Modern Health Science; Vol. 4, No. 1; 2021
ISSN 2576-7291 E-ISSN 2576-7305
https://doi.org/10.30560/mhs.v4n1p15

Impact of Socio-Demographic Characteristics on the Pattern of Skin Diseases Attending Different Dermatology Department of Public Hospitals Quetta, Pakistan

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Received: April 27, 2021; Accepted: May 25, 2021; Published: May 27, 2021

Abstract

Objective: The study was conducted to determine the pattern of skin diseases affecting by the socio-demographic characteristics of the patients visiting the dermatology department of public hospitals in Quetta, Pakistan.

Methodology: The prospective cross-sectional study was undertaken using a self prepapred proforma to compile the data while interviewing the patients attending the Dermatology Department of two public hospitals of Quetta, Pakistan, in order to determine the relationship between the demographic characteristics of patients and pattern of skin diseases.

Results: A total of 503 patients were enrolled in the study. Majority of the participants (33.8%) were categorized in the age group of 21-30 years. The most common patterns of skin diseases seen in outpatient department were eczema (21.5%), scabies (19.7%) and bacterial infections (12.7%). Inferential statistics revealed a significant relationship (p=0.001) between pattern of skin diseases and age, education, house occupancy, location and living standards of the study participants. Most of the patients were found to be living in a combined family system (65.6%), with poor living standards (81.7%) and uneducated (51.1%).

Conclusion The current study presented that eczema and infectious diseases were the most common pattern of skin diseases in Quetta and they are significantly related with socio-demographics of the patients so it can be concluded that better health education, maintaining personal hygiene, and improvement in the standard of living may aid a lot in managing and preventing the common skin diseases.

Keywords: skin diseases, socio-demographics characteristics, public hospitals, eczema, scabies

1. Introduction

Skin is the part of integumentary system that is one of the largest organ of human body and thus it is exposed to injury by various factors including extrinsic such as environmental, chemical, infectious agents as well as intrinsic such as metabolic, genetic and immunological factors [1,2]. Pattern of skin diseases differ from country to country. In the same country it even differs from region to region, however Eczema, scabies, bacterial skin infections, acne vulgaris, alopecia, fungal skin infections and viral skin infections were the top most prevalent diseases around the world in 2010 [3]. Skin diseases depends upon the various factors contributing to the distribution of these diseases in the developing countries such as literacy, age, living standards, overcrowding and poor standards of hygiene [4-6]. Nevertheless, improvements to environmental sanitation, education of the general public help to reduce the incidence of skin diseases in any community [7-10]. In developing countries, the skin diseases are the most prevailing one [9] whereas, worldwide skin diseases have been reported to be the 4th cause of non-fatal disease affecting more than 60% of general population [3]. In addition, it has been estimated that globally 2% of total Out Patient Department consultations consist of skin diseases [11]. Although there have been some studies on the pattern of skin diseases in the general global population but there is scarcity of such work in developing countries [7,12,13] like Pakistan where skin diseases are very common so the current study was planned to assess the pattern of skin diseases and their association with demographic characteristics of the patients attending the dermatology departments in the public hospitals of Quetta, Pakistan.

2. Methodology

2.1 Study Design, Setting and Sampling

A prospective cross-sectional analysis was conducted in two public hospitals (Sandmen Provisional Hospital and Bolan Medical Complex Hospital) of Quetta city, Pakistan from April to September 2018. Both of these hospitals are tertiary care institutes and being public in nature provide treatment to the majority of the population. A total of 503 patients attending the dermatology out-patient department (OPD) irrespective of their socio-demographic characteristics were included and patients with recommendation of differential diagnosis and other comorbidities were excluded.

2.2 Data collection

A self-prepared Proforma, which was evaluated by the experts, used for the data compilation from the patients attending the dermatology OPD were interviewed and the prescriptions were collected on three alternate days in a week for a period of six months. In case of patients aged ≤ 14 years accompanying guardians were interviewed. Informed verbal consent was taken from the interviewed patients.

2.3 Ethical Approval

The ethical committee of department of pharmacy practice, faculty of pharmacy and health sciences and university of Baluchistan approved the study. This study was performed according to the ethical standards for human experimentation [14]. The Joint Clinical Research Committee (for Sandmen Provisional Hospital and Bolan Medical Complex Hospital) approved the study protocol (No: DPR/RR/10/18 and DPR/RR/04/05/10/01318 respectively). Informed verbal consent was also taken from the eligible participants prior to data collection. Patients were made sure about the discretion of their responses and their right to withdraw from the study

2.4 Statistical Analysis

Descriptive statistics was used to determine the frequencies and percentages of the socio-demographics and diseases whereas inferential statistics such as chi square has been used to evaluate the relationship between the demographic characteristics and pattern of skin diseases. A statistical value of $P < 0.05$ was taken as significant. All analyses were performed using SPSS version 20.

3. Results

3.1 Socio-Demographics Characteristics

Table.1 demonstrates the socio-demographic characteristics of the study participants. Majority of study participants (n=170, 33.8%) aged 21-30years with Females more dominated (n=305, 60.6%) and being unmarried (n=252, 50.1%). Most of the participants (n=330, 65.6%) lived in a combined family system, with poor living standards (n=411, 81.7%). A remarkable part (n=257, 51.1%) of the patients was uneducated and residing in urban areas (n=307, 61.0%).

Table 1. Socio-Demographic Characteristics

Demographic variables	**Frequency N=503**	**Percentage %**
Age group		
Less than10 years	96	19.1
11-20	106	21.1
21-30	170	33.8
31-40	69	13.7
41-50	39	7.8
51-60	10	2.0
61-above	13	2.6
Gender		
Male	198	39.4
Female	305	60.6
Religion		
Muslim	472	93.8
Hindu	14	2.8
Christian	17	3.4

Marital status		
Unmarried	252	50.1
Married	232	46.1
Widow/widower/separated	19	3.8
House occupancy		
Separated	173	34.4
Combined	330	65.6
Living standards		
Adequate	92	18.3
Poor	411	81.7
Location		
Urban	307	61.0
Rural	196	39.0
Education		
Uneducated	257	51.1
Primary	115	22.8
Matric	83	16.5
FA/FSC	33	6.6
Other	15	3.0

3.2 Disease Diagnosed

Table.2 depicts the pattern of skin diseases among the OPD patients. Eczema (n= 128, 21.5%), scabies (n=99, 19.7%), and bacterial infections (n=64, 12.7%) were found to be the most common skin diseases.

Table 2. Disease Diagnosed

S.No	Disease diagnosed	Frequency	Percentage %
1	Fungal infections	26	5.2
2	Viral infections	25	5.0
3	Bacterial infections	64	12.7
4	Pigmentory disorders	48	9.5
5	Scabies	99	19.7
6	Eczema	108	21.5
7	Acne	52	10.3
8	Alopecia	26	5.2
9	Psoriasis	8	1.6
10	Leshmaniasis	7	1.4
11	Burns	1	2
12	Pruritus	20	4.0
13	Urticaria	16	3.2
14	Keloid	1	0.2
15	Skin tags	2	0.4

Comparison of Demographic Characteristics with the pattern of skin diseases

Upon comparison of demographic characteristics with the pattern of skin diseases as shown in table.3, no statistically significant association is revealed between the gender and the pattern of skin disease (p=.505). However, chi square test revealed that the age, living system, socioeconomic class, education, and location of the study participants had a statistically significant association with the pattern of skin diseases (p-value=0.001). Most of the patients with eczema and scabies were found to be with the age group of 21-30 years (n=38), <1-10years (n=38), living in a combined family system (n=91, n=93) belonging to poor socioeconomic class (n=103, n=86) and uneducated (n=80, n=56) respectively. However majority of the patients with eczema (n=77) were residing in rural areas, while most of the patients with scabies (n=65) were residing in urban areas

Table 3. Cross Tabulation between the Patient's Socio-Demographic Characteristics and the Pattern of Skin Diseases

Demographics	**Disease Diagnosed**															**P value**
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	
Gender																
Male	8	12	28	17	44	37	16	12	05	03	01	07	07	01	00	0.505
Female	18	13	36	31	55	71	36	14	03	04	00	13	09	00	02	
Age groups																
<1-10	14	6	14	4	38	12	0	1	0	0	1	6	0	0	0	
11-20	6	6	15	15	28	6	18	4	0	2	0	3	3	0	0	
21-30	2	10	19	24	22	38	33	10	2	1	0	6	2	1	0	
31-40	4	1	7	5	8	30	1	9	2	1	0	1	0	0	0	0.001
41-50	0	0	7	0	2	17	0	2	2	1	0	4	2	0	2	
51-60	0	2	1	0	1	1	0	0	2	0	0	0	3	0	0	
61-above	0	0	1	0	0	4	0	0	0	2	0	0	6	0	0	
House occupancy																
Separated	9	11	34	27	6	17	33	17	1	2	1	11	3	0	1	0.001
Combined	17	14	30	21	93	91	19	9	7	5	0	9	13	1	1	
Living standard																
Adequate	8	8	6	17	13	5	13	6	3	2	0	7	3	0	1	0.001
Poor	18	17	58	31	86	103	39	20	5	5	1	13	13	1	1	
Location																
Urban	17	18	43	38	65	31	45	21	1	5	1	14	6	0	2	0.001
Rural	9	7	21	10	34	77	7	5	7	2	0	6	10	1	0	
Education																
Uneducated	11	12	29	11	56	80	16	10	6	3	1	8	13	0	1	
Primary	7	6	18	14	18	15	16	9	1	3	0	8	0	0	0	
Matric	6	5	12	11	17	8	12	3	0	0	0	4	3	1	1	0.001
FA/FSC	1	2	4	7	7	3	5	3	0	1	0	0	0	0	0	
Others	1	0	1	5	1	2	3	1	1	0	0	0	0	0	0	

1 (fungal infections), 2 (viral infections), 3 (bacterial infections), 4 (pigmentory disorder), 5 (scabies), 6 (eczema), 7 (acne), 8 (alopecia), 9 (psoriasis), 10 (leshminiasis),11 (burns),12 (Pruritus), 13 (urticarial), 14 (keloid),15 (skin tags).

4. Discussion

The current study elaborates the pattern of different skin diseases in dermatological department, stating that eczema being the most frequent disease among the patients in Quetta, Pakistan. Higher incidences of eczema were may be due to high exposure to allergens in spring season, living in rural areas and did not indulge in protective measures. Symvoulakis, Krasagakis *et al,* from their study conducted in Mediterranean island in 2003 reported that eczema was the most prevailing case associated with allergen contact [15]. The findings were again supported by Baur, Sarkar *et al*, Yousuf, Joarder *et al* and Aman, Nadeem *et al* in their study concerning pattern of skin diseases in Calcutta, India, Bangladesh and Lahore, Pakistan respectively [16,17,18].

The study also revealed that after Eczema, infectious skin diseases including scabies and bacterial infections were the second most common skin diseases among the OPD patients, this may be due to spring season combined family system, low level of education and poor maintenance of personal hygiene. This finding was in accordance with other studies conducted in Mediterranean island, India, Bangladesh and Lahore [15,16,17,18].

However, Memon, soomro *et al*, conducted a study in a tertiary care hospital in Hyderabad, Pakistan in 2008, reported results which differs from the current study, stating that the infectious skin diseases were more common compared to non-infectious diseases i.e. eczema was on the 2nd number and scabies was on the top because of poor hygiene maintenance and water inadequacy whereas variation in occurrence of eczema may be due to difference of condition, genetic factors, occupational exposures and chance of contact with different physical and chemical agents [19].

In the present study, as upon it was revealed that socio-demographics of the patients were significantly related to the pattern of skin diseases (p=.001). However the study did not showed significant relation between gender and the type of skin disease (p=.505%).This study disclosed that the type of skin diseases significantly varied with living standards, family system, education and age group because patients belonging to poor living standards had low awareness, might live in overcrowded condition with poor environmental sanitation. In combined family system, the chances of spread of an infectious disease increases whereas uneducated patients did not indulge in preventive measures against an infection. In addition, locality of the participants also found to be statistically significant (p=.001), as majority of the patients with infectious skin diseases belonged to urban area while many of those with eczema, psoriasis and urticarial diseases belonged to rural area. However, overcrowding, more exposure to pollutants in urban area may result in infectious skin diseases while high exposure to sun, dust and other allergens may be responsible for other non-infectious skin diseases in rural areas. The current study also reported that the pattern of skin diseases varied with the age group stating that infectious diseases were more commonly seen in the age group of <1-10years, this may be because of children were more exposed to unhygienic conditions in addition to some other predisposing factors like less developed immune system and combined family system whereas non-infectious skin diseases were majorly seen in patients aged 21-30years, this may attributed to the higher exposure of allergens in occupational area and also may be due to the use of artificial jewellery or use of detergents. This finding was similar to the study conducted in a tertiary care hospital, Hyderabad [19].

5. Conclusion

This study concluded that eczema was the most commonly encountered skin disease, after which scabies and bacterial infections were found to be 2nd most prevailing diseases and significantly related to the socio demographic characteristics of the patients attending the dermatology OPD of the public hospitals, Quetta city, Pakistan. This study recommends that some health education should also be given along with medical treatment to reduce the disease burden and maintenance of personal hygiene, improvement in the standard of living in managing common skin diseases.

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