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Association of lifestyle on prevalence of skin diseases

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Abstract---Introduction: The largest organ of the body is skin having 15% of the total adult body weight. Skin disease affects 30% to 70% of people, is common across all cultures, and affects people of all ages. The patterns of skin diseases vary in different countries as well as from region to region within a country. Multiple factors, including

good hygiene, congestion, diet, socioeconomic status, and cultural taboos, influence the pattern of skin disorders. Objectives: To determine the types of skin diseases prevailing among patients in the hospitals and analyze the impact of life style on skin diseases. Methodology: Three hundred patients participated in this qualitative survey-based study, which was conducted at six hospitals situated across Pakistan's main cities and two hospitals from. The purposive sampling strategy was used and data was collected through predesigned questionnaire from June 15, 2022 up to July 20, 2022. Following collection, the data was entered, reviewed and analyzed to interpret the results. Results: Out of 300 participants included in the study, 26.7% (80) were males and 73.3% (220) were females. The age range was 5-70 years. The highest numbers of patients were between the age ranges of 16-30 years 43.6% (131). Patients ranged from 5-15 years of age were 22% (66), 23.3% (70) ranged between 31-50 years of age, and 11% (33) were between the age range of 51-70 years. Males were more likely to get fungal infections and develop acne, whereas females were more likely to develop these conditions as well as scabies, warts, and psoriasis According to our analysis, acne and fungal infection is the skin condition that affects people the most, with a frequency of 26% and 19.6% respectively. The distribution of dermatological OPD patients by gender revealed that 69.6 percent of female patients. Conclusion: The most common skin illnesses are determined to be fungal infections and acne. Low socioeconomic group members appear to be influenced. Suggestions: The need to raise living standards, enhance hygienic circumstances and take action to stop illnesses from occurring in the future is most urgent. People should be made aware of skin diseases through awareness campaigns and advertisement so they can take precautions to prevent them. Female physicians should specialize in dermatology because majority of the patients were female so that patients will feel comfortable seeing them.

***Keywords*---**epidemiology, skin diseases, dermatology, life style, cosmetics

Introduction

The skin is the body's biggest organ, contributing around 15% of an adult's total body weight [1]. In addition to defense against external physical, chemical, and biological attackers, it performs several very important functions. It also helps with thermoregulation and prevents the body from losing too much water [2]. The epidermis, dermis, and hypodermis are the three layers of the skin, and each has a unique thickness, strength, and function [3]. Italian author Geronimo Mercuriali finished writing De morbiscutaneis in 1572 (On the diseases of the skin). It is regarded as the earliest dermatology-related scientific work [4]. Skin illness affects 30% to 70% of people, is common in all cultures, and affects people of all ages. The International Classification of Diseases includes more than 1,000 conditions

that affect the skin or are related to the skin. Skin illnesses get little attention in national and international health debates, despite their enormous impact [5].
According to reports, skin conditions are Pakistan's second-leading cause of disability and have increased over the past ten years [6]. The patterns of skin diseases vary from nation to nation and from area to region within a nation [7]. Personal cleanliness, overcrowding, dietary state, educational background, family size, social situation, family history, and traditional taboos are only a few of the many variables that influence the pattern of skin disorders in a society [8]. According to studies, scabies is the most common skin disorder in Pakistan (18, 45.5 percent). Other common skin diseases include eczema (18, 18%), acne (13, 3%), pruritus (5.5%), fungal infection (3, 13.1%), folliculitis (4.4%), impetigo (3, 3.4%), and psoriasis (3, 3.4%).

Infection patterns varied across age groups and demographic conditions [9].

Skin Disease

Pakistan has a high prevalence of skin disorders. Some of the most important and common skin diseases in Pakistan are discussed below.

1. Contact Dermatitis

Acute or persistent skin irritation brought on by exposure to chemical or physical irritants is known as contact dermatitis. You may have dry, itchy skin, a red rash, lumps, blisters, or swelling as a result of contact dermatitis. Although not infectious or life threatening, these rashes can be rather painful [10]. Either exposure to allergens (allergic contact dermatitis) or irritants (irritant contact dermatitis) causes contact dermatitis [11]. A delayed kind of hypersensitivity and prior exposure to an allergen are required for allergic contact dermatitis to occur. Inflammatory cutaneous reactions are carried on by an immunological response that is triggered by repeated exposure to irritants that directly injure the skin's epidermal cells. This condition is known as "irritant contact dermatitis" [12].

2. Psoriasis

Psoriasis is a chronic, noncontiguous autoimmune disease marked by elevated, abnormal skin patches. These regions are dry, itchy, and scaly, and are red or purple on some people with darker skin [13]. The severity of psoriasis ranges from tiny, localised patches to total body coverage [14].

3. Acne

Acne is the most prevalent skin disorder, affecting around 85% of people at some point in their lives [15]. Acne, commonly known as acne vulgaris, is a long-term skin disorder caused by dead skin cells and skin oil clogging hair follicles [16]. The disease is characterized by blackheads or whiteheads, pimples, greasy skin, and potential scarring. It primarily affects skin with a high number of oil glands, such as the face, upper chest, and back [17].

4. Warts

Typically, warts are tiny, rough growths that resemble the rest of the skin in color. The only time they may cause other symptoms is if they are on the bottom of the feet, so in that case they may be irritating [18]. Although they often affect the hands and feet, they can also affect other areas and they are not carcinogenic [19].

5. Scabies

Scabies is a skin infection caused by the mite *Sarcoptesscabiei* [20]. Severe itching and a pimple-like rash are the most prevalent symptoms. Scabies is caused by tiny mites that burrow into the skin. Scabies causes an excruciatingly irritating rash in the webs of fingers, wrists, elbows, and buttocks [21].

6. Fungal infection (Mycosis)

Mycosis, sometimes referred to as a fungal infection, is a condition caused by fungus. After spores are inhaled, come into contact with skin, or enter the body through the skin, such as by a cut, wound, or injection, fungal infection takes place [22]. People with weakened immune systems are more likely to experience it. This includes those using steroids or receiving therapy for cancer, as well as those with conditions like HIV/AIDS [23]. More than one billion individuals worldwide suffer from fungal infections each year, which are widespread and prevalent. According to reports, there were 1.7 million reported deaths from fungi in 2020 [24].

Objectives

1. To determine the types of skin diseases prevailing among patients in the hospitals.

2. To analyze the impact of life style on skin diseases.

Materials and Method

Research Design

It was a qualitative and survey-based research project. The assessment was carried out at six hospitals located in Pakistan (DHQ Teaching Hospital, Dera Ismail Khan; Doctors Hospital & Medical Center Lahore; Shaikh Zayed Hospital Lahore; National Hospital & Medical Centre Lahore; Hayatabad Medical Complex, Peshawar) and two hospitals located in Philippines (Iloilo Mission Hospital & Dr. Dina Belicena Dermatology Clinic, Iloilo City). A total of 300 patients were questioned with a questionnaire in this study to examine their awareness and knowledge of skin disorders from June 15, 2022 up to July 20, 2022.

Questionnaire Development

The questionnaire was specifically created to capture the necessary background data and information. To minimize unwanted semantic misunderstandings, the questionnaire was written in simple English and guidance was provided in the national language Urdu when required. To guarantee that the questionnaire was intelligible by the participants, it was designed as a survey.

Sampling Technique and Data Analysis

The purposive sampling strategy was used in this investigation. Following collection, the data was entered, reviewed and analyzed using Microsoft Excel 2016. The results were interpreted and displayed in the bar, pie and column charts to analyze the proportion of skin disease awareness and illness among patients.

Ethical statement

Before being questioned, eligible participants were guided about the research and ensured to keep their identity secrete. Verbal informed consent was obtained from all adult participants and from minors' parents or legal guardians who agreed to participate in the study and submitted the necessary information for the studies.

Results

There were 26.7 percent (80) men and 73.3 percent (220) females among the 300 participants in the research (figure 1). The age range ranged from 5 to 70 years. The highest numbers of patients were between the age ranges of 16-30 years 43.6% (131). Patients ranged from 5-15 years of age were 22% (66), 23.3% (70) ranged between 31-50 years of age, and 11% (33) were between the age range of 51-70 years (figure 2). 19% of patients lived in less populated places, while 31% lived in congested areas; on the other hand, 24%, 20%, and 6% of patients reside in dirty, clean, and other locations, respectively (figure 3). 22.3 percent of patients completed elementary school, while 16.7 percent were illiterate. Furthermore, 13.6 percent, 24.2 percent, 16.2 percent, and 7% of patients completed S.S.C., H.S.S.C., Graduate, and postgraduate education (figure 4).

Patients who made less than 25,000 rupees per month made up 23.6 percent of the study's participants. Participants who made between 25,000 and 40,000 rupees per month made up 30.3 percent of the group. Participants who made between 40,000 and 60,000 rupees per month made up 29.6 percent. Additionally, 12.6 percent of patients reported monthly incomes between 60,000 and 1,000,000 rupees and 3.9 percent reported monthly incomes of more than 1 lac (table 1). Patients make use of local cosmetics brands 73.69% of the time, while just 26.31% use cosmetics of foreign brand (figure 5). The research revealed that 87.27 percent of patients consumed carbohydrates, 71.88 percent of patients consumed vegetables, 23.05 percent of patients consumed fish, and 29.08 percent of patients consumed meat every day (figure 6).

In the survey population, 15 different skin diseases were discovered to be common. The most common diseases were fungal infection and acne, which were experienced by 78 and 59 of the total participants, respectively. Thirty-one patients each had scabies, twenty four had warts, and twenty one had psoriasis. Likewise, other skin conditions that afflict the remaining patients (table 2). Acne was the most prevalent skin condition in individuals between the ages of 5 and 15; other common conditions included fungal infections, scabies, warts, and psoriasis. Acne, fungal infections, and scabies were the most prevalent diseases among people between the ages of 16 and 30. Fungal infections and warts were most prevalent in individuals between the ages of 31 and 50, respectively. The most prevalent illnesses among those 51 to 70 years old were fungi infections (table 2). Males were more likely to get fungal infections and develop acne, whereas females were more likely to develop these conditions as well as scabies, warts, and psoriasis (table 3).

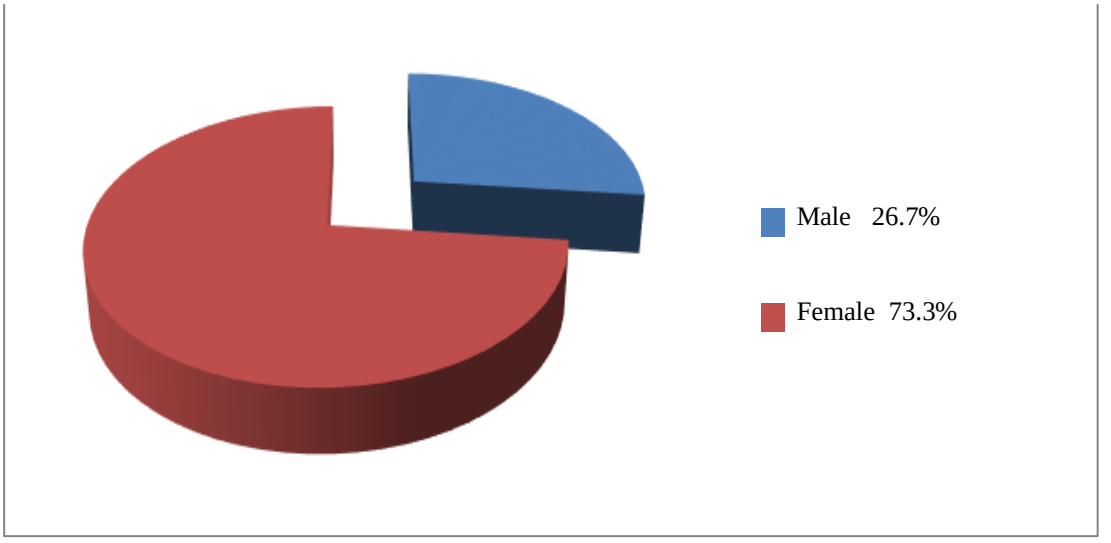


Figure 1: Gender distribution

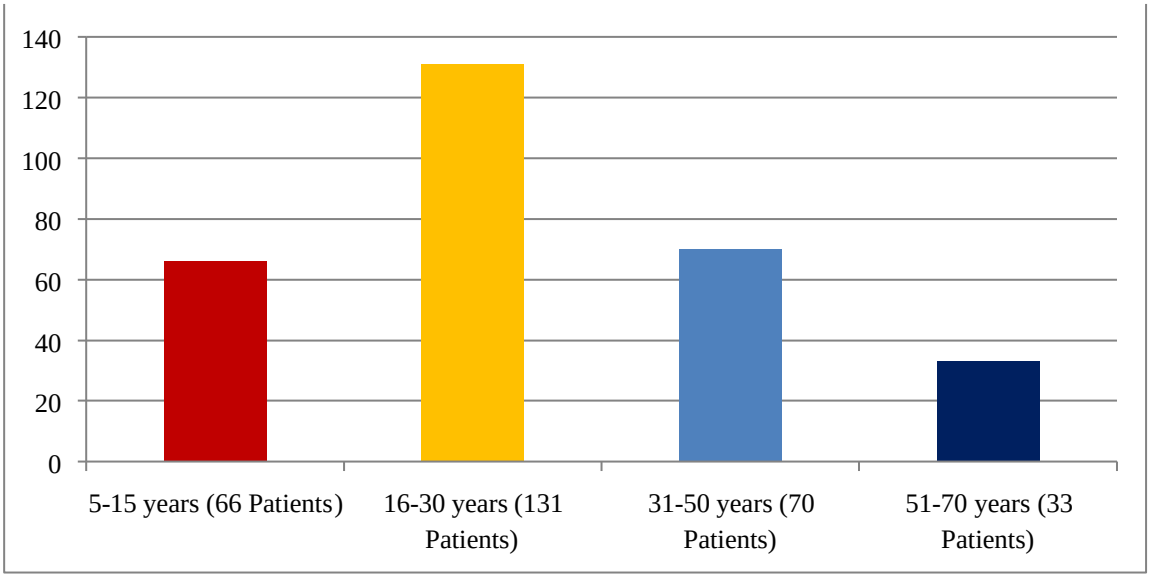


Figure 2: Age distribution

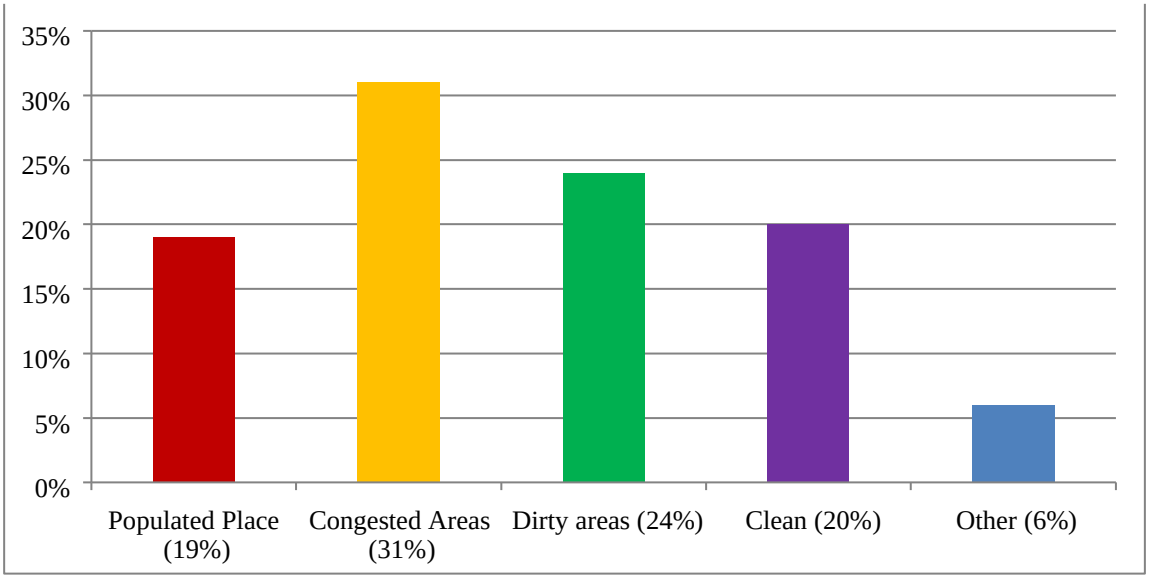


Figure 3: *Locality of the environment*

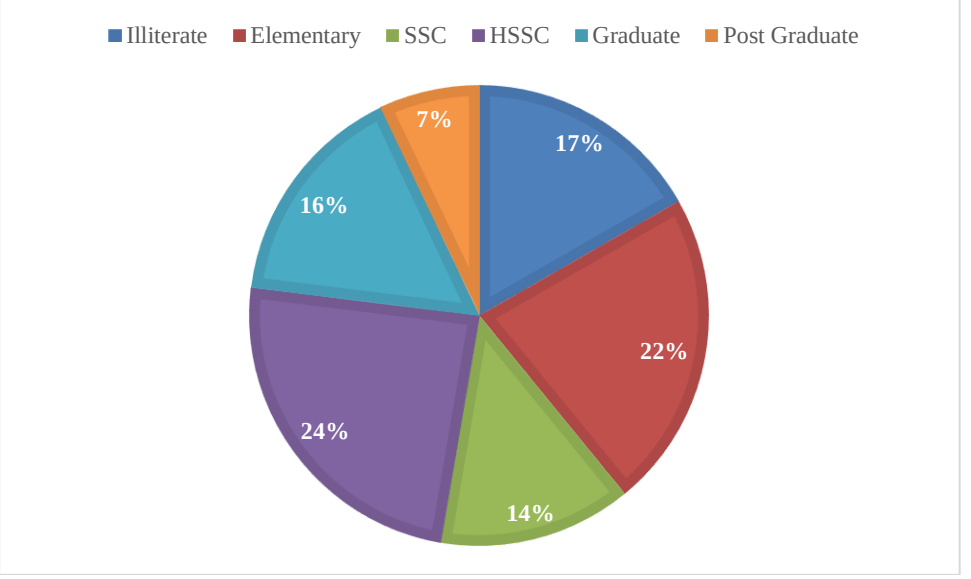


Figure 4: *Educational background*

Table 1: *Monthly income*

Patients	Percentage	Monthly Income
71	23.6	Less than 25,000
91	30.3	Between 25,000 - 40,000
89	29.6	Between 40,000 – 60,000
38	12.6	Between 60,000 – 1,00,000
11	3.9	Above 1 lac

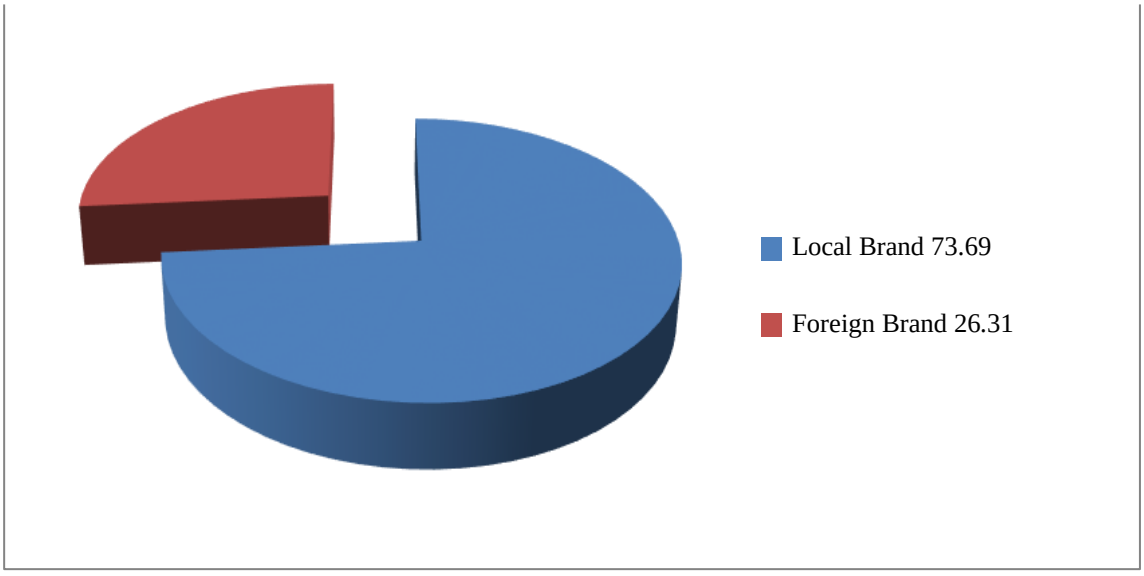


Figure 5: Use of Cosmetics products

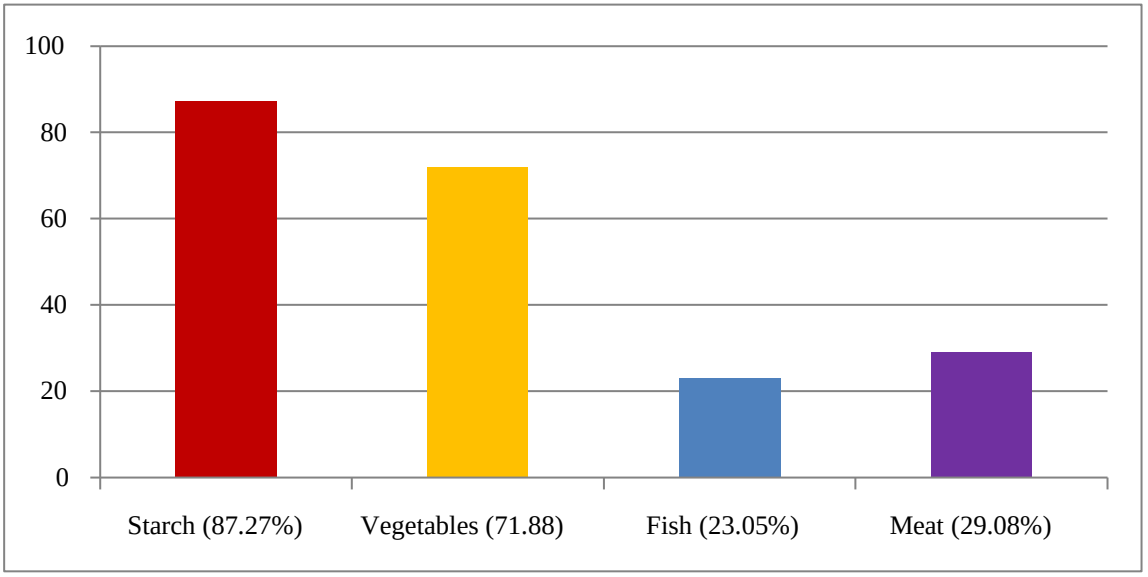


Figure 6: *Types of foods consumption mostly*

Table 2: *Age wise distribution of diseases*

Diseases	5-15 Years	16-30 Years	31-50 Years	51-70 Years	Total 300 Patients
Acne	19	51	5	3	78
Fungal infection	13	20	16	10	59
Scabies	7	12	7	5	31
Warts	5	5	10	4	24
Psoriasis	6	5	5	5	21
Contact dermatitis	1	8	4	0	13
Seborrheic dermatitis	4	4	2	0	10
Seborrhea	1	8	1	1	11
Melasma	0	3	5	2	10
Allergy	2	2	4	2	10
Pyogenic infection	4	2	1	1	8
Lichen Planus hypertrophy	3	2	2	0	7

Eczema	1	5	1	0	7
Xanthelasma	0	1	5	0	6
Vitiligo	0	3	2	0	5

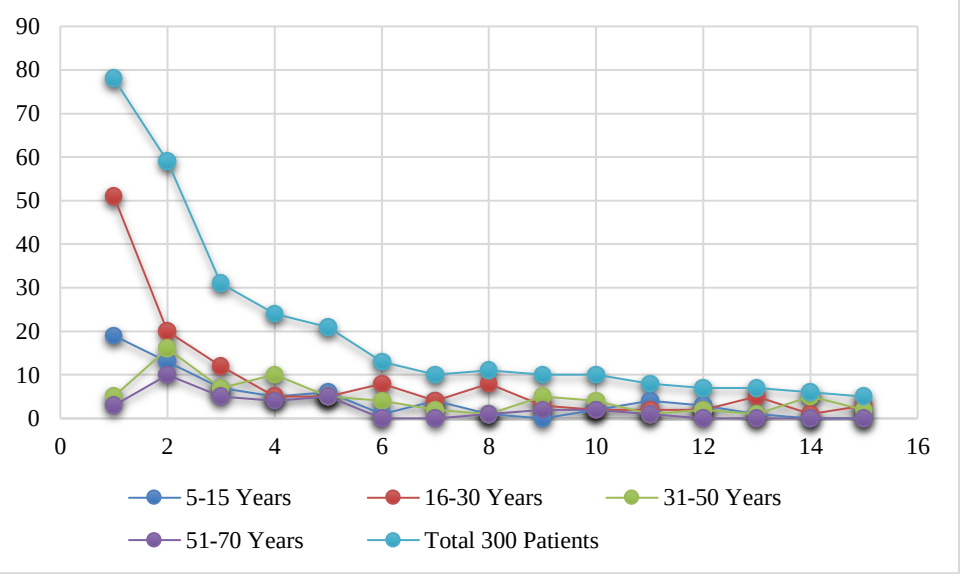
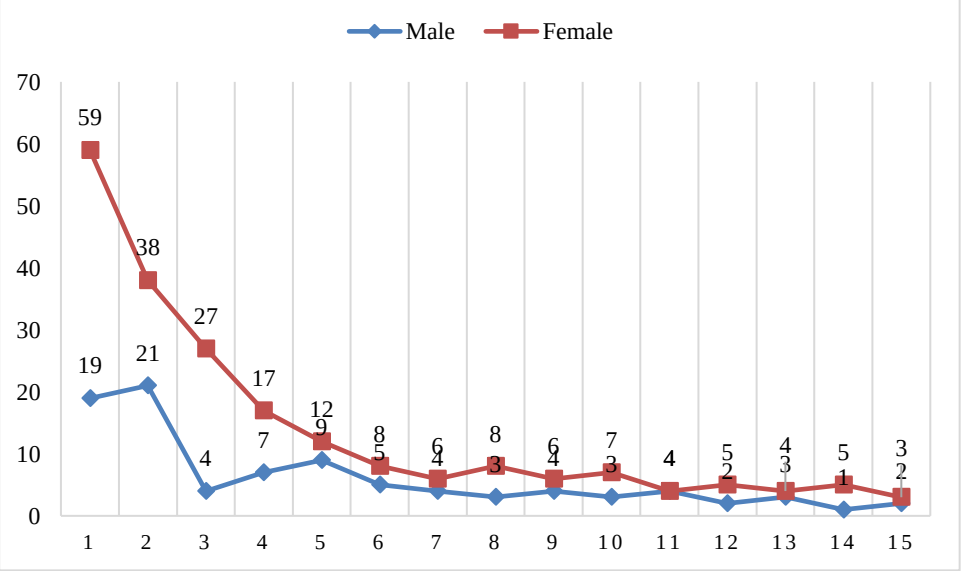


Figure 7: Age wise distribution of diseases

Figure 8: *Gender wise distribution of diseases*



Discussion

The skin is the largest organ in the body and makes up around 15% of an adult's total body weight. In addition to protecting the body from external physical, chemical, and biological invaders, the skin regulates body temperature and prevents excessive water loss. Skin disorders impact between 30% and 70% of the population, are prevalent across all cultures, and affect people of all ages. More than 1,000 diseases that have an impact on or are connected to the skin are listed in the International Classification of Diseases. Skin disorders are reportedly the second-leading cause of disability in Pakistan and have become more prevalent during the past 10 years. The patterns of skin diseases differ from country to country and from region to region within a country [25]. Since Lahore is the most populous city in Pakistan and is home to people from all over the country, it is important to examine the illness pattern there in order to identify the most common diseases among the public and look for any changes in pattern or prevalence.

Among the 300 participants in the study, there were 26.7 percent (80) men and 73.3 percent (220) women. The age range was from 5 and 70 years. The majorities of patients, or 43.6 percent (131), were between the ages of 16 and 30, while the minority of patients or 11 percent (33) were between the ages of 51 and 70. The questionnaire was also constructed expressly to collect the relevant background data and information from patients, such as their location, educational background, monthly income, their use of cosmetics items, and their daily food intake.

In the research sample, 15 different skin disorders were found to be frequent. The most prevalent illness was acne, which affected 78 out of all participants. The least prevalent illness was vitiligo, which affected 5 out of all participants. Furthermore, females were more likely to get scabies, warts, and psoriasis while males were more likely to have fungal infections and acne. According to our analysis, acne is the skin condition that affects people the most, with a frequency of 26%. Previous research done in Pakistan revealed a significantly lower prevalence of acne [26, 27, and 28]. This discrepancy in frequency can result from a different environment and a smaller sample size than in earlier investigations. While a study in Nepal showed nearly similar results showing frequency of 24% of Acne [29].

Fungal infections had a frequency of 19.6%, which is somewhat higher than that of prior studies conducted in Hyderabad and Karachi, which indicated percentages of 12.6 percent and 13.1 percent, respectively [27 and 28]. This might result from different atmospheric and hygienic factors. The distribution of dermatological OPD patients by gender revealed that 69.6 percent of female patients. This can be because males tend to ignore skin issues while women are more conscious of them for aesthetic reasons. One contributing aspect would be that there are more female dermatologists than male dermatologists in hospitals, and male patients might be reluctant to contact female doctors for lesions on their intimate body areas.

Conclusion

Various age groups have different skin disease patterns, with children and young people being the most vulnerable. The most common skin illnesses are determined to be fungal infections and acne. Low socioeconomic group members appear to be influenced. The need to raise living standards, enhance hygienic circumstances, and take action to stop illnesses from occurring in the future is most urgent. People should be made aware of skin diseases through awareness campaigns so they can take precautions to prevent them. Both male and female physicians should specialize in dermatology so that patients will feel comfortable with them.

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