. However, studies were not available from Garhwal region of Uttarakhand to understand epidemiology of infectious disease of the skin and subcutaneous tissue. The objective of the present study was to describe the morbidity profile of infectious disease of the skin and subcutaneous tissue among patients attending dermatology outpatient department in a tertiary care centre of Garhwal hills, north India.

Materials and Methods

The present study is a record based carried out using the morbidity registers maintained for outpatients at

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dermatology department, HNB hospital, Veer Chandra Singh Garhwali Government Medical Sciences and Research Institute in Garhwal region, Uttarakhand, North India. Information like age, gender, residence, new or old case and infectious disease of the skin and subcutaneous tissue diagnosis were retrieved from the registers using a data extraction sheet. New registered

outpatients between February 2009 and December 2014 were included in the study. The descriptive analysis was done with SPSS version 17.0 (Chicago, IL, USA) and proportions given wherever necessary. All necessary permissions were obtained from the appropriate authority.

Results

The dermatology outpatient department catered 4.5% of all the cases who attended the hospital in study period. The totals of 47465 new episodes of illnesses were treated in the skin outpatient department during 2009-14. 15481 (32.6%) patients presented with infections of the skin and subcutaneous tissue. Adults (>18 years) constituted about 80.9%. Boys (49.3%) and girls (50.7%) constituted nearly equal proportions in paediatric age group, but among adults, about 59.9% were males. Overall the fungal infections of the skin and subcutaneous tissue were the most common (35.8%) followed by scabies. (18.8%) had viral diseases of skin, (17.6%) had bacterial diseases of skin, (15.8%) had tenia versicolor. Tenia disease constituted 76.4% of all fungal infections. In adults (18-60 years), the most common diseases of the skin and subcutaneous tissue were the fungal infection (in males 52.4%, in females – 50.6%). The scabies (18.6%) was next most common among males 18-60 years. On the contrary, females had viral skin diseases (19.6%) as second common infectious disease of the skin and subcutaneous tissue. There was no significant difference of morbidity pattern of infectious disease of the skin and subcutaneous tissue between adult males and females ($p= 0.48$).

Among the paediatric and adolescent cases, the most common infectious diseases were fungal infection of the skin and subcutaneous tissue (in boys – 32.6 %, in girls – 31.2%) followed by scabies in boys – 24.7% and bacterial skin disorders in girls – 24.8%. There was no significant difference of morbidity pattern of infectious disease of the skin and subcutaneous tissue between boys and girls ($p= 0.56$).

Among the male elderly (more than 60 years of age) cases, the most common infectious disease of the skin and subcutaneous tissue were fungal 43.9% followed by viral infection of the skin and subcutaneous tissue (21.9%). Among elderly female, the common diseases of infection of the skin and subcutaneous tissue was of fungal origin (33.8%), and bacterial skin diseases (27.5%) (Table 1). No significant difference of infectious disease of the skin and subcutaneous tissue elderly males and females was observed ($p= 0.32$).

Patient from different districts most commonly presented with primarily fungal infection of the skin and subcutaneous tissue (46.9%), followed by scabies, viral and bacterial diseases. (Table 2). No significant difference of infectious disease of the skin and subcutaneous tissue among various regions was observed ($p= 0.41$).

Table-1: Morbidity profile of dermatology out patients by age and gender in a tertiary care hospital in Srinagar, Garhwal, North India (2009-2015)

Morbidity	Female n(%)			Male n(%)			Total N (%)
	<18 yrs	18-60 yrs	>60 yrs	<18 yrs	18-60 yrs	>60 yrs	
Infections of the skin and subcutaneous tissue	1200(29.5)	4218 (23.7)	465(38.8)	1906 (38.1)	7039(40.1)	653(35.5)	15481(32.6)
Fungal skin infections	374 (31.2)	2133 (50.6)	157(33.8)	622(32.6)	3686(52.4)	287(43.9)	7259(46.9)
Scabies	232(19.3)	699(16.5)	85(18.2)	471(24.7)	1307(18.6)	121(18.5)	2915(18.8)
Viral skin diseases	296(24.6)	828(19.6)	95(20.4)	354(18.6)	1017(14.4)	143(21.9)	2733(17.7)
Bacterial skin diseases	298(24.8)	558(13.2)	128(27.5)	459(24.1)	1029(14.6)	102(15.6)	2574(16.6)
Total	4065	17789	1199	5002	17569	1841	47465

Table 2: Morbidity profile of dermatology out patients by residence district in a tertiary care hospital in Srinagar, Garhwal, North India (2009-2015)

Morbidity	Rudraprayag	Pauri Garhwal	Chamoli	Tehri Garhwal	Others	Total
Infections of the skin and subcutaneous tissue	815(35.2)	7807(33.2)	338(30.2)	882(36.0)	5639(31.2)	15481(32.6)
Fungal skin infections	384(47.1)	3541(45.4)	151(44.6)	451(51.1)	2732(48.4)	7259(46.9)
Scabies	152(18.7)	1415(18.1)	73(21.6)	161(18.3)	1114(19.6)	2915(18.8)
Viral skin diseases	143(17.5)	1495(19.1)	52(15.4)	128(14.5)	915(16.2)	2733(17.6)
Bacterial skin diseases	136(16.7)	1356(17.4)	62(18.4)	142(16.1)	878(15.8)	2574(16.7)
Total	2314(4.8)	23527(49.6)	1119(2.4)	2453(5.2)	18052(38.0)	47465

Discussion

The study describes the pattern of infectious disease of the skin and subcutaneous tissue among patients at skin outpatient department at our tertiary care hospital during the year 2009-14. The results of the present study showed that commonly diagnosed infectious disease of the skin and subcutaneous tissue were the fungal infection followed by scabies. This was comparable to a study conducted in Kolkata where infective disease (36.4%) to be the most common diagnosis [8]. On the contrary, a study from Kumaun region of Uttarakhand reported only 27.1% patients were suffering from infective skin diseases [5]. In addition, study from north east also found the incidence of non-infectious disease was slightly higher than that of infectious disease [9].

Occurrence of fungal infection in present study was similar to another study conducted in Pune [10]. Comparably, *Tinea dermatophytosis* was the commonest fungal infection followed by *tinea versicolor* in present study and hospital based study from Guwahati [11]. Among children, the fungal skin and subcutaneous infections were the most common diagnosis. Other studies from India and Pakistan showed infectious disease of the skin and subcutaneous tissue comprised 83.3% and 60% of skin diseases, respectively [12,13]. Scabies was found in less among all new cases in present study. Likely among all cases scabies was present in 8.9% Imphal and 9.4% Karnataka studies [14,15]. The prevalence of leprosy in the present study is described in another article [16]. The high incidences of infections may be due to the warm and highly humid climate, wind, dust, lack of clean water and low socio-economic status of patients.

The present study is hospital based study thereby it cannot be generalized to whole of India. The morbidity profile of infectious disease of the skin and subcutaneous tissue was stratified by age, gender, and residence. Nevertheless, it was not possible to classify on socioeconomic structure and seasonal variation.

Conclusion

This study describes the morbidity profile infectious disease of the skin and subcutaneous tissue among patients who attended our hospital over a period of five year. This will provide a insight in planning health services to meet the patients' needs.

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Permission of IRB: Yes

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